North Dakota Automated Manufacturing Academic Crosswalks

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Academic Crosswalks

What is an academic crosswalk?

Curriculum standards describe what a student should know and be able to do upon completing an instructional program. An academic crosswalk shows the connections between a career and technical education program standard and state academic standards developed by the North Dakota Department of Public Instruction.

What is the purpose of an academic crosswalk?

Academic crosswalks identify the links between career and technical education programs and academic programs. Each crosswalk in this document identifies one or more academic standards that might logically be addressed when developing instruction to meet a specific Automated Manufacturing standard.

When instructors teach curriculum based on the Automated Manufacturing Standards, they have the opportunity to reinforce academic standards.

Making the Automated Manufacturing-academic connections will facilitate the process of identifying the role that Automated Manufacturing plays in reinforcing what students learn in their academic courses. Furthermore, it documents the ways that the Automated Manufacturing program can help meet local school-wide academic goals.

Which academic areas are crosswalked with the Automated Manufacturing standards?

Standards in all of the career and technical education program areas are crosswalked with two or more of the core academic standards (English/Language Arts, Mathematics, Science). Automated Manufacturing standards are crosswalked with all three of the core standards areas – English, Mathematics and Science.

Standard 1: Bench Work
Topic 1: Measurement
Competency 1.1.4: Use a Vernier micrometer caliper to read measurements to 0.0001" and 0.002 mm

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias and distinguishing between primary and secondary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio

6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science

6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

Standard 1: Bench Work
Topic 1: Measurement
Competency 1.1.5: Explain how to make readings with common Vernier measuring tools

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
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11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

Standard 1: Bench Work
Topic 1: Measurement
Competency 1.1.6: Recognize different types of gages and demonstrate how they are used to check sizes

English/Language Arts

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11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.5: List common safety equipment and protective clothing

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms,

prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

9-10.1.4 Represent a set of data in a matrix

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)

6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
7.7.2 Identify the factors (e.g., pollution, heredity, diet, virus, bacteria, parasite) that may result in disease.
8.7.1 Explain the interaction of science and technology with social issues (e.g., mining, natural disasters)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.7.1 Explain how personal health is related to fitness, substance abuse, sexual activity, and nutrition
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.7.1 Explain the impact of environmental laws and policies on the environment and society (e.g., waste/pollutants from industry, carbon dioxide emissions, location and number of animals in a feedlot versus water supply)
11-12.7.3 Explain the economic and social impact of using alternative energy resources

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.6: Apply safe work habits when operating machinery

<u>English/Language Arts</u>
6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary,

thesaurus, base words

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.3 Question the accuracy and relevance of information

7.2.4 Use prior knowledge and experiences to aid text comprehension

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.5.3 Assess the relevancy and accuracy of information in media messages

7.6.2 Use sentence structure; i.e., simple, compound, complex

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

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8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary

9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
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(e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.7: Recognize and avoid unsafe work practices

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
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7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make

sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the

quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies

7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)

9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.8: List the hazards posed by metals and use the safety precautions followed in industry

<u>English/Language Arts</u>

6.1.2 Use sources that are appropriate for the research purpose

6.1.3 Differentiate between accurate and inaccurate information

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to

access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
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8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys

11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
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7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
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9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.9: Make safe setups on a drill press

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.10: Demonstrate the safe operation of a power saw

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information

7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
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8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary

11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
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Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
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9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 2: Safety
Competency 1.2.11: Practice hand forging safety rules

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information

6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
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8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
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11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
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Mathematics

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9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics,

computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 3: Materials
Competency 1.3.4: Describe the characteristics of different types of steel and list the methods used to identify steels

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details

10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.5.1 Identify and describe patterns represented by tables, graphs, and sequences
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
7.5.1 Create tables and graphs to analyze and describe patterns
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.3.1 Formulate a question and select a random or representative sample
9-10.1.8 Apply estimation skills to predict realistic solutions to problems

9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms,
11-12.1.7 Add, subtract, and multiply complex numbers.
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.2.1 Explain the components of a scientific investigation (e.g., hypothesis, observation, data collection, data interpretation, communication of results, replicable)
6.2.2 Select alternative methods of scientific investigations (e.g., library, internet, field work) to address different kinds of questions.
6.2.3 Identify biases that may affect data collection and analysis (e.g., gender, race, religion, economic, generational.)
6.2.4 Use appropriate tools and techniques to gather and analyze data
6.2.5 Use data from scientific investigations to determine relationships and patterns
6.3.1 Organize materials according to similar properties (e.g., physical, chemical)
6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
6.7.2 Explain how recycling and conservation affect populations, resources, and the environment
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.2.1 Communicate the results of scientific investigations using an appropriate format (e.g., journals, lab reports, diagrams, presentations, discussions)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)

7.7.2 Identify the factors (e.g., pollution, heredity, diet, virus, bacteria, parasite) that may result in disease.
7.7.4 Explain the impact of science on food technology (e.g., preservatives, packaging, genetically modified organisms)
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
8.2.1 Explain how science advances through legitimate skepticism
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
8.3.1 Identify elements and compounds
8.5.2 Understand the rock cycle
8.5.3 Explain the water cycle
8.7.1 Explain the interaction of science and technology with social issues (e.g., mining, natural disasters)
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)
9-10.1.5 Explain how classification can be based on the relationship between form and function (e.g., elements and compounds, biological classifications, types of clouds
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.2.3 Identify questions and concepts that guide scientific investigations
9-10.2.4 Formulate a testable hypothesis for a simple investigation
9-10.2.5 Identify the independent and dependent variables, the control, and the constants when conducting an experiment
9-10.2.6 Design and conduct a guided investigation
9-10.2.7 Maintain clear and accurate records of scientific investigations
9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions
9-10.3.1 Classify elements according to similar properties. (e.g., metal, nonmetal, solids,
9-10.3.4 Construct a model of an atom (e.g., protons, neutrons, electrons, nucleus, electron cloud)9-10.6.1
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.7.1 Explain how personal health is related to fitness, substance abuse, sexual activity, and nutrition
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes,

aerodynamics)

11-12.1.5 Explain how classification can be based on the relationship between form and function (e.g., polar vs. nonpolar molecules, structure of periodic table , DNA vs. RNA)

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.2.3 Use data from scientific investigations to accept or reject a hypothesis

11-12.2.4 Formulate and revise explanations based upon scientific knowledge and experimental data

11-12.2.5 Use technology and mathematics to improve investigations and communications

11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)

11-12.2.7 Design and conduct an independent investigation

11-12.2.8 Communicate and defend a scientific argument

11-12.3.1 Explain how the structure of an atom, isotope, or ion relates to its properties

11-12.3.2 Identify the basic organization of the periodic table (e.g., elements are listed according to the number of protons [atomic number]; repeating patterns of physical and chemical properties

11-12.3.3 Compare and contrast the role of electrons in ionic and covalent bonding

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

11-12.7.2 Explain ways renewable and nonrenewable resources are managed (e.g., land reclamation, forest management, CRP, hunting licenses, energy –conserving technologies)

11-12.7.3 Explain the economic and social impact of using alternative energy resources

Standard 1: Bench Work
Topic 4: Engineering Drawing and Layout
Competency 1.4.4: Describe how detail, assembly, and subassembly drawings differ and identify standard drawing sheet sizes

<u>English/Language Arts</u>

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems

6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs,

materials and environmental factors)

6.6.3 Explain the relationship between science and technology

6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)

6.8.2 Identify scientific advances that have resulted in new ideas and further advance

7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)

7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)

7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)

7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)

7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies

7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)

7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)

8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology

9-10.1.1 Explain how models can be used to illustrate scientific principles

9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)

9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)

9-10.2.1 Explain how scientific investigations can result in new ideas

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)

9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity

9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)

9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work
Topic 4: Engineering Drawing and Layout
Competency 1.4.5: Illustrate the geometric dimensioning and tolerancing system

<u>English/Language Arts</u>
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning

of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary

9.3.8 Use supporting details

9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work

9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation

10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using

limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems

7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work

Topic 4: Engineering Drawing and Layout
Competency 1.4.6: Describe the purpose of a layout and how it is used to prepare metal for machining

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning

11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement

9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 4: Engineering Drawing and Layout
Competency 1.4.7: Create a simple layout

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies,

including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection

10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search

10.1.4 Use relevant information

10.1.5 Organize information from a variety of sources into a unified whole

10.1.7 Paraphrase information

10.2.1 Summarize information from nonfiction genres

10.4.2 Use appropriate body language in oral presentations

10.4.3 Formulate questions in response to a verbal message

11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys

11.1.5 Synthesize information in a logical sequence

11.2.3 Analyze details, facts, and concepts from nonfiction genres

11.2.6 Apply prior knowledge of content to interpret meaning of text

11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions

12.2.2 Critique details, facts, and concepts from nonfiction genres

12.2.8 Use technical language/jargon to decipher meaning

12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio

6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 4: Engineering Drawing and Layout
Competency 1.4.8: Describe how threads are specified on drawing

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning

of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary

9.3.8 Use supporting details

9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work

9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation

10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using

limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems

7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work

Topic 4: Engineering Drawing and Layout
Competency 1.4.9: Describe the need for patterns and stretchouts in sheet metal

<u>English/Language Arts</u>

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral

interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
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Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g.,

a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
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9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 4: Engineering Drawing and Layout
Competency 1.4.10: Model the different methods of sheet metal pattern development

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper

Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts

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7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex

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8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

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8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

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9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
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7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
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7.4.1 Estimate a measurement to the degree of precision that the tool provides
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7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
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8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
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9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
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9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to

improve scientific investigations

11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.8: Select the correct drills and drilling machine for a given job

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to

improve scientific investigations

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.9: Recognize drill size classifications

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
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7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
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9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres

11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.10: Describe the operation of the three principal metal-cutting power saws

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning

12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.11: Demonstrate how to select and mount the proper blade for a job

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence

Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.12: Prepare a power saw for operation

English/Language Arts
- No existing North Dakota English/Language Arts standard

Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals

6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.13: Mount work properly for sawing

English/Language Arts
- No existing North Dakota English/Language Arts standard

Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 5: Tools
Competency 1.5.14: Describe the operation of several types of precision grinding machines

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.11: Identify the tools used in hand forging

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)
7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-

assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.12: Demonstrate several forging techniques

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.3 Differentiate between accurate and inaccurate information

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.3 Question the accuracy and relevance of information

7.2.4 Use prior knowledge and experiences to aid text comprehension

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.5.3 Assess the relevancy and accuracy of information in media messages

7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.13: Bend, draw out and upset metal by hand forging

English/Language Arts

- No existing North Dakota English/Language Arts standard

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions

7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.14: Describe industrial forging processes

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers

8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)
7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)

7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)
9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)
9-10.2.1 Explain how scientific investigations can result in new ideas
9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)
9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)
9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work

Topic 6: Processes
Competency 1.6.15: Describe the reasons for heat treating metals

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral

interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g.,

a five-kilometer race is about three miles long

9-10.4.4 Given a conversion factor, convert between standard and metric measurements

9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations

9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations

11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved

6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)

6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)

6.1.3 Explain the connection between cause and effect in a system

6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)

6.8.2 Identify scientific advances that have resulted in new ideas and further advance

7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)

7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)

7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)

7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)

7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies

7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)

7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)

8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology

9-10.1.1 Explain how models can be used to illustrate scientific principles

9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)

9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)

9-10.2.1 Explain how scientific investigations can result in new ideas

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)
9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)
9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.16: Summarize the principles of several heat treating processes

<u>English/Language Arts</u>
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form

6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g.,

solar system, earth's interior)

6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)

6.1.3 Explain the connection between cause and effect in a system

6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)

6.8.2 Identify scientific advances that have resulted in new ideas and further advance

7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)

7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)

7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)

7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)

7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies

7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)

7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)

8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology

9-10.1.1 Explain how models can be used to illustrate scientific principles

9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)

9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)

9-10.2.1 Explain how scientific investigations can result in new ideas

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)

9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity

9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model

of the solar system)

9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)

11-12.1.1 Explain how scientists create and use models to address scientific knowledge

11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)

11-12.2.1 Explain how scientists create and use models to address scientific knowledge

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.2.5 Use technology and mathematics to improve investigations and communications

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.17: Demonstrate basic heat treating processes

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies,

including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary

9.3.8 Use supporting details

9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work

9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation

10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents

7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)
7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the

quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies

7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)

7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)

8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology

9-10.1.1 Explain how models can be used to illustrate scientific principles

9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)

9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)

9-10.2.1 Explain how scientific investigations can result in new ideas

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)

9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity

9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)

9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)

11-12.1.1 Explain how scientists create and use models to address scientific knowledge

11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)

11-12.2.1 Explain how scientists create and use models to address scientific knowledge

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.2.5 Use technology and mathematics to improve investigations and communications

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.18: Describe how some hardness testers operate

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer

catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary

9.3.8 Use supporting details

9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work

9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation

10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search

10.1.4 Use relevant information

10.1.5 Organize information from a variety of sources into a unified whole

10.1.7 Paraphrase information

10.2.1 Summarize information from nonfiction genres

10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

10.3.7 Use a variety of supporting details

10.3.8 Use language appropriate to the format of the composition

10.4.2 Use appropriate body language in oral presentations

10.4.3 Formulate questions in response to a verbal message

11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys

11.1.5 Synthesize information in a logical sequence

11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter

9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)
7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell

specialization, simple machines, and plate tectonics)

9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)

9-10.2.1 Explain how scientific investigations can result in new ideas

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)

9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity

9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)

9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)

11-12.1.1 Explain how scientists create and use models to address scientific knowledge

11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)

11-12.2.1 Explain how scientists create and use models to address scientific knowledge

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.2.5 Use technology and mathematics to improve investigations and communications

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.19: Perform a precision grinding operation

<u>English/Language Arts</u>

- No existing North Dakota English/Language Arts standard

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.20: Explain two classifications of quality control

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)

7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)
9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)
9-10.2.1 Explain how scientific investigations can result in new ideas
9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)
9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)
9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem

(e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

Standard 1: Bench Work
Topic 6: Processes
Competency 1.6.21: Practice quality control

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message

11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations

8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)
7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology

9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)
9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)
9-10.2.1 Explain how scientific investigations can result in new ideas
9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)
9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)
9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

STANDARD 2: Manual Machining Processes
Topic 4: Metal Characteristics
Competency 2.4.9: Demonstrate hardening of carbon steel

<u>English/Language Arts</u>

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
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9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
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12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 4: Metal Characteristics
Competency 2.4.10: Demonstrate tempering of carbon steel

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
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6.2.4 Use graphic organizers and summarizing to enhance comprehension
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6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
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Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to

improve scientific investigations

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 4: Metal Characteristics
Competency 2.4.11: Describe or demonstrate case hardening of steel

English/Language Arts

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9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 5: Drills and Drilling Machines
Competency 2.5.6: Demonstrate counter sinking, counterboring, spotfacing, tapping and reaming

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in

letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals

6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 6: Offhand Grinding
Competency 2.6.6: Demonstrate the proper use of all shop grinding machines

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms,

prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information

10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 6: Offhand Grinding

Competency 2.6.7: Demonstrate the procedure to precision grind a square block

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions

12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.7: Demonstrate turning work between centers

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper

Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.8: Demonstrate using lathe chucks

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message

11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.9: Demonstrate facing stock held in chuck

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary,

thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
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Mathematics

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6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.10: Demonstrate plain turning and turning to a shoulder

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning

of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations

7.6.2 Use sentence structure; i.e., simple, compound, complex

8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources

8.2.2 Use prior knowledge and experiences to aid text comprehension

8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing

8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution

8.3.11 Edit for grammar, mechanics, usage, and spelling

8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers

8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.3 Cross-reference information

9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning

9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary

9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary

9.3.8 Use supporting details

9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work

9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation

10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using

limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
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Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
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6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.11: Demonstrate parting operations

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
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9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
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STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.12: Demonstrate taper turning

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
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10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.13: Demonstrate cutting screw threads on a lathe

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition

10.4.2 Use appropriate body language in oral presentations
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Mathematics

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6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
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6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.14: Demonstrate boring on a lathe

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning

of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral

presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
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11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.15: Demonstrate drilling and reaming on a lathe

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
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9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
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9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
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Mathematics
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6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
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6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.16: Demonstrate knurling on a lathe

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
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8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
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7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 8: The Lathe
Competency 2.8.17: Demonstrate filing and polishing on a lathe

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information

9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 10: The Milling Machine
Competency 2.10.7: Demonstrate the procedure for squaring a mill vise

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition

10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
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12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 10: The Milling Machine
Competency 2.10.8: Demonstrate squaring stock using a flycutter

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 2: Manual Machining Processes
Topic 10: The Milling Machine
Competency 2.10.9: Demonstrate drilling, boring and reaming operations on the mill

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem

(e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 1: Safety
Competency 3.1.6: Identify machinery hazards

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 1: Safety
Competency 3.1.7: Be aware of fumes and ventilation

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms,

prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias and distinguishing between primary and secondary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations

9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science

6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.1.2 Identify the structure, organization, and dynamics of components within a system (e.g., cells, tissues, organs, organ systems, reactants and products in chemical equilibrium)

STANDARD 3: Welding
Topic 1: Safety
Competency 3.1.8: Demonstrate proper use of hand and power tools

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 2: Measurement
Competency 3.2.3: Recognize how metals are measured and purchased for industrial use

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias and distinguishing between primary and secondary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems

8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science

6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

STANDARD 3: Welding
Topic 3: Measurement
Competency 3.3.7: Interpret working drawings

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 3: Measurement
Competency 3.3.8: Give examples of US conventional units of measurement

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 3: Measurement
Competency 3.3.9: Give examples of SI metric units of measurement

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
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9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information

10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
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Mathematics
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11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 3: Measurement
Competency 3.3.10: Convert US conventional units of measurement to SI metric units

<u>English/Language Arts</u>

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension

6.2.5 Use prior knowledge and experiences to aid text comprehension

6.3.6 Use prewriting strategies to create draft

6.3.7 Incorporate grade-level appropriate vocabulary in writing

6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking

6.5.2 Use technology according to the district's appropriate use policy

6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling

7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information

7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts

7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details

7.3.6 Incorporate grade-level appropriate vocabulary in writing

7.3.9 Edit for grammar, mechanics, usage, and spelling

7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition

10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems

8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 3: Measurement
Competency 3.3.11: Convert SI metric units of measurement to US conventional units

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes,

multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
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6.4.4 Distinguish among perimeter, area, surface area, and volume
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7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
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8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 4: Materials
Competency 3.4.3: Identify how metals and alloys are developed

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and

make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions

12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding

Topic 4: Materials
Competency 3.4.4: Describe characteristics of various types of steel

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources

8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral

interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g.,

a five-kilometer race is about three miles long

9-10.4.4 Given a conversion factor, convert between standard and metric measurements

9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations

9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations

11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved

6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)

6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)

6.1.3 Explain the connection between cause and effect in a system

6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)

6.8.2 Identify scientific advances that have resulted in new ideas and further advance

7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)

7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)

7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)

7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)

7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life

7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies

7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)

7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)

8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology

9-10.1.1 Explain how models can be used to illustrate scientific principles

9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)

9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)

9-10.2.1 Explain how scientific investigations can result in new ideas

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)
9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)
9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

STANDARD 3: Welding
Topic 5: Tools
Competency 3.5.4: Demonstrate oxy/fuel gas welding equipment and its uses

<u>English/Language Arts</u>
6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling

6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs

between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 5: Tools
Competency 3.5.5: Demonstrate shielded metal arc welding equipment and its uses

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications

8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 5: Tools
Competency 3.5.6: Demonstrate gas metal arc welding equipment and its uses

<u>English/Language Arts</u>
6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms,

prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning

11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

- No existing North Dakota Mathematics standard

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
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7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
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9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 5: Tools
Competency 3.5.7: Recognize gas tungsten arc welding equipment and its uses

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes,

multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations

8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio

6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 6: Welding Processes
Competency 3.6.6: Create proficient examples of the five basic weld joints using OFW, SMAW and GMAW processes in position one through four.(flat, horizontal, vertical, overhead) using 6013, 6010, 6011, and 7018 rod

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to

access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement

situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 6: Welding Processes
Competency 3.6.7: Create proficient examples of OFW cutting on various thickness of steel

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

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6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems

6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems

9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 6: Welding Processes
Competency 3.6.8: Create proficient examples of plasma cutting on various metals

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral

presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities

7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem

(e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 6: Welding Processes
Competency 3.6.9: Create proficient examples of Oxy/Fuel brazing

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations

9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem

8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 6: Welding Processes
Competency 3.6.10: Create proficient examples of Oxy/Fuel braze welding

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations

10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil,

or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 7: Welding Theory
Competency 3.7.4: Identify the three general methods by which a weld is achieved

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection

9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 7: Welding Theory
Competency 3.7.5: Describe the difference between chemical and mechanical properties of steel and give examples of each

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text

7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres

10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem

8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 3: Welding
Topic 7: Welding Theory
Competency 3.7.6: Identify processes used to heat treat metal

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose

6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles

9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing,

transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 3: Welding
Topic 7: Welding Theory
Competency 3.7.7: Describe the relationship between voltage and current

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information

7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion

9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals

7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

STANDARD 4: Automated Manufacturing
Topic 1: Computer Numerical Control
Competency 4.1.1: Define Essential Terms:

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.3 Differentiate between accurate and inaccurate information
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; Punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, Usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.5.3 Assess the relevancy and accuracy of information in media messages
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work

8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes
8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary

Mathematics

6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
8.3.1 Formulate a question and select a random or representative sample
9-10.1.4 Represent a set of data in a matrix
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
9-10.3.2 Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment

STANDARD 4: Automated Manufacturing
Topic 1: Computer Numerical Control
Competency 4.1.2: Demonstrate the Manual Programming system on the Haas TM1 mill

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work

6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
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8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
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8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform

9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.12 Express an exponent in standard form
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch

6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.4.1 Select an appropriate degree of precision when using measurements for calculations
8.4.2 Compare unit measurements between systems, e.g., a yard is almost a meter
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.4.1 Select appropriate units and scales for problem situations involving measurement
9-10.4.2 Select appropriate units and scales for problem situations involving measurement
9-10.4.3 Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long
9-10.4.4 Given a conversion factor, convert between standard and metric measurements
9-10.4.5 Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations
9-10.4.6 Employ estimation techniques to evaluate reasonableness of results in measurement situations
11-12.1.7 Add, subtract, and multiply complex numbers.

Science

6.6.1 Identify examples of how technologies have evolved
6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system

6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.1.3 Identify examples of feedback mechanisms (e.g., hunger, perspiring)
7.1.4 Identify the relationship between form and function (e.g., wings, fins and feet)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell specialization, simple machines, and plate tectonics)
9-10.1.6 Identify principles governing evolution and equilibrium within systems (e.g., cause and effect, positive and negative feedback)
9-10.2.1 Explain how scientific investigations can result in new ideas
9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions
9-10.6.1 Use appropriate technologies and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills)
9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)
9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment
9-10.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)
9-10.8.2 Identify the human characteristics that influence scientific advancement (e.g., intellectual honesty, openness, objectivity, curiosity, skepticism, ethical conduct, cooperation)
9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)

11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers, employment possibilities)

STANDARD 4: Automated Manufacturing
Topic 1: Computer Numerical Control
Competency 4.1.3: Demonstrate the Intuitive Programming system on the Haas TM1 mill

English/Language Arts

6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
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9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information

10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
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Mathematics

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6.1.10 Multiply and divide decimals
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6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.4.1 Measure length to the nearest sixteenth of an inch
6.4.2 Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?
6.4.3 Convert unit measurements within the same system (metric and standard)
6.4.4 Distinguish among perimeter, area, surface area, and volume
7.1.1 Use ratios and proportions to represent relationships
7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
7.4.1 Estimate a measurement to the degree of precision that the tool provides
7.4.2 Convert unit measurements within the same system (metric and standard) when solving

problems
7.4.3 Select the appropriate measure of perimeter, area, surface area, or volume to solve a problem
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7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies

7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
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9-10.8.3 Explain how individuals and groups, from different disciplines in and outside of science, contribute to science at different levels of complexity
9-10.8.4 Identify theories that have changed over time (e.g., alchemy, atomic structure, model of the solar system)
9-10.8.5 Explain how views and attitudes have influenced the development of science (e.g., religion, previous knowledge, cultural tradition, superstition, folklore, legends)
11-12.1.1 Explain how scientists create and use models to address scientific knowledge
11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)
11-12.2.1 Explain how scientists create and use models to address scientific knowledge
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations
11-12.2.5 Use technology and mathematics to improve investigations and communications
11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)
11-12.6.2 Identify examples of how new technologies advance science
11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.8.1 Identify the role of scientists in theoretical and applied science (e.g., careers,

employment possibilities)

STANDARD 4: Automated Manufacturing
Topic 2: Automated Manufacturing
Competency 4.2.1: Create a PLC demonstration

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias and distinguishing between primary and secondary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio

6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science
6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

STANDARD 4: Automated Manufacturing
Topic 4: Nontraditional and Other Machining Techniques
Competency 4.4.1: Demonstrate a Nontraditional Machining Technique

English/Language Arts
6.1.2 Use sources that are appropriate for the research purpose
6.1.4 Use information from several sources
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words

6.2.4 Use graphic organizers and summarizing to enhance comprehension
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.6 Use prewriting strategies to create draft
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.3.10 Edit for grammar, mechanics, usage, spelling
6.3.11 Incorporate visual aids into written work
6.4.5 Use appropriate volume and eye contact when speaking
6.5.2 Use technology according to the district's appropriate use policy
6.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: I, Proper Nouns, Proper Adjectives, and in sentences; punctuation; end marks, quotation marks in dialogue, comma in a compound sentence, items in series, apostrophe, usage: homonyms, spelling strategies for grade appropriate conventions of spelling
7.1.2 Use a variety of sources, such as computer catalogs, magazines, and newspapers, to access information
7.1.4 Organize research information
7.2.2 Use graphic organizers; summarizing; paraphrasing; and vocabulary building strategies, including context clues, to enhance understanding and aid comprehension of the meaning of texts
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
7.3.5 Use prewriting strategies to create a draft emphasizing details
7.3.6 Incorporate grade-level appropriate vocabulary in writing
7.3.9 Edit for grammar, mechanics, usage, and spelling
7.3.10 Incorporate visual aids in publications
7.4.6 Use volume, eye contact, rate, and pronunciation effectively in oral presentations
7.6.2 Use sentence structure; i.e., simple, compound, complex
8.1.2 Use a variety of primary and/or secondary sources to access information; i.e., computer catalogs, magazines, newspapers, and primary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.3.6 Use prewriting product to create a first draft emphasizing details and referencing sources
8.3.7 Incorporate grade-level appropriate vocabulary in writing
8.3.8 Use organizational patterns; e.g., introduction, body, conclusion or exposition/body/resolution
8.3.11 Edit for grammar, mechanics, usage, and spelling
8.3.12 Incorporate a variety of visual aids in publications
8.3.13 Use computer technology to present written work
8.4.4 Use volume, eye contact, rate, pronunciation, and articulation effectively in oral presentations
8.5.2 Access media (e.g., television, film, music, electronic databases, videos, DVDs, comics, visual and performing arts, newspapers, and periodicals) for a variety of purposes

8.6.3 Use grade-appropriate mechanics and usage; i.e., Capitalization: publications and in letters; Punctuation: commas, semi colons, colons, quotation marks, underlining, hyphens, apostrophes; Usage: misplaced modifiers
8.6.6 Locate examples of professional uses of language including jargon and formal styles
9.1.3 Cross-reference information
9.1.4 Evaluate relevancy of inform
9.1.6 Summarize information
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.3.6 Elaborate ideas through word choice and description using grade-level vocabulary
9.3.8 Use supporting details
9.3.12 Use technology; e.g., publishing software and graphic programs, to present written work
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
9.6.3 Use conventions of punctuation
10.1.2 Know ways to effectively search electronic databases; e.g., defining key terms and using limiters to focus a search
10.1.4 Use relevant information
10.1.5 Organize information from a variety of sources into a unified whole
10.1.7 Paraphrase information
10.2.1 Summarize information from nonfiction genres
10.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
10.3.7 Use a variety of supporting details
10.3.8 Use language appropriate to the format of the composition
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.1.2 Evaluate and incorporate information from primary sources; e.g., interviews and surveys
11.1.5 Synthesize information in a logical sequence
11.2.3 Analyze details, facts, and concepts from nonfiction genres
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.3.3 Elaborate ideas through word choice and description using grade-level vocabulary
11.3.5 Use a variety of supporting details
11.3.8 Incorporate visual aids (e.g., graphs, tables, and pictures) into written work to enhance meaning
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.2 Critique details, facts, and concepts from nonfiction genres
12.2.8 Use technical language/jargon to decipher meaning
12.3.5 Elaborate ideas through word choice and description using grade-level vocabulary
12.4.2 Use tone, inflection, pitch, and emphasis effectively in oral presentations

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents 7.1.1

7.1.2 Explain and use percents greater than 100
7.1.4 Use integers to represent and compare quantities
6.1.10 Multiply and divide decimals
6.1.11 Add, subtract, multiply, and divide fractions
6.1.13 Use problem solving strategies to solve and verify the results of problems
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph
6.5.1 Identify and describe patterns represented by tables, graphs, and sequences
7.1.1 Use ratios and proportions to represent relationships
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.3.1 Formulate a question; collect, organize, and display data using a bar, line, and circle graph
7.5.1 Create tables and graphs to analyze and describe patterns
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
8.3.1 Formulate a question and select a random or representative sample
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it
9-10.3.1 Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots
11-12.1.7 Add, subtract, and multiply complex numbers.
11-12.3.1 Choose, construct, and interpret a display to represent a set of data

Science

6.1.1 Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)
6.1.2 Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)
6.1.3 Explain the connection between cause and effect in a system
6.2.1 Explain the components of a scientific investigation (e.g., hypothesis, observation, data collection, data interpretation, communication of results, replicable)
6.2.2 Select alternative methods of scientific investigations (e.g., library, internet, field work) to address different kinds of questions.
6.2.3 Identify biases that may affect data collection and analysis (e.g., gender, race, religion, economic, generational.)
6.2.4 Use appropriate tools and techniques to gather and analyze data
6.2.5 Use data from scientific investigations to determine relationships and patterns
6.3.1 Organize materials according to similar properties (e.g., physical, chemical)
6.6.1 Identify examples of how technologies have evolved

6.6.2 Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)
6.6.3 Explain the relationship between science and technology
6.7.2 Explain how recycling and conservation affect populations, resources, and the environment
6.8.1 Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)
6.8.2 Identify scientific advances that have resulted in new ideas and further advance
7.1.1 Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)
7.1.2 Identify the components (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)
7.2.1 Communicate the results of scientific investigations using an appropriate format (e.g., journals, lab reports, diagrams, presentations, discussions)
7.6.1 Identify ways in which technology has influenced the course of history and improved the quality of life
7.6.2 Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies
7.6.3 Identify intended benefits and unintended consequences that result from the development and use of technologies
7.7.1 Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)
7.7.2 Identify the factors (e.g., pollution, heredity, diet, virus, bacteria, parasite) that may result in disease.
7.7.4 Explain the impact of science on food technology (e.g., preservatives, packaging, genetically modified organisms)
7.8.1 Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)
7.8.2 Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations)
8.1.1 Organize changes (e.g., patterns, cycles) that occur sequentially in systems
8.2.1 Explain how science advances through legitimate skepticism
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
8.3.1 Identify elements and compounds
8.5.2 Understand the rock cycle
8.5.3 Explain the water cycle
8.7.1 Explain the interaction of science and technology with social issues (e.g., mining, natural disasters)
8.8.1 Explain how many people from various cultures have made important contributions to the advancement of science and technology
9-10.1.1 Explain how models can be used to illustrate scientific principles
9-10.1.4 Describe the relationship between form and function (e.g., solids, liquids, gases, cell

specialization, simple machines, and plate tectonics)

9-10.1.5 Explain how classification can be based on the relationship between form and function (e.g., elements and compounds, biological classifications, types of clouds

9-10.2.2 Use appropriate safety equipment and precautions during investigations (e.g., goggles, apron, eye wash station)

9-10.2.3 Identify questions and concepts that guide scientific investigations

9-10.2.4 Formulate a testable hypothesis for a simple investigation

9-10.2.5 Identify the independent and dependent variables, the control, and the constants when conducting an experiment

9-10.2.6 Design and conduct a guided investigation

9-10.2.7 Maintain clear and accurate records of scientific investigations

9-10.2.8 Analyze data found in tables, charts, and graphs to formulate conclusions

9-10.3.1 Classify elements according to similar properties. (e.g., metal, nonmetal, solids,

9-10.3.4 Construct a model of an atom (e.g., protons, neutrons, electrons, nucleus, electron cloud)9-10.6.1

9-10.6.2 Explain how scientific principles have been used to create common technologies (e.g., household appliances, automotive parts, agricultural equipment, textiles, fabrics, computers, Internet resources, CD-ROMs)

9-10.6.3 Explain how emerging technologies (e.g., genetic manipulation, biofuels, and hydrogen fuels) may impact society and the environment

9-10.7.1 Explain how personal health is related to fitness, substance abuse, sexual activity, and nutrition

11-12.1.1 Explain how scientists create and use models to address scientific knowledge

11-12.1.4 Explain the relationship between form and function (e.g., atoms and ions, enzymes, aerodynamics)

11-12.1.5 Explain how classification can be based on the relationship between form and function (e.g., polar vs. nonpolar molecules, structure of periodic table , DNA vs. RNA)

11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

11-12.2.3 Use data from scientific investigations to accept or reject a hypothesis

11-12.2.4 Formulate and revise explanations based upon scientific knowledge and experimental data

11-12.2.5 Use technology and mathematics to improve investigations and communications

11-12.2.6 Analyze data using appropriate strategies (e.g., interpolation, and extrapolation of data, significant figures, dimensional analysis)

11-12.2.7 Design and conduct an independent investigation

11-12.2.8 Communicate and defend a scientific argument

11-12.3.1 Explain how the structure of an atom, isotope, or ion relates to its properties

11-12.3.2 Identify the basic organization of the periodic table (e.g., elements are listed according to the number of protons [atomic number]; repeating patterns of physical and chemical properties

11-12.3.3 Compare and contrast the role of electrons in ionic and covalent bonding

11-12.6.1 Select and use appropriate technologies, tools, and techniques to solve a problem (e.g., computer-assisted tools, Internet, research skills, CBL, graphing calculators)

11-12.6.2 Identify examples of how new technologies advance science

11-12.6.3 Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
11-12.7.2 Explain ways renewable and nonrenewable resources are managed (e.g., land reclamation, forest management, CRP, hunting licenses, energy –conserving technologies)
11-12.7.3 Explain the economic and social impact of using alternative energy resources

STANDARD 5: Force and Force Transformers
Topic 2: Electrical
Competency 5.2.11: Build a printed circuit board

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias and distinguishing between primary and secondary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral

interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science
6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

STANDARD 5: Force and Force Transformers
Topic 2: Electrical
Competency 5.2.12: Construct a continuity tester

English/Language Arts
6.1.3 Differentiate between accurate and inaccurate information

6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias and distinguishing between primary and secondary sources
8.2.2 Use prior knowledge and experiences to aid text comprehension
8.2.9 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics

6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals

7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science
6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

STANDARD 5: Force and Force Transformers
Topic 2: Electrical
Competency 5.2.13: Test electronic parts

English/Language Arts
6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
8.1.3 Evaluate sources that present different perspectives; e.g., by identifying sources of bias

and distinguishing between primary and secondary sources
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9.1.4 Evaluate relevancy of inform
9.2.7 Access prior knowledge to interpret meaning
9.2.15 Build vocabulary by reading a variety of grade-level texts and applying new vocabulary
9.4.2 Use visual aides effectively in oral presentations
9.4.4 Engage in a group discussion
9.4.5 Use critical listening skills; i.e., reflection
10.1.4 Use relevant information
10.2.1 Summarize information from nonfiction genres
10.4.2 Use appropriate body language in oral presentations
10.4.3 Formulate questions in response to a verbal message
11.2.6 Apply prior knowledge of content to interpret meaning of text
11.4.2 Adapt to a variety of speaking and listening situations such as formal presentations, oral interpretations, and group discussions
12.2.8 Use technical language/jargon to decipher meaning

Mathematics
6.1.1 Use a fraction to represent parts of a whole, division, or a ratio
6.1.2 Explain and use whole number percents 1 to 100
6.1.3 Find the equivalent forms among fractions, decimals, and whole number percents
6.1.4 Compare and order fractions, decimals, mixed numbers and integers
6.1.6 Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10
6.1.7 Explain the effects of arithmetic operations on fractions and decimals
6.1.8 Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier
6.1.10 Multiply and divide decimals
6.1.14 Estimate the results of problems involving whole numbers, fractions, and decimals
7.1.5 Explain the effects of arithmetic operations on fractions, decimals, and integers
7.1.7 Add, subtract, multiply, and divide fractions and terminating decimals
7.1.8 Solve real-world problems using integers, fractions, decimals, and percents
7.1.9 Estimate the results of problems involving fractions, decimals, and percents
7.1.10 Use proportions to solve problems
8.1.7 Add, subtract, multiply, and divide integers
8.1.8 Select and use a computational technique (e.g., mental calculation, paper-and-pencil, technology) to solve problems
8.1.9 Determine when an estimate is sufficient and an exact answer is needed in problem situations
9-10.1.8 Apply estimation skills to predict realistic solutions to problems
9-10.1.9 Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers
9-10.1.10 Explain the reasonableness of a problem's solution and the process used to obtain it

Science

6.2.4 Use appropriate tools and techniques to gather and analyze data
8.2.2 Use evidence to generate descriptions, explanations, predictions, and models
8.2.3 Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data
8.2.4 Design and conduct a scientific investigation (e.g., making systematic observations, making accurate measurements, identifying and controlling variables)
11-12.2.2 Select and use appropriate instruments, measuring tools, and units of measure to improve scientific investigations

STANDARD 5: Force and Force Transformers
Topic 2: Electrical
Competency 5.2.14: Complete electrical trainer activities Complete lessons 1 - 15 as described in the Tronix 1 Basic Electronics "Fundamental Concepts" student lab manual.

English/Language Arts

6.1.3 Differentiate between accurate and inaccurate information
6.2.3 Use word recognition skills and vocabulary building strategies to determine the meaning of unfamiliar words and make sense of text; e.g., synonyms/antonyms, prefixes/suffixes, multiple meaning words, context clues, word reference aids – dictionary, glossary, thesaurus, base words
6.2.5 Use prior knowledge and experiences to aid text comprehension
6.3.7 Incorporate grade-level appropriate vocabulary in writing
6.5.2 Use technology according to the district's appropriate use policy
7.1.3 Question the accuracy and relevance of information
7.2.4 Use prior knowledge and experiences to aid text comprehension
7.2.11 Use vocabulary building skills and strategies; e.g., synonyms/antonyms, prefixes/suffixes, analogies, multiple meaning words context clues, word reference aids – dictionary, glossary, thesaurus to determine the meaning of unfamiliar words and make sense of text
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