

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: Four



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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.

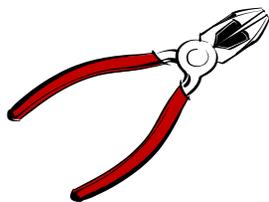
These tools are:

- ✓ 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

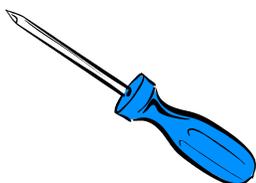
These tools are not:

- ✓ 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.

This template allows teachers to fill in the domain, cluster, standard number and I can statements as appropriate.

Note: there is an optional file per grade/subject that contains the "I Can Statements" for all Element Cards. You can download this if you choose. We made the decision to not include it with the grade documents because it increases the number of pages substantially.



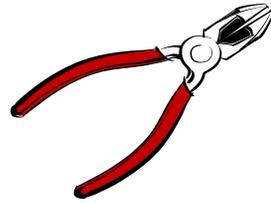
Website Resources - lists of web addresses where a variety of educational ideas can be found.

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.

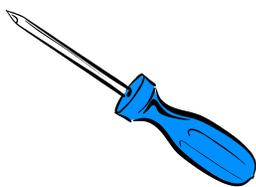
The Essential Elements are highlighted to indicate the importance of their focus.

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. _____

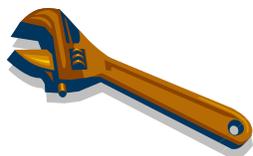
Thurs. _____

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

“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 4 Math

4.OA.1-2 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Use the Four Operations with Whole Numbers to Solve Problems

Standard 4.OA.1: Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

Standard 4.OA.2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Essential Element EE.4.OA.1-2: Demonstrate the connection between repeated addition and multiplication.

Grade 3 Essential Element EE.3.OA.1-2:

- Use repeated addition to find the total number of objects and determine the sum.

Grade 5 Essential Element EE5.OA.1:

- Not applicable

I Can Statements:

- I can make a set of 10 and count to 10.
- I can demonstrate repeated addition to sums of 10.
- I can demonstrate the connection between repeated addition and multiplication.
- I can apply repeated addition to solve a multiplication problem represented with numbers.

Key Vocabulary:

- variable
- addition
- multiplication
- repeated addition

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 chart
- Hundred chart
- Number line
- Tablet applications

Instructional Examples:

- Count like objects to make a set of 10.
- Skip count by two and five to 10.
- Using three groups of two objects, communicate that $2 + 2 + 2$ is equal to 3×2 .
- Use skip counting on a number line to solve multiplication problems (e.g., move two digits five times for the problem 2×5).

Grade 4 Math

4.OA.1-2 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Use the Four Operations with Whole Numbers to Solve Problems

Real World Connections:

- Use multiplication and division to solve word problems.
- Determine prices of one or of multiple items when shopping.
- Figuring out salaries.

Resources:

- www.internet4classrooms.com > ... > **4th_Grade Skill Builders**

Grade 4 Math

4.OA.3 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Use the Four Operations with Whole Numbers to Solve Problems

Standard 4.OA.3: Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Essential Element EE.4.OA.3: Solve one-step real-world problems using addition or subtraction within 100.

Grade 3 Essential Element EE3.OA.3:

- Not applicable
- See **EE.3.OA.1** and **EE.5.NBT.5**.

Grade 5 Essential Element EE.5.OA.3:

- Identify and extend numerical patterns.

I Can Statements:

- I can add up to five.
- I can solve one-step addition or subtraction problems when there is an unknown (result, start, change, difference) up to 10.
- I can solve one-step problems using addition or subtraction.
- I can solve two-step problems using addition or subtraction when a number in the problem is unknown (result, start, change, difference).

Key Vocabulary:

- variable
- remainder
- estimation
- division
- mental math
- rounding

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)

- Interactive white board technology
- Calculator
- Addition chart
- Manipulatives

Instructional Examples:

- Given a group of five items, determine how many more are needed to make 10.
- Solve one-step word problem involving subtractions (e.g., "If Sandy wanted to collect 35 cards and she already has 15, how many more does she need?" [subtraction deficit missing amount]).
- Use a hundreds chart to solve a two-step problem.

Grade 4 Math

4.OA.3 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Use the Four Operations with Whole Numbers to Solve Problems

Real World Connections:

- Shopping/purchasing
- General Education applications
- Student grades
- Money management

Resources:

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

Grade 4 Math

4.OA.4 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Gain Familiarity with Factors and Multiples

Standard 4.OA.4: Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Essential Element EE.4.OA.4: Show one way to arrive at a product.

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

- Solve addition and subtraction problems when result is unknown, limited to operands and results within 20.

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

- Not addressed in Grade 5.

I Can Statements:

- I can copy one way to arrive at a product.
- I can make equal sets and count to determine the product.
- I can show one way to arrive at a product.
- I can show multiple ways to arrive at the same product.

Key Vocabulary:

- Product
- factors
- multiplication
- whole number

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 and diagrams
- Spinners
- Dry erase board or on digital device

Instructional Examples:

- Given a set, copy the equal set.
- Using two spinners, spin first spinner to determine the number of groups and the second spinner to determine how many in each group. Supply the numbers from the spinners as factors in the multiplication
- Given eight objects that represent the product, make equal sets to represent the factors (e.g., $2 + 2 + 2 + 2$) and count to arrive at the product (e.g., 8).
- Given an equation on a dry erase board (e.g., $2 \times 4 = 8$), make equal groups to show possible factors for eight (e.g., one group of eight, two groups of four, four groups of two).

Real World Connections:

- Shopping
- Money management

Grade 4 Math

4.OA.4 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Gain Familiarity with Factors and Multiples

Resources:

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

Grade 4 Math

4.OA.5 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Generate and Analyze Patterns

Standard 4.OA.5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Essential Element EE.4.OA.5: Use repeating patterns to make predictions.

Grade 3 Essential Element EE.3.OA.5:

- Not applicable
- See EE.N-CN.2.

Grade 5 Essential Element EE.5.OA.5:

- Not addressed in Grade 5.

I Can Statements:

- I can differentiate between a pattern and a non-pattern.
- I can replicate a pattern.
- I can use repeating patterns to make predictions.
- I can create a pattern based on a given rule and their prediction of what comes next.

Key Vocabulary:

- Pattern
- repeating
- replicate
-

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)

- Wooden beads
- Pattern strips

Instructional Examples:

- Play listening game to determine rhythmic patterns versus non-patterns.
- Using wooden beads, copy a pattern.
- Given a simple ABCABC pattern, indicate, “What comes next?”
- Given a die with plus two, or plus three, rolls the die and creates a number pattern based on the outcome.

Real World Connections:

Grade 4 Math

4.OA.5 Element Card

Domain: Operations and Algebraic Thinking

Cluster: Generate and Analyze Patterns

- Sort items into groups.
- Make crafts.
- Follow directions.

Resources:

- www.linkslearning.k12.wa.us/Kids/1_Math/.../5_Patterns/index.html

Grade 4 Math

4.NBT.1 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Generalize Place Value Understanding for Multi-digit Whole Numbers

Standard 4.NBT.1: Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*

Essential Element EE.4.NBT.1: Not applicable.

See EE.5.NBT.1.

Grade 3 Essential Element EE.3.NBT.1:

- Use decade numbers (10, 20, 30) as benchmarks to demonstrate understanding of place value for numbers 0–30.

Grade 5 Essential Element EE.5.NBT.1:

- Compare numbers up to 99 using base ten models.

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:

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Grade 4 Math

4.NBT.2 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Generalize Place Value Understanding for Multi-digit Whole Numbers

Standard 4.NBT.2: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Essential Element EE.4.NBT.2: Compare whole numbers to 10 using symbols ($<$, $>$, $=$).

Grade 3 Essential Element EE.3.NBT.2:

- Demonstrate understanding of place value to tens.

Grade 5 Essential Element EE.5.NBT.2:

- Use the number of zeroes in numbers that are powers of 10 to determine which values are equal, greater than, or less than.

I Can Statements:

- I can compare whole numbers ($<$, $>$) from 0-10.
- I can compare whole numbers ($<$, $>$, $=$) from 0-20.
- I can compare whole numbers ($<$, $>$, $=$).
- I can compare whole numbers using symbols ($<$, $>$, $=$).

Key Vocabulary:

- additive comparisons
- composite number
- algorithm
- comparison bars
- factor pairs

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)

- Tactile dots and 10 frame
- Floor number line
- Number line
- Number cards
- Base 10 blocks
- Calculator

Instructional Examples:

- Use a 10 frame with two tactile dots and a 10 frame with 10 tactile dots, determine which is more or less.
- Given two sets of objects, determine which is more.
- Given two groups of objects, seven blocks and 10 blocks, determine which is greater or which is less.
- Play a fish game: One fish and two ponds, each with a certain number of bugs, turn fish towards the pond with the most bugs.
- Given two groups of blocks, close or equal in value, determine which is greater, less, or equal.
- Using a floor number line, two students stand on two different numbers and determine which is greater or less than.

Grade 4 Math

4.NBT.2 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Generalize Place Value Understanding for Multi-digit Whole Numbers

- Utilize a number line to compare two numbers greater than 50 and place a card with the correct symbol on the line to show the relationship ($<$, $>$).
- During P.E., compare scores of a game to determine the winner. Use the symbol to show the relationship between the scores.
- State or match meaning of $>$, $<$, and $=$ as greater than, less than, or equal to.

Real World Connections:

- Scientific investigation
- Comparison shopping
- Restaurant knowledge
- Prescription knowledge
- Read symbols and signs

Resources:

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

Grade 4 Math

4.NBT.3 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Generalize Place Value Understanding for Multi-digit Whole Numbers

Standard 4.NBT.3: Use place value understanding to round multi-digit whole numbers to any place.

Essential Element EE.4.NBT.3: Round any whole number 0-30 to the nearest ten.

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

- Count by tens using models such as objects, base ten blocks, or money.

Grade 5 Essential Element EE.5.NBT.3:

- Compare whole numbers up to 100 using symbols (<, >, =).

I Can Statements:

- I can identify numbers that are more or less than five on a number line.
- Round single one-digit numbers to the nearest 10.
- Round single one- and two-digit whole numbers from 0-50 to the nearest 10.
- Round one- and two-digit numbers, greater than 50, to the nearest 10.

Key Vocabulary:

- round
- tens

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 line
- Paper plates labeled 0 and 10
- Pennies
- Dice
- Number cards
- Base 10 blocks
- Hundreds chart

Instructional Examples:

- Place his/her finger on five on a number line and count to find a number greater than five.
- Shown five on a number line, identify a number that is less than five.
- Using paper plates labeled zero and 10, given a card with a number zero to 10, place it on the correct plate.
- Use a number line to round to the nearest 10.
- Round single one- and two-digit whole numbers from 0-50 to the nearest 10.
- Poster boards, distributed around the room, labeled by tens up to 50, be given a number, and asked to go to the nearest 10.
- Using pennies earned, exchange for dimes.
- Round one- and two-digit numbers, greater than 50, to the nearest 10.

Grade 4 Math

4.NBT.3 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Generalize Place Value Understanding for Multi-digit Whole Numbers

- Roll the dice to count up the rounding tape and state the nearest 10.
- Using a hundreds chart and a given number between 50 and 100, round to the nearest tens place.

Real World Connections:

- Estimate cost of goods when shopping (e.g., “is it closer to 10 dollars or to 20 dollars?”).
- Estimate numbers of items needed (e.g., cupcakes for a class party).

Resources:

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

Grade 4 Math

4.NBT.4 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Use Place Value Understanding and Properties of Operations to Perform Multi-digit Arithmetic

Standard 4.NBT.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Essential Element EE.4.NBT.4: Add and subtract two-digit whole numbers.

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

- Not addressed in Grade 3.

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

- Round two-digit whole numbers to the nearest 10 from 0—90.

I Can Statements:

- I can solve single digit addition problems to add one to another number.
- Solve addition with numbers 20-50 and subtraction problems with numbers 0-20.
- Add and subtract double-digit whole numbers.
- Add and subtract multi-digit whole numbers.

Key Vocabulary:

- additive comparisons
- composite number
- algorithm
- comparison bars
- factor pairs

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
- Number line
- Sorting box and manipulatives
- Calculator
- Tables to help with place value placement
- Mental math exercises

Instructional Examples:

- Use counters to add one to another number.
- Use number lines to add one to another number.
- Use counters to add and subtract.
- Use number lines to add or subtract.
- Produce addends to 10 fluently.
- The teacher orally states $14 - 1 = 13$ and use magnetic symbols to display the problem.
- Use a sorting box divided into two sections with manipulatives to add, subtract, and regroup to solve addition and subtraction problems.
- Use break-apart numbers (e.g., $20 + 30 = 50$, $3 + 5 = 8$, $40 + 8 = 48$).

Grade 4 Math

4.NBT.4 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Use Place Value Understanding and Properties of Operations to Perform Multi-digit Arithmetic

- Given base ten pieces, make exchanges to solve multi-digit addition and subtraction problems.
- Use a calculator and show how the problem is solved.

Real World Connections:

- Complete addition and subtractions problems.
- Purchase items.
- Balance a budget using debit/credit situations.

Resources:

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

Grade 4 Math

4.NBT.5 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Use Place Value Understanding and Properties of Operations to Perform Multi-digit Arithmetic

Standard 4.NBT.5: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Essential Element EE.4.NBT.5: Not applicable.

See **EE.4.OA.1.**

Grade 3 Essential Element EE.3.NBT.5:

- Not addressed in Grade 3.

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

- Multiply whole numbers up to 5×5 .

I Can Statements:

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Key Vocabulary:

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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:

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Real World Connections:

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Resources:

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Grade 4 Math

4.NBT.6 Element Card

Domain: Numbers and Operations in Base Ten

Cluster: Use Place Value Understanding and Properties of Operations to Perform Multi-digit Arithmetic

Standard 4.NBT.6: Find whole-number quotients and remainders with up to four-digit dividends and one-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.

Essential Element EE.4.NBT.6: Not applicable.

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

- Not addressed in Grade 3.

Grade 5 Essential Element EE.5.NBT.6-7:

- Illustrate the concept of division using fair and equal shares.

I Can Statements:

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Key Vocabulary:

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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 4 Math

4.NF.1-2 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Extend Understanding of Fraction Equivalence and Ordering

Standard 4.NF.1: Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Standard 4.NF.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Essential Element EE.4.NF.1-2: Identify models of one half ($1/2$) and one fourth ($1/4$).

Grade 3 Essential Element EE.3.NF.1-3:

- Differentiate a fractional part from a whole.

Grade 5 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 5 Essential Element EE.5.NF.2:

- Identify models of thirds ($1/3$, $2/3$, $3/3$) and tenths ($1/10$, $2/10$, $3/10$, $4/10$, $5/10$, $6/10$, $7/10$, $8/10$, $9/10$, $10/10$).

I Can Statements:

- I can understand that two halves are equivalent to one whole.
- I can understand $4/4$ or $2/2 = 1$.
- I can understand $2/4 = 1/2$.
- I can understand two fractions having unlike denominators are equivalent if they represent the same size portion of a whole.

Key Vocabulary:

- halves
- denominator
- equivalent
- whole

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 lines
- Fraction bar strips
- Fraction flash cards
- Visuals

Grade 4 Math

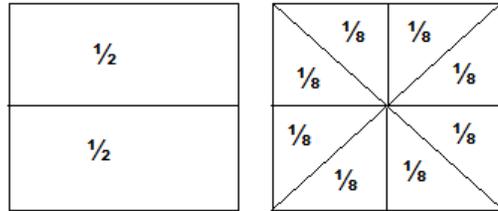
4.NF.1-2 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Extend Understanding of Fraction Equivalence and Ordering

Instructional Examples:

- Complete two- and four-piece puzzles.
- Working with two rectangles of the same size, fold one rectangle in half and the other in fourths and compare to find how many fourths equal half.
- Given two squares of paper, one scored for $1/2$ s and one scored for $1/8$ s, fold the each paper as scored, then unfold the paper scored for $1/8$ s and compare to the one folded into $1/2$ to find the same size portion (e.g., $4/8 = 1/2$).



Real World Connections:

- Cooking; serving food; carpentry; retail

Resources:

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

Grade 4 Math

4.NF.3 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Build Fractions from Unit Fractions by Applying and Extending Previous Understandings of Operations on Whole Numbers

Standard 4.NF.3: Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.

- a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
- b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:* $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.
- c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
- d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem

Essential Element EE.4.NF.3: Differentiate between whole and half.

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

- Differentiate a fractional part from a whole.

Grade 5 Essential Element EE.5.NF.3:

- Not applicable
- See **EE.6.RP.1**.

I Can Statements:

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

Key Vocabulary:

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

Grade 4 Math

4.NF.3 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Build Fractions from Unit Fractions by Applying and Extending Previous Understandings of Operations on Whole Numbers

- whole
- fourth

- half

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

- Visuals
- Tablet applications

Instructional Examples:

- Shown pictures of the whole class and part of the class, select the picture that shows part of the class upon request.
- Given a whole sandwich versus a half sandwich cut horizontally, vertically, and diagonally select the whole or half upon request.
- Using squares of paper, fold it in $\frac{1}{2}$ and $\frac{1}{4}$ and identify the parts.
- Using squares, fold it in $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, . . .

Real World Connections:

- Food preparation; money; Distance measurement in sports

Resources:

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

Grade 4 Math

4.NF.4 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Build Fractions from Unit Fractions by Applying and Extending Previous Understandings of Operations on Whole Numbers

<p>Standard 4.NF.4: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <ol style="list-style-type: none">Understand a fraction a/b as a multiple of $1/b$. For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	<p>Essential Element EE.4.NF.4: Not applicable; See EE.4.OA.1–2 and EE.5.NBT.5</p>
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<p>Grade 3 Essential Element EE.3.NF.4:</p> <ul style="list-style-type: none">Not addressed in Grade 3.	<p>Grade 5 Essential Element EE.5.NF.4:</p> <ul style="list-style-type: none">Not addressed 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>	

Grade 4 Math

4.NF.4 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Build Fractions from Unit Fractions by Applying and Extending Previous Understandings of Operations on Whole Numbers

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Resources:

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Grade 4 Math

4.NF.5-7 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Understand Decimal Notation for Fractions, and Compare Decimal Fractions

Standard 4.NF.5: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.¹ *For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.*

Standard 4.NF.6: Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

Standard 4.NF.7: Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

Essential Element EE.4.NF.5-7: Not applicable; See EE.7.NS.2.c-d.

Grade 3 Essential Element EE.3.NF.5-7:

- Not addressed in Grade 3.

Grade 5 Essential Element EE.5.NF.5:

- Not applicable

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

- Not applicable; See EE.10.N-CN.2.b.

Grade 5 Essential Element EE.5.NF.7:

- Not applicable; See EE.7.NS.2.b.

I Can Statements:

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Key Vocabulary:

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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 Example:

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Real World Connections:

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Grade 4 Math

4.NF.5-7 Element Card

Domain: Numbers and Operations - Fractions

Cluster: Understand Decimal Notation for Fractions, and Compare Decimal Fractions

Resources:

-

Grade 4 Math

4.MD.1 Element Card

Domain: Measurement and Data

Cluster: Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

Standard 4.MD.1: Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*

Essential Element EE.4.MD.1: Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/hour).

Grade 3 Essential Element EE.3.MD.1:

- Tell time to the hour on a digital clock.

Grade 5 Essential Element EE.5.MD.1a:

- Tell time using an analog or digital clock to the half or quarter hour.

Grade 5 Essential Element EE.5.MD.1b:

- Use standard units to measure weight and length of objects.

Grade 5 Essential Element EE.5.MD.1c:

- Indicate relative value of collections of coins.

I Can Statements:

- I can use measurement tools.
- I can point to the inch example to show it is shorter/smaller than the foot example when provided examples of 1 inch and 1 foot.
- I can point to the centimeter example to show it is shorter/smaller than the meter when provided examples of 1 centimeter and 1 meter.
- I can respond that the minute is when asked, "Which is shorter: a minute or an hour?" or "Which is less time: a minute or an hour?"
- I can identify the smaller measurement units that divide a larger unit within a measurement system.
- I can identify standard units of measurements.
- I can show a set of 12 inches correspond with a 1 foot ruler.
- I can show 100 centimeters correspond with a meter stick.
- I can point to the small marks on a conventional clock or clock face to show minute marks.
- I can point to the numerals showing hours on a conventional clock face.
- I can point to the numeral(s) on the right side of the colon on a digital clock to show the side where minutes are.
- I can point to the numeral(s) on the left side of the colon on a digital clock to show the side where hours are.
- I can solve problems by demonstrating whole units can be broken into smaller units.

Key Vocabulary:

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

Grade 4 Math

4.MD.1 Element Card

Domain: Measurement and Data

Cluster: Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

- inch
- shorter
- minute
- hour
- smaller

- foot
- centimeter
- meter
- “less time”

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

- T-charts to record information
- Rulers, meter sticks, clocks, and other visuals of proper measuring units
- Place value chart, number line

Instructional Examples:

- Compare the length of a ruler to the length of a book.
- When provided examples of 1 inch and 1 foot, point to the inch example to show it is shorter/smaller than the foot example.
- Use different measurement tools to measure sand in a tray.
- When provided examples of 1 centimeter and 1 meter, point to the centimeter example to show it is shorter/smaller than the meter.
- When asked, “Which is shorter: a minute or an hour?” or “Which is less time: a minute or an hour?” respond that the minute is.
- Show a set of 12 inches correspond with a 1 foot ruler.
- Given several measurement tools, match three rulers to one-yard stick.
- Show 100 centimeters correspond with a meter stick.
- Point to the small marks on a conventional clock or clock face to show minute marks.
- Point to the numerals showing hours on a conventional clock face.
- Point to the numeral(s) on the right side of the colon on a digital clock to show the side where minutes are.
- Point to the numeral(s) on the left side of the colon on a digital clock to show the side where hours are.
- Determine which is better for measuring a desktop, a ruler or a yardstick. Measure the tablet, mark the length on the ruler, and compare it to the yardstick.

Real World Connections:

- Tell time for meaningful family events (breakfast, supper/dinner, bedtime, favorite TV shows, etc.)
- Measure/help to measure the height of siblings and marking them on a growth chart maintained by the family.
- When traveling and asking, “How much longer until we get to _____?”, the student will know that the response 4 hours is a lot longer than 4 minutes.
- Skills for carpentry; Decision making.

Resources:

- www.khake.com/page47.html
- www.ixl.com

Grade 4 Math

4.MD.2 Element Card

Domain: Measurement and Data

Cluster: Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

Standard 4.MD.2: Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

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 3 Essential Element EE.3.MD.2:

- Identify the appropriate measurement tool to solve one-step word problems involving mass and volume.

Grade 5 Essential Element EE.5.MD.2:

- Represent and interpret data on a picture, line plot, or bar graph.

I Can Statements EE.4.MD.2.a:

- I can identify the clock for telling time when given a digital or analog clock and a ruler.
- I can identify the clock for telling time when given a digital or analog clock and a ruler.
- I can say the hour on an analog clock with support.
- I can say the hour on a digital clock with support.
- I can tell time using a digital clock.
- I can tell time to the nearest hour using an analog clock.

I Can Statements EE.4.MD.2.b:

- I can identify vocabulary related to volume (full, empty).
- I can demonstrate solid or full, empty and part full.
- I can identify objects that have volume.
- I can identify measurement tools.
- I can select the appropriate measurement tool from two unrelated options to solve problems.
- I can use a scale to measure my weight.
- I can use a liquid measuring cup to make pudding.
- I can select the appropriate measurement tool from two related options to solve problems.
- I can determine volume of a cube by counting units of measure.
- I can choose and use the appropriate measurement tools to solve problems.

Domain: Measurement and Data

Cluster: Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

I Can Statements EE.4.MD.2.c:

- I can use a ruler to measure the case width of my favorite DVD.
- I can use a yardstick to measure the width/length/height of my classroom.
- I can use a meter stick to measure the width/length/height of my classroom.

I Can Statements EE.4.MD.2.d:

- I can select objects that are used for money.
- I can match coins that are alike (penny, nickel, dime, quarter).
- I can identify a _____ (penny, nickel, dime, or quarter) and state that it is worth (1 cent, 5 cents, 10 cents, or 25 cents, respectively).
- I can identify relative value of different collections of coins.

Key Vocabulary:

- | | |
|--------------------------------|----------------|
| • digital clock | • analog clock |
| • hour | • “tell time” |
| • scale | • meter stick |
| • pounds | • ruler |
| • penny, nickel, dime, quarter | • yard stick |
| • weigh | • tape measure |
| • pounds | • cents |

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)

- Visuals and manipulatives to support distance, time, volume, weight, mass, and money activities

Instructional Examples for EE.4.MD.2.a:

- Given a digital or analog clock and a ruler, identify the clock for telling time.
- Identify activity on schedule by matching the hour on the schedule to the hour on the clock.
- Tell time using a digital clock.
- Move hands on an analog clock to show a stated half hour.
- Identify matching digital clocks/analog clocks.

Instructional Examples for EE.4.MD.2.b:

- Fill a cup half full from the water fountain.
- Use liquid to fill bowl (how much, one cup, etc.).
- Indicate which is full and/or which is empty when holding/feeling a full can of pop and an empty can of pop.
- Identify objects in the room that can be filled (cup, fish tank, etc.).
- Sort non-standard and standard measurement tools into two different groups.
- Given options of unrelated measuring tools, choose the best tool for a particular task (e.g., “When making cookies, which would you use to measure flour, a cup or ruler?”).
- During a science experiment, select the best tool to use to measure various ingredients (e.g., tablespoon or cup, ruler or yardstick).
- After stepping on a scale, indicate what your weight is verbally or with a text/voice output device

Domain: Measurement and Data**Cluster:** Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

- Using a glass liquid measuring cup, pour 2 cups of milk to make instant pudding in your favorite flavor.
- On a field trip to the grocery store, use the scale to determine how much a bag of apples weighs.

Instructional Examples for EE.4.MD.2.c:

- Identify items as long or short.
- After traveling to somewhere in the classroom and somewhere outside of room, indicate each distance as long or short.
- Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks.
- Given a ruler and sand in a bucket, mark the depth of the sand on a ruler.
- Use a ruler to measure the length of your hand.
- Given a tape measure, mark the length of a bookcase and the teacher's desk on the tape measure to show which is longer.
- Use a meter stick/yard stick to measure the length of the playground teeter totter.
- Use standard measurements to compare length of objects and indicate how many each is by standard measures.
- Given a tape measure, mark the length of a bookcase and the teacher's desk on the tape measure to show which is longer and approximately how many each is by feet.

Instructional Examples for EE.4.MD.2.d:

- Given three pictures (two non-coins and one coin), identify which one is a coin.
- Given a picture of a quarter, choose a quarter from a group of coins.
- Shown a coin, names coin.
- Use coins to match the amounts shown on money cards; after matching, count the number of cents shown with support
- Use coins to match the amounts shown on money cards; after matching, count the number of cents shown
- When asked to show how many pennies are the same as a dime, lay out 10 pennies
- Given 14 pennies and two dimes, indicate which set is worth more.

Real World Connections:

- Cooking skills, money management
- Measure heights of family members

Resources:

- www.khake.com/page47.html
- www.ixl.com

Grade 4 Math

4.MD.3 Element Card

Domain: Measurement and Data

Cluster: Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

Standard 4.MD.3: Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length by viewing the area formula as a multiplication equation with an unknown factor.*

Essential Element EE.4.MD.3: Determine the area of a square or rectangle by counting units of measure (unit squares).

Grade 3 Essential Element EE.3.MD.3:

- Use picture or bar graph data to answer questions about data.

Grade 5 Essential Element EE.5.MD.3:

- Identify common three-dimensional shapes.

I Can Statements EE.4.MD.3:

- I can indicate the inside of a space.
- I can determine what is the larger area (example: the classroom floor or a square foot of construction paper)
- I can demonstrate area.
- I can find area.
- I can count the number of square pieces of construction paper on our classroom floor (enough to make either a square or a rectangle).
- I can count the units of measure shown on enlarged graph paper (enough to make either a square or a rectangle).
- I can count the units of measure shown on graph paper (enough to make either a square or a rectangle).

Key Vocabulary:

- square(s)
- count
- rectangle
- “How many?”

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)

- Square units of substances (paper, wall paper, foam sheets, aluminum foil, etc.) in the students’ favorite material or color(s)

Instructional Examples:

- Point to the inside of a box or frame when asked, “Where is the inside?”
- Use squares of colored paper to cover their desk or tray on a wheelchair.

- Determine how many tiles in a single layer are required to cover a rectangle.

Grade 4 Math

4.MD.3 Element Card

Domain: Measurement and Data

Cluster: Solve Problems Involving Measurement and Conversion of Measurements from a Larger Unit to a Smaller Unit

1	1	1
1	1	1
1	1	1

$$3 + 3 + 3 = 9 \text{ tiles}$$

- With support and using squares of 12 x 12 inch construction paper, measure the number of square feet in the fourth grade classroom.
- Using squares of 12 x 12 inch construction paper, measure the number of square feet in the fourth grade classroom.
- Using squares of 12 x 12 inch construction paper, measure the number of square feet in the school gymnasium.

Real World Connections:

- Help measure a room, plant a garden, carpet a room.

Resources:

- www.khake.com/page47.html
- www.ixl.com

Grade 4 Math

4.MD.4 Element Card

Domain: Measurement and Data

Cluster: Represent and Interpret Data

Standard 4.MD.4: Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

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

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

- Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks.

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

- Determine the volume of a rectangular prism by counting units of measure (unit cubes).

I Can Statements EE.4.MD.4.a:

- I can identify appropriate data to collect when given a topic.
- I can identify an appropriate scale for the data set.
- I can insert data into a preconstructed bar graph template.
- I can insert data into a graph to represent a data set with a scale equal to 10 (0 to 10 by ones).

I Can Statements EE.4.MD.4.b:

- I can demonstrate awareness that symbols may be used to represent objects and events.
- I can make observational statements about data in a picture and bar graph.
- I can make observational statements about data in a picture and bar graph.
- I can create my own questions that can be answered by the data on a picture and bar graph.

Key Vocabulary:

- picture graph
- more
- smaller
- longer
- bar graph
- less
- bigger
- shorter

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)

- Large, medium, and small sized squares on graph paper and coordinating templates
- Surveyor's wheel with measuring indicator attached

Instructional Examples for EE.4.MD.4.a:

- Using a weather graph, identify appropriate data given the choice between a picture of the sun and a picture of a shoe.
- Determine if it is appropriate to use inches or pounds on a height graph.
- Given a preconstructed bar graph and data, enter the data on the bar graph by shading one unit of the bar for each piece of data.

Grade 4 Math

4.MD.4 Element Card

Domain: Measurement and Data

Cluster: Represent and Interpret Data

- Using a bar graph, enter one unit for each student to show their favorite activity in the correct category (lunch, physical therapy, music, P.E.) to determine most popular and least popular.
- Task 1: Measure the length of the playground using a surveyor's measuring wheel. Task 2: With assistance, graph the number of feet on a bar graph.
- Task 3: Measure the width of the playground using a surveyor's measuring wheel. Task 2: With assistance, graph the number of feet on a bar graph.

Instructional Examples for EE.4.MD.4.b:

- Task 4: Using the bar graph created in Tasks 1-4 above, identify which is longer, the playground length or the playground width.
- Task 4: Using the bar graph created in Tasks 1-4 above, identify which is shorter, the playground length or the playground width.
- Picture of ice cream represents a favorite flavor.
- Tell you what they observe on a graph of students' eye colors.
- Tell how many sunny days there were in a month, based on a weather graph.
- Create their own questions/answers based on the information from a graph showing class preferences between two different activities.

Real World Connections:

- Measuring the length of the yard, sidewalk, etc. and graphing it for other comparisons. This graph can be kept on the family's refrigerator.
- Graphing the ages of family members and changing the graph on birthdays.

Resources:

- <http://www.superteacherworksheets.com/line-graphs.html>
- <http://www.superteacherworksheets.com/bar-graphs.html>
- <http://www.superteacherworksheets.com/pictograph.html>
- www.khake.com/page47.html
- www.ixl.com

Grade 4 Math

4.MD.5 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Angle and Measure Angles

Standard 4.MD.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

- a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.
- b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

Essential Element EE.4.MD.5: Recognize angles in geometric shapes.

Grade 3 Essential Element EE.3.MD.5:

- Not applicable
- See **EE.4.MD.2**.

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

- Determine the volume of a rectangular prism by counting units of measure (unit cubes).

I Can Statements:

- I can identify shapes that contain angles.
- I can identify an angle.
- I can recognize angles in geometric shapes.
- I can label different types of angles in geometric shapes.

Key Vocabulary:

- angle
- shapes

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:

Grade 4 Math

4.MD.5 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Angle and Measure Angles

- Given a square and a circle, identify the square.
- Given a set of four shapes (one with angles and three with no angles), indicate the shape with angles.
- Given pictures of different geometric shapes and angles that match the shapes, overlay shapes with matching angles.
- Given a square, determine whether the angles are right angles or not and state a square has four angles.

Real World Connections:

- Recognize corners in a room,
- Turn a corner when taking a walk.
- Recognize angles in real-world settings.

Resources:

- www.khake.com/page47.html
- www.ixl.com

Grade 4 Math

4.MD.6 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Angle and Measure Angles

Standard 4.MD.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Essential Element EE.4.MD.6: Identify angles as larger and smaller.

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

- Not applicable.
- See **EE.4.MD.2**.

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

- Not addressed in Grade 5.

I Can Statements:

- I can identify an angle.
- I can differentiate angles in shapes.
- I can identify angles as larger and smaller.
- I can identify angles of various sizes.

Key Vocabulary EE.L.6.1:

- angles
- larger
- smaller

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)

- Popsicle sticks
- Pictures of shapes
- Puzzle pieces

Instructional Examples:

- Use Popsicle sticks to replicate a given angle or bend a pipe cleaner to replicate a given angle.
- Given an angle and a circle, indicate “Which is an angle?”
- Given two fraction puzzle pieces, one containing a significantly larger angle than the other, indicate “Which is smaller?”
- Replicate angles from geometric shapes containing right and acute angles.

Real World Connections:

- Identify angles in real world settings.
- Cut a pizza into pieces.

Resources:

Grade 4 Math

4.MD.6 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Angle and Measure Angles

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

Grade 4 Math

4.MD.7 Element Card

Domain: Measurement and Data

Cluster: Geometric Measurement: Understand Concepts of Angle and Measure Angles

Standard 4.MD.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Essential Element EE.4.MD.7: Not applicable; See EE.4.G.2.a.

Grade 3 Essential Element EE.3.MD.7:

- Not applicable.
- See EE.4.MD.2.

Grade 5 Essential Element EE.5.MD.7:

- Not addressed in Grade 5.

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 4 Math

4.G.1 Element Card

Domain: Geometry

Cluster: Draw and Identify Lines and Angles, and Classify Shapes by Properties of their Lines and Angles

Standard 4.G.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

Essential Element EE.4.G.1: Recognize parallel lines and intersecting lines.

Grade 3 Essential Element EE.3.G.1:

- Describe attributes of two-dimensional shapes.

Grade 5 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.

I Can Statements:

- I can identify a line.
- I can identify an intersecting line.
- I can distinguish between parallel and intersecting lines.
- I can create a representation of parallel and intersecting lines.

Key Vocabulary:

- acute angle
- circle

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)

- Rulers
- Sidewalk chalk
- Popsicle sticks
- Road map
- Variety of two-dimensional pictures

Instructional Examples:

- Use yarn, stretch and glue a line on paper.
- Draw a line when directed.
- Walk on a line taped to the floor when directed.
- Given a line and a circle, indicate which is the line.
- Use sidewalk chalk to draw an intersecting line.
- Go on an environment hunt and identify intersecting lines.
- Trace intersecting lines (e.g., roads or hallways) on a map.
- Use a road map rug, trace over the parallel lines and then trace over the intersecting lines.
- Use a map of the school on an interactive white board, trace the classrooms that are in a parallel line and the hallways that intersect.

Grade 4 Math

4.G.1 Element Card

Domain: Geometry

Cluster: Draw and Identify Lines and Angles, and Classify Shapes by Properties of their Lines and Angles

- Find parallel lines in shapes.
- Use Popsicle sticks, create parallel and intersecting lines.
- Play “Simon Says” to illustrate parallel and intersecting lines with arm movements (or eye gaze a picture of students making the correct movements).

Real World Connections:

- GeoCaching, building design, chart and map, object identification, survey, leisure time activities.

Resources:

- 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.ixl.com>

Grade 4 Math

4.G.2 Element Card

Domain: Geometry

Cluster: Draw and Identify Lines and Angles, and Classify Shapes by Properties of their Lines and Angles

Standard 4.G.2: Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

Essential Element EE.4.G.2: Describe the defining attributes of two dimensional shapes.

Grade 3 Essential Element EE.3.G.2:

- Recognize that shapes can be partitioned into equal areas.

Grade 5 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.

I Can Statements:

- I can identify curves.
- I can identify attributes of geometric shapes.
- I can distinguish between different attributes of shapes (lines, curves, angles).
- I can classify shapes according to attributes.

Key Vocabulary:

- acute angle
- circle

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)

- Rulers
- Charts
- Road map
- Attribute blocks
- Geometric shapes
- Manipulative materials with curves and angles

Instructional Examples:

- Assemble a selection of curved items.
- Use a road map and toy cars to find curves.
- Use attribute blocks to sort shapes.
- Assigned a shape, cut out magazine pictures to represent the assigned shape.
- Sort different types of objects to show lines, curves, and angles.
- Find pictures that represent lines, angles, and curves.
- Draw a picture and identify the lines, angles, and curves used in the picture.

Grade 4 Math

4.G.2 Element Card

Domain: Geometry

Cluster: Draw and Identify Lines and Angles, and Classify Shapes by Properties of their Lines and Angles

- After reading The Button Box, by Margarette S. Reid, determine which attributes can be used to sort geometric buttons (buttons can also be felt by visually impaired students or teacher can trace the shapes into the palm of a hand).
- Given several shapes, classify the shapes according to attributes such as shape and angles. (Teacher will trace geometric shape into student's palm and, after given choices of shapes, activate a switch to indicate a category of attribute.)

Real World Connections:

- GeoCaching, building design, chart and map, object identification, survey, leisure time activities.

Resources:

- http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf
- http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_4.html
- <http://www.ixl.com>

Grade 4 Math

4.G.3 Element Card

Domain: Geometry

Cluster: Draw and Identify Lines and Angles, and Classify Shapes by Properties of their Lines and Angles

Standard 4.G.3: Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures, and draw lines of symmetry.

Essential Element EE.4.G.3: Recognize that lines of symmetry partition shapes into equal areas.

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

- Not addressed in Grade 3.

Grade 5 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.

I Can Statements:

- I can recognize simple shapes (square, triangle, and rectangle).
- I can recognize polygons.
- I can recognize a line of symmetry in a simple shape.
- I can locate the line of symmetry in a geometric shape.

Key Vocabulary:

- acute angle
- circle

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)

- Shapes of environmental signs
- Geometric shapes in “mystery bags”
- Environmental pictures
- Coffee filters and pipe cleaners
- Mirror
- Magnetic shapes
- Charts
- Active board
- I-pad or other digital device

Instructional Examples:

- Identify the shapes of environmental signs.
- Match the name to a shape from two choices.
- Given a “mystery bag” with a geometric shape in it, find three objects, from around the school that match the shape and bring them back to class. Take turns showing their items and have the rest of the students guess what the “mystery shape” is.
- Identify polygons in pictures/shape.
- Place dots of paint on a coffee filter and fold in half. Place a pipe cleaner on the line of symmetry.

Grade 4 Math

4.G.3 Element Card

Domain: Geometry

Cluster: Draw and Identify Lines and Angles, and Classify Shapes by Properties of their Lines and Angles

- Use a symmetry mirror, move it around on shapes until the students see that both sides match.
- Fold paper, in a geometric shape, and have student trace the fold line to identify the line of symmetry.
- Use magnetic shapes, match a given pattern of shapes to create a symmetrical design.

Real World Connections:

- Building design, charting and mapping, surveying, folding, sewing, sorting, understanding shape construction, digital photography composition, leisure time activities.

Resources:

- http://eduplace.com/math/mthexp/g5/mathbkg/pdf/mb_g5_u1.pdf
- http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_4.html
- <http://www.ixl.com>

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