

Common Core Instructional Tools:

For special education teachers whose students will be assessed using the next generation of alternate assessment based on alternate achievement standards. These materials align with the Common Core State Standards and the Dynamic Learning Maps Essential Elements and are created specifically for use with students with severe cognitive disabilities.



Mathematics

Grade: Five



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This resource is the result of a collaborative effort of North Dakota Teachers, the Dynamics Learning Maps Alternate Assessment Consortium materials, the North Dakota Curriculum Initiative project, and the North Dakota Department of Public Instruction. We would like to thank the following educators for their dedication and diligence in working on these instructional materials to provide tools to help special education teachers whose students will take the alternate assessment based on alternate achievement standards and the Common Core State Standards.

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Resources:

- **Common Core State Standards** documents at http://www.dpi.state.nd.us/standard/common_core.shtm
- **North Dakota Curriculum Initiative** documents at http://ndcurriculuminitiative.org/common_core
- **Dynamic Learning Maps**<http://dynamiclearningmaps.org/>
Common Core Essential Elements and Assessment Achievement Level Descriptors
Dynamic Learning Maps Essential Elements Versions 1 and 2
- **Kansas State Education Department** website: <http://www.ksde.org/>
- **Microsoft Office Clip Art**

Document Description:

This document is arranged by grade level so that teachers can access a single grade or multiple grades as needed. These materials are based on the Common Core State Standards and align with the Dynamic Learning Maps Essential Elements. North Dakota is a member of the Dynamic Learning Maps (DLM) Consortium of states creating the next generation of alternate assessments based on alternate achievement standards for assessing students with severe cognitive disabilities.

These materials are created by North Dakota teachers, for teachers, to assist them in accessing the Common Core State Standards in a meaningful fashion. Our goal was to provide teachers of students with severe cognitive disabilities with tools to get them started with the Common Core. They are intended to be tools for teachers to start with and build upon within their own local curriculum. They are not mandatory, but because they are linked to the DLM Essential Elements, they may be helpful in teaching the new standards which will begin to be assessed in 2014-15.

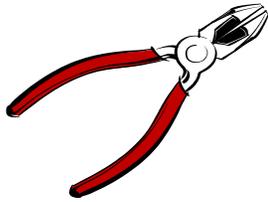
These tools are:

- ✓ Resources for teachers to use to access the Common Core State Standards (CCSS)
- ✓ Linked to the Dynamic Learning Maps (DLM) "Essential Elements"
- ✓ Ideas for learning activities based on CCSS
- ✓ Ideas on how to collect data on student performance
- ✓ Ideas on how to plan collaboration activities with general educators
- ✓ Resources to plan for "Communication Opportunities" for students who are learning a communication mode

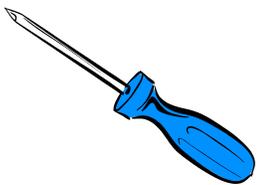
These tools are not:

- ✓ Not meant for test preparation purposes
- ✓ Not mandatory for use by educators
- ✓ Not meant to serve as curriculum

TOOLS FOR TEACHERS



Element Cards - A collection of Common Core State Standards materials specific to the Dynamic Learning Maps Essential Elements at each grade. These are meant to provide you with instructional ideas, key vocabulary, real world connections, and mapping of the concept the grade before and the grade after.



Educator Collaboration Plan - Planning sheets to prepare students for communication needs and for data collection in general education settings. Communication is key in teaching and assessing all students and especially those with severe cognitive disabilities. If a student does not have a consistent and reliable means of communicating what he/she knows and is able to do, it is very difficult to measure progress. More importantly, lack of a consistent communication system (high tech, low tech, or no tech) will affect the student's entire life in a negative way.



"I Can" Checklist - data sheet template for teacher use.



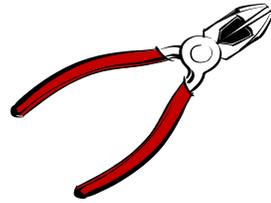
Website Resources - lists of web addresses where a variety of educational ideas can be found.

Element Card-Tool #1

Grade 6 ELA

Strand: Reading Literature

Cluster: Key Ideas and Details



(Element card number) **RL.6.1**

Standard RL.6.1: Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (This is the grade level Common Core State Standard for this concept)	Essential Element: Analyze the text to determine what it says explicitly and what inferences must be drawn. (An Essential Element is a term used by Dynamic Learning Maps Consortium identifying 'specific knowledge and skills linked to the grade-level expectations identified in the Common Core State Standards')
Grade 5 Expectations: (What is related to this standard in the prior grade)	Grade 7 Expectations: (What is related to this standard in the next grade)
I Can Statements: (Statements of measures of specific skills related to this standard)	
Key Vocabulary: (Grade level vocabulary related to specific content in this standard)	Supports (specific to student): (IEP accommodations, assistive technology, communication system, visual aids, templates, active board, highlighters, etc.)
Instructional Examples: (Examples of activities that can be done to address this skill such as modeling, small group discussions, etc.)	
Real World Connections: (Activities from everyday life that relate to the content of this standard)	
Resources: (Educational materials or websites that can be accessed for ideas that may support this standard)	

Note: If the Essential Element says "Not Applicable" that means that the Dynamic Learning Maps Consortium did not address this Essential Element.

If the Essential Element says "See EE of a different number" (e.g. S-ID.2) that means that there is another Element Card that addresses some of this standard.

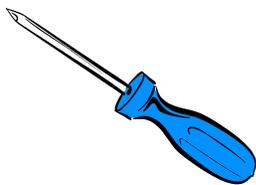
The Essential Elements are highlighted to indicate the importance of their focus.

These are the **Dynamic Learning Maps Claims and Conceptual Areas in Mathematics**.

This document was used by ND teachers who worked on these Tools. The Element cards may correlate or in some cases may not. High School divided the math documents into Consumer Math (measurement and data analysis and number sense), Algebra, and Geometry.

<p>Claim 1</p>	<p>Number Sense: Students demonstrate increasingly complex understanding of number sense.</p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p>MC 1.1 Understand number structures (counting, place value, fraction) <i>Essential Elements Included:</i> K.CC.1.4 ,5; 1.NBT.1a-b; 2.NBT.2a-b,3; 3.NBT.1,2,3; 4.NBT.3; 3.NF.1-3; 4.NF.1-2,3; 5.NF.1,2; 6.RP.1; 7.RP.1-3; 7.NS.2.c-d; M.EE.8.NS.2.a</p> <p>MC 1.2 Compare, compose, and decompose numbers and sets <i>Essential Elements Included:</i> K.CC.6; 1.NBT.2, 3, 4, 6; 2.NBT.1, 4, 5b; 4.NBT.1, 2; 5.NBT.1, 2, 3, 4; 6.NS.1, 5-8; 7.NS.3; 8.NS.2.b; 8.EE.1-4</p> <p>MC 1.3 Calculate accurately and efficiently using simple arithmetic operations <i>Essential Elements Included:</i> 2.NBT.5.a, 6-7; 3.OA.4; 4.NBT.4, 5, 6-7; 6.NS.2, 3; 7.NS.1, 2a, 2b; 8.NS.1;8.EE.1; HS.N-CN.2, 2.a, 2.b; HS.N-RN.1; HS.S-CP.1-5; HS.S-IC.1-22</p>
<p>Claim 2</p>	<p>Geometry: Students demonstrate increasingly complex spatial reasoning and understanding of geometric principles.</p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p>MC 2.1 Understand and use geometric properties of two- and three-dimensional shapes <i>Essential Elements Included:</i> K.MD.1; K.G.2-3; 1.G.1, 2; 2.G.1; 3.G.1; 4.G.1, 2, 2a, 2b; 5.G.1-4; 5.MD.3; 7.G.1, 2, 3, 5; 8.G.1, 2, 4, 5; HS.G-CO.1, 4-5; 6-8; HS.G-GMD.1-3, 4</p> <p>MC 2.2 Solve problems involving area, perimeter, and volume <i>Essential Elements Included:</i> 1.G.3; 3.G.2; 4.G.3; 4.MD.2; 5.MD.4-5; 6.G.1, 2; 7.G.4, 6; 8.G.9; HS.G-GMD.1-3; HS.G-GPE.7</p>
<p>Claim 3</p>	<p>Measurement Data and Analysis: Students demonstrate Increasingly complex understanding of measurement, data, and analytic procedures.</p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p>MC 3.1 Understand and use measurement principles and units of measure <i>Essential Elements Included:</i> 1.MD.1-2, 3a, 3b, 3c, 3d; 2.MD.1, 3-4, 5, 6, 7, 8; 3.MD.1, 2, 4; 4.MD.1, 2a, 2b, 2c, 2e; 5.MD.1a, 1b, 1c; HS.N-Q.1-3</p> <p>MC 3.2 Represent and interpret data displays <i>Essential Elements Included:</i> 1.MD.4; 2.MD.9-10; 3.MD.3; 4.MD.4a, 4b; 5.MD.2; 6.SP.1-2, 5; 7.SP.1-2, 3, 5-7; 8.SP.4; HS.S-ID. 1-2, 3, 4</p>
<p>Claim 4</p>	<p>Algebraic and functional reasoning: Students solve increasingly complex mathematical problems, making productive use of algebra and functions.</p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p>MC 4.1. Use operations and models to solve problems <i>Essential Elements Included:</i> K.OA.1, 1a, 1b, 2, 5a, 5b; 2.OA.1, 3, 4; 3.OA.1-2, 8; 4.OA.1-2, 3, 4; 6.EE.1-2, 3, 5-7; 7.EE.1-2, 4; 8.EE.7; HS.A-CED.1, 2-4; HS.A-SSE.1, 3</p> <p>MC 4.2 Understand patterns and functional thinking <i>Essential Elements Included:</i> 3.OA.9; 4.OA.5; 5.OA.3; 7.EE.3; 8.EE.5-6; 8.F.1-3, 4, 5; HS.A-REI.10-12; HS.A-SSE.4; HS.F-BF.1, 2; HS.F-IF.1-3, 4-6; HS.F-LE.1</p>

A-CED= creating equations; A-SSE = seeing structure in equations BF= building functions; CC= counting & cardinality; EE = expressions & equations; F-BF = basic fractions; F-IF = interpreting functions; G = geometry; G-GMD=geometric measurement & dimension; G-GPE = general properties & equations: MD= measurement & data; NBT= numbers and operations in base ten; N-CN=complex number system; NF= numbers & operations - fractions; N-RN=real number system; NS= number systems; N-Q= number & quantity; OA = operations & algebraic thinking; RP = ratios & proportional relationships; S-IC- statistics & probability - making inferences/justifying conclusions; S-ID=statistics & probability – interpreting categorical & quantitative data: SP = statistics & probability



Tool # 2 - Educator Collaboration Plan:

This plan is a tool that can be utilized to prepare students and their paraprofessionals for fuller participation in general education classes and an increased communication expectation.

Remember - If communication is planned for, it is much more likely to happen.

Keep the student's Speech Pathologist in the loop so he/she can support and participate in these collaboration efforts.

Suggested Use of this tool:

Meet with the general education teacher once a week (maybe the Thursday before) and identify what concepts he/she will be covering the following week.

1. Fill in the first box (Monday through Friday) with the gen. ed. class lesson plan concepts. (See Sample)
2. Discuss Common Core State Standards (CCSS) being covered. Fill in box two. (See Sample)
3. Communication Plan: Identify the concepts and key words that will be covered in each lesson and identify what you want the student to be able to communicate in class. (See Sample)

Discuss with gen. ed. teacher which concepts student needs to answer during class. Identify (for example) two specific questions he/she will ask the student so the teacher knows ahead of time. If the plan is that the student needs to answer two questions during class every day and the questions are determined ahead of time (so the answers can be made available for the student to use) then expecting student participation becomes second nature.

Talker: preprogram it and allow student to practice ahead of time.

Pictures: prepare the pictures prior to class and practice.

Switches: program choices ahead of time and practice.

4. Identify what accommodations are listed in IEP to be used in the educational setting and make sure the student has them available. (See Sample)
5. Data Collection: Para collects data on the concepts. This can be a plus or minus per questions or item in this section. (See Sample)
6. Para or student brings an extra copy of the plan at the beginning of class on Monday. Para keeps the other copy as a working copy for the week. The copy needs to be brought back to you (special education teacher) so that you are aware of both the success and have data to work with. You will also be able to

see where the student excels or may be struggling. Share this data with the student's Speech Pathologist so he/she is aware of progress and possible problems.

7. Notes section allows Para to identify anything that needs to be brought to your attention. For example, student was distracted, or ill, or something interfered with the lesson getting finished. Para: Don't be afraid to remind the teacher in case he/she forgets to ask a question (even after the class has ended) rather than "just skipping it". Students need to be able to demonstrate their competence and it is not ok to have lower expectations for some students than others.

Educator Collaboration Plan

Gen. Ed. Contact: _____

Name: _____ Week Of: _____

Subject: _____

Gen Ed. Concepts Planned:

Mon.

Tues.

Wed.

Thurs.

Fri.

CCSS Addressed:

Communication Plan:

Mon.

Tues.

Wed

Thurs

Fri.

Accommodations in IEP:

Data Collection:

Mon. _____

Tues. _____

Wed. _____

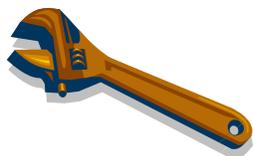
Thurs. _____

Fri. _____

Notes:

Educator Collaboration PlanName: SampleWeek Of: Oct. 7 to 11, 2013Gen. Ed. Contact: Mrs. JonesSubject: Math

<p>Gen Ed. Concepts Planned:</p> <p>Mon. Fractions – whole, half, quarter</p> <p>Tues. Fractions – quarters, thirds 1/3, 2/3, 3/3 1/4, 2/4, 3/4, 4/4</p> <p>Wed. Halves, quarters, thirds review</p> <p>Thurs. Fractions project (demonstrate understanding of "equal parts" of a whole)</p> <p>Fri. Quiz on whole, halves, thirds, & quarters</p>	<p>CCSS Addressed:</p> <p>1.G.3 Partition circles and rectangles into two and four equal shares using the words halves, fourths, and quarters.</p>	<p>Communication Plan: Pre-program Alpha Talker daily before class (allow student to practice before class).</p> <p>Mon. "That is a whole" "whole" "That is a half" "one-half" That is a quarter" "one-quarter"</p> <p>Tues. " That is" "One-third" "two-thirds" "whole" "One-fourth" "one-half" "three-quarters"</p> <p>Wed. Same as Mon and Tues</p> <p>Thurs. "I have two fractions in my demonstration." "One half, and half of that is one fourth."</p> <p>Fri. Use words from Mon. and Tuesday for Quiz.</p>
<p>Accommodations in IEP:</p> <p>Alpha Talker is communication mode and requires that specific terms and sentences are programmed into the device prior to class.</p> <p>Para will accompany student to class and will be responsible to pre-program Talker with two specific answers according to the Collaboration Plan.</p> <p>Data will be collected on comm. performance and accuracy by Para.</p>	<p>Data Collection:</p> <p>Mon. whole__ half __ quarter__</p> <p>Tues. whole__ half__ 1/4__ 1/3__ 2/3__ 3/4__</p> <p>Wed. whole__ half__ 1/4__ 1/3__ 2/3__ 3/4__</p> <p>Thurs. half__ 1/4__ Used both sentences in demo __</p> <p>Fri. whole__ half__ 1/4__ 1/3__ 2/3__ 3/4__</p>	<p>Notes:</p> <p>Quiz (Friday) may need to be taken in an area where other students cannot hear the answers.</p> <p>Para writes student's answers and gen. ed. teacher corrects quiz.</p>



Tool # 4 - Resources

A Few Communication Resources (See also Resources at end of each grade)

1. <http://www.designtolearn.com>: A good site for introducing communication systems—knowing which ones to use, etc.
2. <http://www.alltogetherwecan.com/2008/06/02/ablenet-how-to-videos-step-by-step-with-levels/>: A set of videos on how to set up communication systems
3. http://www2.edc.org/NCIP/tour/Resources_PictureSym.html: A good overview of how to set up picture communication systems.
4. <http://www.pdictionary.com>: A large, easily searchable library of various pictures for instruction. This website may be used for students of various communication levels.
5. <http://www.tsbvi.edu/component/content/article/53/1116-tactile-symbols-directory-to-standard-tactile-symbol-list>: From Texas School for the Blind and Visually Impaired. This site offers information on developing and using tactile symbols.
6. <http://bookbuilder.cast.org/>: From cast.org—a free resource that allows you or your students to build books online. It provides text to speech and animation for the books so your students can listen to and watch the book. Can also access books others have written. Great if you are creating a modified version of a grade level text.
7. <http://aex.intellitools.com/>: Collection of free IntelliKeys activities posted by other teachers.
8. <http://teachinglearnerswithmultipleneeds.blogspot.com/2008/02/free-boardmaker-boards-and-activities.html>: Collection of free Boardmaker boards. Excellent if you already have Boardmaker. Not all of the links work though.
9. <http://zacbrowser.com/>: An internet engine designed for children with autism.



Tool # 3 - I Can Statements Checklist

Grade 2 Math “I Can” Statements Checklist

Instructions: These checklists are meant to provide a visual to record progress toward Common Core Standard Skills.

Domain: Operations and Algebraic Thinking	Cluster: Work with equal groups of objects to gain foundations for multiplication	Standard: EE.2.OA.3									
I can make two groups of two.	Date										
	DATA										
I can separate objects into two groups.	Date										
	DATA										
I can equally distribute even numbers of objects between two groups.	Date										
	DATA										
I can determine that a quantity of objects is even or odd by separating them into two groups.	Date										
	DATA										

Grade 5 Math

5.OA.1 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Write and Interpret Numerical Expressions

Standard 5.OA.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	Essential Element EE.5.OA.1: Not applicable
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Grade 4 Essential Element EE.4.OA.1-2: <ul style="list-style-type: none">Demonstrate the connection between repeated addition and multiplication.	Grade 6 Essential Element: <ul style="list-style-type: none">OA standards end in Grade 5.
I Can Statements: <ul style="list-style-type: none">	
Key Vocabulary: <ul style="list-style-type: none">	Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)
Instructional Examples: <ul style="list-style-type: none">	
Real World Connections: <ul style="list-style-type: none">	
Resources: <ul style="list-style-type: none">	

Grade 5 Math

5.OA.2 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Write and Interpret Numerical Expressions

<p>Standard 5.OA.2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i></p>	<p>Essential Element EE.5.OA.2: Not applicable</p>
<p>Grade 4 Essential Element EE.4.OA.1-2:</p> <ul style="list-style-type: none">• Demonstrate the connection between repeated addition and multiplication.	<p>Grade 6 Essential Element:</p> <ul style="list-style-type: none">• OA standard ends in Grade 5.
<p>I Can Statements:</p> <ul style="list-style-type: none">•	
<p>Key Vocabulary:</p> <ul style="list-style-type: none">•	<p>Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)</p>
<p>Instructional Examples:</p> <ul style="list-style-type: none">•	
<p>Real World Connections:</p> <ul style="list-style-type: none">•	
<p>Resources:</p> <ul style="list-style-type: none">•	

Grade 5 Math

5.OA.3 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Analyze Patterns and Relationships

Standard 5.OA.3: Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Essential Element EE.5.OA.3: Identify and extend numerical patterns.

Grade 4 Essential Element EE.4.OA.3:

- Solve one-step real-world problems using addition or subtraction within 100.

Grade 6 Essential Element:

- OA standard ends in Grade 5.

I Can Statements:

- I can repeat a pattern when given one to follow.
- I can extend a picture pattern.
- I can identify and extend numerical patterns.
- I can when given the rule, generate a pattern.

Key Vocabulary:

- pattern
- extend
- picture pattern
- repeat
- numerical pattern

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Objects for creating patterns
- Pattern examples

Instructional Examples:

- Teacher claps twice, student claps twice.
- Given red, red, blue, red, red, _____, identify the missing color.
- Identify the following pattern as counting by twos and extend the pattern: 2, 4, 6, __, __, __.
- Show me a pattern that increases by five and starts with 0 (i.e., 0, 5, 10, 15, . . .).

Real World Connections:

Grade 5 Math

5.OA.3 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Analyze Patterns and Relationships

- Crafts
- Sort objects into groups (e.g., pictures, baseball cards, beads)

Resources:

- eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf
- www.ix.com

Grade 5 Math

5.NBT.1 Element Card

Domain: Number and Operations in Base Ten

Cluster: Understand the Place Value System

Standard 5.NBT.1: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.

Essential Element EE.5.NBT.1: Compare numbers up to 99 using base ten models.

Grade 4 Essential Element EE.4.NBT.1:

- Not applicable.
- See EE.5.NBT.1.

Grade 6 Essential Element EE.6.NBT.1:

- Not addressed in Grade 6.

I Can Statements:

- I can compare numbers 0-10.
- I can compare numbers to 20.
- I can compare numbers to each other based on place value groups by composing and decomposing to 99.
- I can compare numbers by composing and decomposing in two different ways.

Key Vocabulary:

- base of an exponent
- exponent
- finite decimal
- inequality
- long division
- subtrahend
- thousandth
- minuend
- multiplicative identity
- power of ten
- rounding
- property of one
- tenth

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Base 10 blocks/models
- Number cards
- Number line
- Money
- Ones and tens table

Instructional Examples:

- Given two numbers, indicate if numbers are same or different.
- Find two numbers that are the same/ or two that are different.
- Using a number line and given two numbers, indicate where on the number line the numbers belong between the 10 markers.
- Given two numbers, indicate which one is greater, or less, or which comes first or last.
- Compare two numbers with different numbers in the tens place (e.g., 20 compared to 60 on the number line).
- Demonstrate the difference between two numbers using dimes (e.g., 10 compared to 50).
- Decompose a number into tens and ones, given two different numbers (with the understanding that two 10s and three ones combined is 23 ones).
- Compare numbers on a table of ones and tens, given two different numbers.
- Decompose numbers by place value and compare by hundreds, tens, and ones (with the understanding that one 100, two 10s, and three ones combined is 123).

Grade 5 Math

5.NBT.1 Element Card

Domain: Number and Operations in Base Ten

Cluster: Understand the Place Value System

ones).

- Compose numbers based on place value and compare to another number on the number line.
- Compare two numbers with different numbers in the tens place (e.g., 20 compared to 60 on the number line and explain 20 has two 10s or 20 ones and 60 is made of six 10s or 60 ones as it is written).

Real World Connections:

- Money management, number recognition for large numbers

Resources:

- http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf
- www.ixl.com

Grade 5 Math

5.NBT.2 Element Card

Domain: Number and Operations in Base Ten

Cluster: Understand the Place Value System

Standard 5.NBT.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Essential Element EE.5.NBT.2: Use the number of zeros in numbers that are powers of 10 to determine which values are equal, greater than, or less than.

Grade 4 Essential Element EE.4.NBT.2:

- Compare whole numbers to 10 using symbols (<, >, =).

Grade 6 Essential Element EE.6.NBT.2:

- Not addressed in Grade 6.

I Can Statements:

- I can indicate the sequential order of numbers to 10.
- I can order multiples of ten ranging from 0-50 in sequential order least to greatest.
- I can recognize patterns in the number of zeros when multiplying a number by powers of 10.
- I can extend patterns in the number of zeros when multiplying by the powers of 10 up to 1,000, order numbers to 100.

Key Vocabulary:

- base if an exponent
- exponent
- finite decimal
- inequality
- long division
- subtrahend
- thousandth
- minuend
- multiplicative identity
- power of ten
- rounding
- property of one
- tenth

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Base 10 blocks/models
- Number cards with numbers ending in one, two, or three zeroes
- Number lines
- Number sentences (e.g., $10 \times 1 = 10$, $10 \times 2 = 20$, $10 \times 3 = 30$)
- Dimes

Instructional Examples:

- Indicate if numbers 1-10 are in correct order when presented (in and out of order).
- Indicate where on the number line each number belongs.
- Given 10 pennies, count to 10.
- Presented a range of numbers 0-50, indicate whether they are in correct order.
- Presented a range of numbers (e.g., 30-50), indicate if numbers are in correct order.
- Given five dimes, count from 10 to 50 by tens and indicate that is 50 cents.
- Presented with lists of number sentences (e.g., $10 \times 1 = 10$, $10 \times 2 = 20$, $10 \times 3 = 30$), identify the pattern.
- Arrange numbers in order when presented with tens place value number cards out of order.

Grade 5 Math

5.NBT.2 Element Card

Domain: Number and Operations in Base Ten

Cluster: Understand the Place Value System

- Presented numbers 10, 20, 30, 40, __, indicate the next correct number in the sequence.
- Given 10 dimes, count from 10 to 100 by tens and indicate that is \$1.
- Place numbers in order.
- Given a range of numbers (e.g. 200-300-253), arrange in order.
- Indicate (e.g. head stick, pointing) correct order up to 100.
- Given 20 dimes, count from 10 to 100 by tens and indicate that it is \$2.

Real World Connections:

- Money management, number recognition for large numbers.

Resources:

- http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf
- www.lxl.com

Grade 5 Math

5.NBT.3 Element Card

Domain: Number and Operations in Base Ten

Cluster: Understand the Place Value System

Standard 5.NBT.3: Read, write, and compare decimals to thousandths.

- a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
- b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Essential Element EE.5.NBT.3: Compare whole numbers up to 100 using symbols ($<$, $>$, $=$).

Grade 4 Essential Element EE.4.NBT.3:

- Round any whole number 0-30 to the nearest ten.

Grade 6 Essential Element EE.6.NBT.3:

- Not addressed in Grade 6.

I Can Statements:

- I can indicate more or less than five.
- I can determine if a single-digit number is closer to zero or 10.
- I can round two-digit whole numbers to the nearest 10 from 0-90.
- I can round three-digit whole numbers to hundreds place.
- I can compare two decimals to thousandths.

Key Vocabulary:

- base if an exponent
- exponent
- finite decimal
- inequality
- long division
- subtrahend
- thousandth
- minuend
- multiplicative identity
- power of ten
- rounding
- property of one
- tenth

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Number cards with numbers to 100.
- Money
- Visuals for symbols
- Ads, internet access, field trip to store
- Dice, calculator

Grade 5 Math

5.NBT.3 Element Card

Domain: Number and Operations in Base Ten

Cluster: Understand the Place Value System

Instructional Examples:

- Using a pegboard with pegs placed in the holes divided into two different sets, indicate which has more or less.
- Presented with a set of five, and another set, indicate if second set is more or less than five.
- Presented with three pennies or five pennies, choose which is more.
- Given a number between 1-89 and cards with the answer on one, pick correct number when ask to round to nearest 10.
- Using a number line, round to nearest 10.
- Given a number between 1-89 and cards with the answer on one, pick correct number when ask to round to nearest 10.
- Using a number line, round to nearest 10.
- Given a number line, indicate if two or four is closer to five. Match symbols ($<$, $>$, $=$) with written word or verbal prompt.
- Given two pictures, student selects $<$, $=$, $>$ in words or symbols.
- Given two pictures, 1 = and one not =, student selects correctly
- Role a dice three times, put the numbers in decimal form and read the amount out loud or enter it on a computer, calculator, etc.
- Find prices in a store or on-line and select two items. State prices and determine $<$, $=$, $>$.

Real World Connections:

- Money management, number recognition for large numbers, comparison shopping, measurement, inventory, UPC matching.

Resources:

- http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf
- www.ixl.com

Grade 5 Math

5.NBT.4 Element Card

Domain: Number and Operations in Base Ten

Cluster: Perform Operations with Multi-digit Whole Numbers and with decimals to Hundredths

Standard 5.NBT.4: Use place value understanding to round decimals to any place.

Essential Element EE.5.NBT.4: Round two-digit whole numbers to the nearest 10 from 0—90.

Grade 4 Essential Element EE.4.NBT.4:

- Add and subtract two-digit whole numbers.

Grade 6 Essential Element EE.6.NBT.4:

- Not addressed in Grade 6.

I Can Statements:

- I can round single-digit whole numbers to zero or ten.
- I can two-digit whole numbers from 0-90 to the nearest 10.

Key Vocabulary:

- base if an exponent
- exponent
- finite decimal
- inequality
- long division
- subtrahend
- thousandth
- minuend
- multiplicative identity
- power of ten
- rounding
- property of one
- tenth

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Number cards with numbers to 0-90.
- Color coded number line
- Money
- Store ads

Instructional Examples:

- Given 12 pennies, indicate whether one dime or two is closest.
- Using pennies earned, exchange for dimes.
- Round coins to the nearest dollar.
- Identify how many whole dollars it would take to purchase an item (e.g., if an item costs three dollars and three quarters (\$3.75), it would take \$4, not \$3 to pay for it.
- Pick an item from an ad and tell how many dollars it would take to buy the item.
- Round cents to the nearest tenth of a dollar (e.g., 0.82 is closer to 0.80).
- Using advertisements with costs of items, identify how many whole dollars it would take to purchase the item (e.g., if an item costs \$3.65, is \$3.64 would it take \$3.60 or \$3.70 to pay for it?).

Real World Connections:

- Dollar more strategy, shopping, money management, data entry jobs.

Grade 5 Math

5.NBT.4 Element Card

Domain: Number and Operations in Base Ten

Cluster: Perform Operations with Multi-digit Whole Numbers and with decimals to Hundredths

Resources:

- www.mathisfun.com/rounding-numbers.html
- www.webmath.com/k8round.html

Grade 5 Math

5.NBT.5 Element Card

Domain: Number and Operations in Base Ten

Cluster: Perform Operations with Multi-digit Whole Numbers and with decimals to Hundredths

Standard 5.NBT.5: Fluently multiply multi-digit whole numbers using the standard algorithm.

Essential Element EE.5.NBT.5: Multiply whole numbers up to 5×5 .

Grade 4 Essential Element EE.4.NBT.5:

- Not applicable
- See **EE.4.OA.1**.

Grade 6 Essential Element EE.6.NBT.5:

- Not addressed in Grade 6.

I Can Statements:

- I can use concrete representations to show numbers 1-5.
- I can use repeated addition to show multiplication with single digits 1-5.
- I can multiply whole numbers up to 5×5 .

Key Vocabulary:

- base if an exponent
- exponent
- finite decimal
- inequality
- long division
- subtrahend
- thousandth
- minuend
- multiplicative identity
- power of ten
- rounding
- property of one
- tenth

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Multiplication cards up to 5×5 .
- Counters
- Pictures
- Color coded number line

Instructional Examples:

- Given pictures of five cars or five counters, arrange them into one row.
- Add $2 + 2 + 2$ to justify 2×3 .
- When given a picture of a garden with two rows of five carrot plants in each, identify $5 + 5$.
- Choose correct answer for 3×3 .
- When asked what 4×4 equals, identify 16 from an array of choices.
- Identify 36 as the answer to 6×6 .
- When shown a flash card with 7×3 , identify 21 as the answer.

Real World Connections:

- Shop to purchase multiples of a single product (e.g., tickets for classmates, soft drinks for family members).

Grade 5 Math

5.NBT.5 Element Card

Domain: Number and Operations in Base Ten

Cluster: Perform Operations with Multi-digit Whole Numbers and with decimals to Hundredths

Resources:

- www.mathisfun.com/rounding-numbers.html
- www.webmath.com/k8round.html

Grade 5 Math

5.NBT.6-7 Element Card

Domain: Number and Operations in Base Ten

Cluster: Perform Operations with Multi-digit Whole Numbers and with decimals to Hundredths

Standard 5.NBT.6: Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Standard 5.NBT.7: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Essential Element EE.5.NBT.6-7: Illustrate the concept of division using fair and equal shares.

Grade 4 Essential Element EE.4.NBT.6:

- Not applicable.

Grade 6 Essential Element EE.6.NBT.6:

- Not addressed in Grade 6.

I Can Statements:

- I can replicate an equal set from a model.
- I can construct equal sets.
- I can illustrate the concept of division using fair and equal shares.
- I can apply the concept of fair share and equal shares to solve a division problem.

Key Vocabulary:

- base if an exponent
- exponent
- finite decimal
- inequality
- long division
- subtrahend
- thousandth
- minuend
- multiplicative identity
- power of ten
- rounding
- property of one
- tenth

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Counters
- Pencils or other objects to illustrate sharing
- Number cards illustrating decimals
- Decimal place value chart
- Base-ten models

Instructional Examples:

- Count out three objects after teacher counts out three objects.
- Given a set of three objects, finding a matching set.

Grade 5 Math

5.NBT.6-7 Element Card

Domain: Number and Operations in Base Ten

Cluster: Perform Operations with Multi-digit Whole Numbers and with decimals to Hundredths

- Using sorting tray and colored blocks to construct equal sets.
- Given 16 pencils, share equally onto four students.
- Use an organizer to group or partition objects into two or more sets.
- Create a model of equal sets by counting the objects in each set.
- Fold paper in equal shares.



- Given 10 counting cubes divided among three students, recognize when students have the same number (equal share) and when students do not have the same number (not equal share).
- Divide a snack equally among classmates.
- Divide a square piece of paper equally among classmates.
- Divide themselves into equal teams.
- Divide a quantity into equal shares (e.g., “If I find 20 dollars, how could five people share this?” $20/5=4$ (division structure partitive/fair shares)).

Real World Connections:

- Mechanics, money management, sports statistics, library research, price per ounce (shopping), atomic weight.

Resources:

- www.mathisfun.com/rounding-numbers.html
- www.webmath.com/k8round.html

Grade 5 Math

5.NF.1 Element Card

Domain: Number and Operations - Fractions

Cluster: Use Equivalent Fractions as a Strategy to Add and Subtract Fractions

Standard 5.NF.1: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*

Essential Element EE.5.NF.1: Identify models of halves ($1/2, 2/2$) and fourths ($1/4, 2/4, 3/4, 4/4$).

Grade 4 Essential Element EE.4.NF.1:

- Identify models of one half ($1/2$) and one fourth ($1/4$).

Grade 6 Essential Element EE.6.NF.1:

- Not addressed in Grade 6.

I Can Statements:

- I can recognize that fractions are part of a whole.
- I can differentiate between whole and a part.
- I can differentiate between halves, fourths, and eighths.
- I can differentiate fractional parts less than $1/4$.

Key Vocabulary:

- half
- whole
- fourth
- part

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Puzzle pieces
- Games
- Geometric shapes

Instructional Examples:

- Assemble a simple puzzle to demonstrate pieces of a whole.
- When playing a game in which the class is divided into two teams, indicate that only half the class is on each team.
- Given a partitioned shape, shade it to show $1/2, 1/4$, or $1/8$ when asked.
- Divide a circle into the correct fractions when shown the numerical representation of $1/2, 1/4$, or $1/8$.

Real World Connections:

Grade 5 Math

5.NF.1 Element Card

Domain: Number and Operations - Fractions

Cluster: Use Equivalent Fractions as a Strategy to Add and Subtract Fractions

- Divide food into equal portions.
- Organize clothing.
- Measure while cooking.

Resources:

- www.ixl.com

Grade 5 Math

5.NF.2 Element Card

Domain: Number and Operations - Fractions

Cluster: Use Equivalent Fractions as a Strategy to Add and Subtract Fractions

Standard 5.NF.2: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.

Essential Element EE.5.NF.2: Identify models of thirds ($1/3$, $2/3$, $3/3$) and tenths ($1/10$, $2/10$, $3/10$, $4/10$, $5/10$, $6/10$, $7/10$, $8/10$, $9/10$, $10/10$).

Grade 4 Essential Element EE.4.NF.2:

- Identify models of one half ($1/2$) and one fourth ($1/4$).

Grade 6 Essential Element EE.6.NF.2:

- Not addressed in Grade 6.

I Can Statements:

- I can recognize words that are used for addition and subtraction.
- I can solve one-step problems using addition and subtraction.
- I can solve two-step word problems using addition and subtraction of whole numbers.
- I can solve two-step word problems using addition and subtraction of numbers after showing the problem in numerals.

Key Vocabulary:

- tenths
- thirds

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Tablet applications
- Flash cards
- Manipulative materials (e.g., marbles, pennies)

Instructional Examples:

- Build a wall of words used for subtraction—difference, decreased, take away, less, spent, etc.
- Indicate the concept of more (addition) and less (subtraction).
- Connie had five marbles. Juan gave her eight more marbles. How many marbles does Connie have all together?
- You have eight pennies. Give me two pennies. How many pennies do you have now?
- Using flash cards, indicate whether the word is used for addition or subtraction (e.g., more, increased, less, take away, decreased).
- Billy jumped rope for 10 minutes, played basketball for 15 minutes, and ran for five minutes. How many minutes did he spend exercising?
- Jenny has 30 text messages left on her cell phone plan. She sent 10 messages to Gary and received eight messages from her mom. How many text messages are left on her plan?

Grade 5 Math

5.NF.2 Element Card

Domain: Number and Operations - Fractions

Cluster: Use Equivalent Fractions as a Strategy to Add and Subtract Fractions

- Build a wall of words used for addition—sum, all together, add, more, increased, etc.
- Susan has 35 compact disks. She bought three more and gave four to her little brother, Dylan. How many compact discs does Susan have now? Show the problem and explain why the answer is reasonable.
- Johnny has a bag of 36 cookies. He ate four of them and gave two to Amy. How many cookies does he have? Show the problem and explain why answer is reasonable.

Real World Connections:

- Cooking, playing games.

Resources:

- www.ixl.com

Grade 5 Math

5.NF.3 Element Card

Domain: Number and Operations - Fractions

Cluster: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions

Standard 5.NF.3: Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

Essential Element EE.5.NF.3: Not applicable; See EE.6.RP.1.

Grade 4 Essential Element EE.4.NF.3:

- Differentiate between whole and half.

Grade 6 Essential Element EE.6.NF.3:

- Not addressed in Grade 6.

I Can Statements:

-

Key Vocabulary:

-

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

Instructional Examples:

-

Real World Connections:

-

Resources:

-

Grade 5 Math

5.NF.4 Element Card

Domain: Number and Operations - Fractions

Cluster: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions

<p>Standard 5.NF.4: Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</p> <p>b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p>	<p>Essential Element EE.5.NF.4: Not applicable</p>
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<p>Grade 4 Essential Element EE.4.NF.4:</p> <ul style="list-style-type: none">• Not applicable• See EE.4.OA.1–2 and EE.5.NBT.5	<p>Grade 6 Essential Element EE.6.NF.4:</p> <ul style="list-style-type: none">• Not addressed in Grade 6.
<p>I Can Statements:</p> <ul style="list-style-type: none">•	
<p>Key Vocabulary:</p> <ul style="list-style-type: none">•	<p>Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)</p>
<p>Instructional Examples:</p> <ul style="list-style-type: none">•	
<p>Real World Connections:</p> <ul style="list-style-type: none">•	
<p>Resources:</p> <ul style="list-style-type: none">•	

Grade 5 Math

5.NF.5 Element Card

Domain: Number and Operations - Fractions

Cluster: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions

<p>Standard 5.NF.5: Interpret multiplication as scaling (resizing), by:</p> <ol style="list-style-type: none">Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	<p>Essential Element EE.5.NF.5: Not applicable</p>
<p>Grade 4 Essential Element EE.4.NF.5:</p> <ul style="list-style-type: none">Not applicable.See EE.7.NS.2.c-d.	<p>Grade 6 Essential Element EE.6.NF.5:</p> <ul style="list-style-type: none">Not addressed in Grade 6.
<p>I Can Statements:</p> <ul style="list-style-type: none">	
<p>Key Vocabulary:</p> <ul style="list-style-type: none">	<p>Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)</p>
<p>Instructional Examples:</p> <ul style="list-style-type: none">	
<p>Real World Connections:</p> <ul style="list-style-type: none">	
<p>Resources:</p> <ul style="list-style-type: none">	

Grade 5 Math

5.NF.6 Element Card

Domain: Number and Operations - Fractions

Cluster: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions

Standard 5.NF.6: Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	Essential Element EE.L.6.1: Not applicable; See EE.10.N-CN.2.b
Grade 4 Essential Element EE.4.NF.6: <ul style="list-style-type: none">• Not applicable• See EE.7.NS.2.c-d.	Grade 6 Essential Element EE.6.NF.6: <ul style="list-style-type: none">• Not addressed in Grade 6.
I Can Statements: <ul style="list-style-type: none">•	
Key Vocabulary: <ul style="list-style-type: none">•	Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)
Instructional Examples: <ul style="list-style-type: none">•	
Real World Connections: <ul style="list-style-type: none">•	
Resources: <ul style="list-style-type: none">•	

Grade 5 Math

5.NF.7 Element Card

Domain: Number and Operations - Fractions

Cluster: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions

Standard 5.NF.7: Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

- a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.*
- b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.*
- c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?*

Essential Element EE.5.NF.7: Not applicable; See EE.7.NS.2.b.

Grade 4 Essential Element EE.4.NF.7:

- Not applicable.
- See EE.7.NS.2.c-d.

Grade 6 Essential Element EE.6.NF.7:

- Not addressed in Grade 6.

I Can Statements:

-

Key Vocabulary:

-

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

Instructional Examples:

-

Real World Connections:

Grade 5 Math

5.NF.7 Element Card

Domain: Number and Operations - Fractions

Cluster: Apply and Extend Previous Understandings of Multiplication and Division to Multiply and Divide Fractions

-

Resources:

-

Grade 5 Math

5.MD.2 Element Card

Domain: Measurement and Data

Cluster: Represent and Interpret Data

Standard 5.MD.2: Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

Essential Element EE.5.MD.2: Represent and interpret data on a picture, line plot, or bar graph.

Grade 4 Essential Element EE.4.MD.2.a:

- Tell time using a digital clock. Tell time to the nearest hour using an analog clock.

Grade 4 Essential Element EE.4.MD.2.b:

- Measure mass or volume using standard tools

Grade 4 Essential Element EE.4.MD.2.c:

- Use standard measurement to compare lengths of objects.

Grade 4 Essential Element EE.4.MD.2.d:

- Identify coins (penny, nickel, dime, quarter) and their values

Grade 6 Essential Element EE.6.MD.2:

- Not addressed in Grade 6.

I Can Statements EE.5.MD.2:

- I can identify a simple graph.
- I can represent/show data on a pictograph.
- I can represent/show data on a line plot.
- I can represent/show data on a bar graph.
- I can display data on a picture, line plot, or bar graph and answer questions about the graph.
- I can represent and interpret data on a picture, line plot, or bar graph given a model and a graph to complete.
- I can collect, organize, and interpret data as well as create a graph using a graph template, and display the data on the graph.

Key Vocabulary:

- pictograph
- show
- count
- line plot
- bar graph

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Tablet apps for graphing
- Graphing software

Instructional Examples:

Grade 5 Math

5.MD.2 Element Card

Domain: Measurement and Data

Cluster: Represent and Interpret Data

- Pick out a graph when presented with a graph and a non-graph,
- Indicate where data should go on the graph, and shade/color correct amount of spaces on given graph, answer a question about the graph (e.g., Is this about dogs?).
- With support, count the number of boys in your class and show this in a pictograph/line plot/bar graph.
- Count the number of boys in your class and show this in a pictograph/line plot/bar graph.
- With support, count the number of girls in your class and show this in a pictograph/line plot/bar graph.
- Count the number of girls in your class and show this in a pictograph/line plot/bar graph.
- Compare the results and identify whether your class has more boys or girls or an equal number of each.

Real World Connections:

- Measure heights of family members and keeping the record on paper or on a wall. Graph the results on a pictograph/line plot/bar graph. Re-measure on birthdays and change the pictograph/line plot/bar graph.

Resources:

- www.khake.com/page47.html
- http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_5.html
- www.ixl.com

Grade 5 Math

5.MD.3. Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Volume, and Relate Volume to Multiplication and to Addition

<p>Standard 5.MD.3: Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <ul style="list-style-type: none">a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.b. A solid figure, which can be packed without gaps or overlaps using n unit cubes, is said to have a volume of n cubic units.	<p>Essential Element EE.5.MD.3: Identify common three-dimensional shapes.</p>
<p>Grade 4 Essential Element EE.4.MD.3:</p> <ul style="list-style-type: none">• Determine the area of a square or rectangle by counting units of measure (unit squares).	<p>Grade 6 Essential Element EE.6.MD.3:</p> <ul style="list-style-type: none">• Not addressed in Grade 6.
<p>I Can Statements EE.5.MD.3:</p> <ul style="list-style-type: none">• I can identify a cube as “one cubic unit.”• I can identify a sphere.• I can identify a pyramid.• I can identify a column.• I can identify a cone.	
<p>Key Vocabulary:</p> <ul style="list-style-type: none">• cube• cubic unit• column• sphere• pyramid• cone	<p>Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)</p> <ul style="list-style-type: none">• 3 dimensional manipulatives• Tablet apps and software showing 3 dimensional objects
<p>Instructional Examples:</p> <ul style="list-style-type: none">• When given a cube and asked what it is, name a cube.• When given sphere and asked what it is, name a sphere.• When given a pyramid and asked what it is, name a pyramid.• When given a column and asked what it is, name a column.• When given a cone and asked what it is, name a cone.• When given a collection of 3 dimensional objects including a cube, sphere, pyramid, cone, and column, identify the requested object.	
<p>Real World Connections:</p> <ul style="list-style-type: none">• Name the shape of items in a student’s home, sculpture garden, etc.• Match items, break down problems, construction, hobbies.	

Grade 5 Math

5.MD.3. Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Volume, and Relate Volume to Multiplication and to Addition

Resources:

- <http://www.superteacherworksheets.com/solid-shapes.html>
- http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_5.htm

Grade 5 Math

5.MD.4-5 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Volume, and Relate Volume to Multiplication and to Addition

Standard 5.MD.4: Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft, and improvised units.

Standard 5.MD.5: Relate volume to the operations of multiplication and addition, and solve real-world and mathematical problems involving volume.

- a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
- b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems.
- c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

Essential Element EE.5.MD.4-5: Determine the volume of a rectangular prism by counting units of measure (unit cubes).

Grade 4 Essential Element EE.4.MD.4:

- **EE.4.MD.4.a:** Represent data on a picture or bar graph given a model and a graph to complete.
- **EE.4.MD.4.b:** Interpret data from a picture or bar graph.

Grade 4 Essential Element EE.4.MD.5:

- Recognize angles in geometric shapes.

Grade 6 Essential Element EE.6.MD.4-5:

- Not addressed in Grade 6.

I Can Statements:

- I can demonstrate solid or liquid, full or empty.
- I can identify objects that have volume.
- I can determine volume of a cube by counting units of measure.

Grade 5 Math

5.MD.4-5 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Volume, and Relate Volume to Multiplication and to Addition

Key Vocabulary:

- volume
- counting
- solid figure
- rectangular prism
- unit cube

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Tablet applications
- Solid and liquid form manipulative materials

Instructional Examples:

- Given a glass full of water and an empty glass, indicate which one is full and which one is empty.
- Given a square and a cube, indicate cube.
- Given a cube 4 x 4 x 4 inches constructed of one square inch cube, disassemble it to determine by counting how many cubes were required.

Real World Connections:

- Match items, building projects

Resources:

- http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_5.html

Grade 5 Math

5.G.1-2 Element Card

Domain: Geometry

Cluster: Graph Points on the Coordinate Plane to Solve Real-World and Mathematical Problems

Standard 5.G.1: Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x -axis and x -coordinate, y -axis and y -coordinate).

Standard 5.G.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Essential Element EE.5.G.1-4: Sort two-dimensional figures and identify the attributes (angles, number of sides, corners, color) they have in common.

Grade 4 Essential Element EE.4.G.1:

- Recognize parallel lines and intersecting lines.

Grade 4 Essential Element EE.4.G.2:

- Describe the defining attributes of two-dimensional shapes.

Grade 4 Essential Element EE.4.G.3:

- Recognize that lines of symmetry partition shapes into equal areas.

Grade 6 Essential Element EE.6.G.1:

- Solve real-world and mathematical problems about area using unit squares.

Grade 6 Essential Element EE.6.G.2:

- Solve real-world and mathematical problems about volume using unit cubes.

Grade 6 Essential Element EE.6.G.3-4:

- Not applicable

I Can Statements:

- I can point to or gaze at two-dimensional shapes named.
- I can sort figures based on a given attribute.
- I can sort two-dimensional figures and describe the common attributes such as angles, number of sides, corners (dimension), and color.
- I can sort into quadrant tables and describe figures by two common attributes.

Key Vocabulary:

Supports (specific to student): (e.g., assistive technology, communication)

Grade 5 Math

5.G.1-2 Element Card

Domain: Geometry

Cluster: Graph Points on the Coordinate Plane to Solve Real-World and Mathematical Problems

- two-dimensional
- sides

- attributes
- angles

system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Grid paper and graphing paper

Instructional Examples:

- Touch the rough triangle and a circle.
- Sort figures by shape and/or size.
- Given shapes sorted based on the number of sides, sort them by another attribute.
- Sort figures by color and shape.

Real World Connections:

- Sort laundry.
- Stack dishes.

Resources:

- www.ixl.com
- www.kidsmathgamesonline.com/geometry/angles.html

Grade 5 Math

5.G.3-4 Element Card

Domain: Geometry

Cluster: Classify Two-Dimensional Figures into Categories Based on their Properties

Standard 5.G.3: Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

Standard 5.G.4: Classify two-dimensional figures in a hierarchy based on properties.

Essential Element EE.5.G.1-4: Sort two-dimensional figures and identify the attributes (angles, number of sides, corners, color) they have in common.

Grade 4 Essential Element EE.4.G.1:

- Recognize parallel lines and intersecting lines.

Grade 4 Essential Element EE.4.G.2:

- Describe the defining attributes of two-dimensional shapes.

Grade 4 Essential Element EE.4.G.3:

- Recognize that lines of symmetry partition shapes into equal areas.

Grade 6 Essential Element EE.6.G.3:

- Not applicable

Grade 6 Essential Element EE.6.G.4:

- Not applicable

I Can Statements:

- I can indicate two-dimensional shapes.
- I can sort figures based on a given attribute.
- I can sort two-dimensional figures and describe the common attributes such as angles, number of sides, corners (dimension), and color.

Key Vocabulary:

- two-dimensional figures
- attributes
- angles
- number of sides

Supports (specific to student): (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)

- Pictures of shapes
- Graphic organizer
- Manipulative of shapes

Instructional Examples:

- Touch the two-dimensional shape when offered two choices from the teacher.
- Sort figures by shape and size.
- Given shapes sorted based on the number of sides, sort them by another attribute.

Grade 5 Math

5.G.3-4 Element Card

Domain: Geometry

Cluster: Classify Two-Dimensional Figures into Categories Based on their Properties

Real World Connections:

- Read a map.
- Follow driving directions.

Resources:

- http://www.mathplayground.com/locate_aliens.html
- www.ixl.com
- www.kidsmathgamesonline.com/geometry/angles.html

Resources:

Math Resources grades 3-5:

<http://www.visualfractions.com/compare.htm>

interactive fractions

<http://www.free-training-tutorial.com/equivalent-fractions-games.html>

<http://www.uen.org/Lessonplan/preview.cgi?LPid=28280>

http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf

http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_5.html

http://www.mathplayground.com/locate_aliens.html

<http://ixl.com>

<http://jc-schools.net/tutorials/interactive.htm>

<http://www.k-5mathteachingresources.com/support-files/capacity-mass-word-problems.pdf>

Capacity word problems with pictures

<http://www.k-5mathteachingresources.com/support-files/moreorlessthanaliter.pdf>

more or less than a liter

<http://www.superteacherworksheets.com/>

work sheets to choose from

<http://illuminations.nctm.org/activitydetail.aspx?id=80>

Equivalent fractions

<http://www.k-5mathteachingresources.com/>

everything

<http://www.esl-lab.com/time.htm>

Telling Time

<http://www.fuelthebrain.com/Guides/>

<http://www.brainpopjr.com/math/measurement/area/grownups.weml>

<http://www.free-training-tutorial.com/equivalent-fractions-games.html>

Equivalent Fractions

<http://www.multiplication.com/games>

multiplication games

<http://www.apples4theteacher.com/math.html>

<http://primaryresources.co.uk/maths/mathsD1.htm>

word and real-life problems

<http://www.khake.com/page47.html>

Math Resources-Tutorials, formulas, calculators, directories

http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf

Multiplication and division in real-world contexts

<http://www.sheppardsoftware.com/math.htm>

Math games of all different types: Basic operations/mixed operations/time/place value/ money/fractions/decimals/algebra/geometry

<http://www.mathsisfun.com/rounding-numbers.html>

rounding numbers

<http://www.webmath.com/k8round.html>

rounding numbers