

# 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: HS Algebra



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September 2013

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](http://www.dpi.state.nd.us/standard/common_core.shtm)
- **North Dakota Curriculum Initiative** documents at [http://ndcurriculuminitiative.org/common\\_core](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.

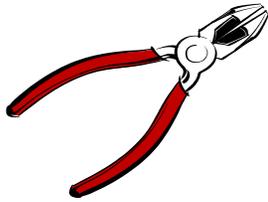
## **These tools are:**

- ✓ 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

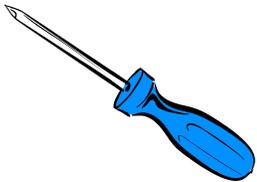
## **These tools are not:**

- ✓ 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.



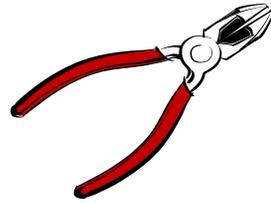
**Website Resources** - lists of web addresses where a variety of educational ideas can be found.

## Element Card-Tool #1

Grade 6 ELA

Strand: Reading Literature

Cluster: Key Ideas and Details



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

<b>Standard RL.6.1:</b> 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)	<b>Essential Element:</b> 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')
<b>Grade 5 Expectations:</b>  (What is related to this standard in the prior grade)	<b>Grade 7 Expectations:</b>  (What is related to this standard in the next grade)
<b>I Can Statements:</b> (Statements of measures of specific skills related to this standard)	
<b>Key Vocabulary:</b>  (Grade level vocabulary related to specific content in this standard)	<b>Supports (specific to student):</b>  (IEP accommodations, assistive technology, communication system, visual aids, templates, active board, highlighters, etc.)
<b>Instructional Examples:</b> (Examples of activities that can be done to address this skill such as modeling, small group discussions, etc.)	
<b>Real World Connections:</b> (Activities from everyday life that relate to the content of this standard)	
<b>Resources:</b>  (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.

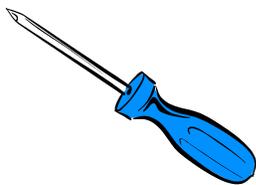
The Essential Elements are highlighted to indicate the importance of their focus.

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><b>Claim 1</b></p>	<p><b>Number Sense: Students demonstrate increasingly complex understanding of number sense.</b></p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p><b>MC 1.1 Understand number structures (counting, place value, fraction)</b>  <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><b>MC 1.2 Compare, compose, and decompose numbers and sets</b>  <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><b>MC 1.3 Calculate accurately and efficiently using simple arithmetic operations</b>  <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><b>Claim 2</b></p>	<p><b>Geometry: Students demonstrate increasingly complex spatial reasoning and understanding of geometric principles.</b></p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p><b>MC 2.1 Understand and use geometric properties of two- and three-dimensional shapes</b>  <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><b>MC 2.2 Solve problems involving area, perimeter, and volume</b>  <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><b>Claim 3</b></p>	<p><b>Measurement Data and Analysis: Students demonstrate Increasingly complex understanding of measurement, data, and analytic procedures.</b></p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p><b>MC 3.1 Understand and use measurement principles and units of measure</b>  <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><b>MC 3.2 Represent and interpret data displays</b>  <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><b>Claim 4</b></p>	<p><b>Algebraic and functional reasoning: Students solve increasingly complex mathematical problems, making productive use of algebra and functions.</b></p> <p>Conceptual Areas in the Dynamic Learning Map:</p> <p><b>MC 4.1. Use operations and models to solve problems</b>  <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><b>MC 4.2 Understand patterns and functional thinking</b>  <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. \_\_\_\_\_

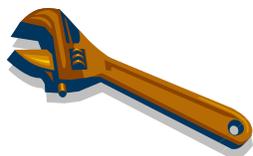
Thurs. \_\_\_\_\_

Fri. \_\_\_\_\_

## Notes:

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

<p><b>Gen Ed. Concepts Planned:</b></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, &amp; quarters</p>	<p><b>CCSS Addressed:</b></p> <p>1.G.3 Partition circles and rectangles into two and four equal shares using the words halves, fourths, and quarters.</p>	<p><b>Communication Plan:</b> 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><b>Accommodations in IEP:</b></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><b>Data Collection:</b></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><b>Notes:</b></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](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 HS Math

A-CED.1 Element Card

**Domain:** Algebra – Creating Equations

**Cluster:** Create equations that describe numbers or relationships.

**Standard: A-CED.1:** Create equations and inequalities in one variable, and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*

**Essential Element EE.A-CED.1:** Create an equation involving one operation with one variable, and use it to solve a real-world problem.

**Grade 8 Essential Element EE.8.EE.7:** Solve simple algebraic equations with one variable using addition and subtraction.

**Post-Secondary Essential Element:**

- Real Life Application

**I Can Statements:**

- I can create an equation.
- I can create inequalities.
- I can create equations with one variable.
- I can create inequalities with one variable.
- I can use an equation to solve a real world problem.
- I can use an inequality to solve a real world problem.

**Key Vocabulary:**

- equation
- inequality
- equal
- variable

**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)

- Age appropriate manipulatives
- Pre-packaged food items
- Bills of different denomination
- Template for budgeting

**Instructional Examples:**

- Use age appropriate manipulatives (coins, cards) to demonstrate equal values.
- Use age appropriate manipulatives (coins, cards) to demonstrate unequal values.
- Practice purchasing with the correct dominations of bills.
- Estimate the quantity of groceries needed for cooking a meal for three friends.
- Budget amount needed for spending money.

**Real World Connections:**

- Household management
- Budgeting
- Meal planning

## Grade HS Math

A-CED.1 Element Card

**Domain:** Algebra – Creating Equations

**Cluster:** Create equations that describe numbers or relationships.

- Use a debit card/or checking account
- Playing games where one needs to keep score,

**Resources:**

- <http://www.uen.org/Lessonplan/preview.cgi?LPid=23403>
- <http://www.paulabliss.com/LifeSkillsInstruction.htm>

## Grade HS Math

A-CED.2-4 Element Card

Create equations that describe numbers or relationships.

**Cluster:** Create equations that describe numbers or relationships.

**Standard: A-CED.2:** Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

**A-CED.3:** Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*

**A-CED.4:** Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law  $V = IR$  to highlight resistance  $R$ .*

**Essential Element EE.A-CED.2-4:** Solve one-step inequalities.

**Grade 8 Essential Element EE.8.EE.7:** Solve simple algebraic equations with one variable using addition and subtraction.

**Post-Secondary Essential Element:**

- Real Life Application

### I Can Statements:

- I can graph two variables on a coordinate plan and label the axis and scales
- I can label the axis and identify the scales
- I can indicate equal sets.
- I can indicate unequal sets.
- I can demonstrate understanding of the difference between equality and inequality.

### Key Vocabulary:

- Coordinate plane
- Scale
- Linear
- Absolute value
- Axis
- Variable
- Linear
- Intersect

**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)

- Graph paper
- I can indicate equal sets.
- I can indicate unequal sets.
- I can demonstrate understanding of the difference between equality and inequality.

## Grade HS Math

A-CED.2-4 Element Card

Create equations that describe numbers or relationships.

**Cluster:** Create equations that describe numbers or relationships.

### Real World Connections:

- Using a GPS
- Using a depth finder
- Input data on spreadsheet
- Playing Battleship
- Use a number line to demonstrate inequality vs. equality
- Use a number line to express greater than and less than
- Use manipulatives to make equal and unequal sets.
- Construct graph with two equations to show solution
- Use examples from graph to determine if lines are linear or coincide

### Resources:

- [www.mathplayground.com](http://www.mathplayground.com)
- <http://www.graniteschools.org/depart/teachinglearning/curriculuminstruction/math/secondarymathematics/Math%207%20Lessons/25-NewMath7LessonEJan3SolvingInequalities.pdf>
- <http://betterlesson.com/lesson/19562/introduction-to-inequalities>
- <http://www.ixl.com/math/algebra-1/solve-one-step-linear-inequalities-addition-and-subtraction>

## Grade HS Math

EE. A-REI.1-9 Element Card

**Domain:** Algebra-Reasoning with Equations and Inequalities

**Cluster:** Understand solving equations as a process of reasoning, and explain the reasoning.

Solve equations and inequalities in one variable.

Solve systems of equations

### Standard

**A-REI.1.** Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

**A-REI.2.** Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

**A-REI.3.** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

**A-REI.4.** Solve quadratic equations in one variable.

**A-REI.4.a.** Use the method of completing the square to transform any quadratic equation in  $x$  into an equation of the form  $(x - p)^2 = q$  that has the same solutions. Derive the quadratic formula from this form.

**A-REI.4.b.** Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula, and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions, and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

**A-REI.5.** Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

**A-REI.6.** Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

**A-REI.7.** Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line  $y = -3x$  and the circle  $x^2 + y^2 = 3$ .*

**A-REI.8.** (+) Represent a system of linear equations as a single matrix equation in a vector variable.

**A-REI.9.** (+) Find the inverse of a matrix if it exists, and use it to solve systems of linear equations (using technology for matrices of dimension  $3 \times 3$  or greater).

### Essential Element A-APR.1-9

**Not Applicable**

**A-REI.2 & 3** See EE.A-CED.1

**A-REI.6** See EE.A-REI.10-12

**A-REI.7** See EE.A-REI.10-12

**Grade 8 EE.8.EE.7.** Solve simple algebraic equations with one variable using addition and subtraction.

**I Can Statements:**

**Post-Secondary Essential Element:**

- Real Life Application

**Grade HS Math**

**EE. A-REI.1-9 Element Card**

**Domain:** Algebra-Reasoning with Equations and Inequalities

**Cluster:** Understand solving equations as a process of reasoning, and explain the reasoning.

Solve equations and inequalities in one variable.

Solve systems of equations

<b>Key Vocabulary:</b>	<b>Supports (specific to student):</b> (e.g., assistive technology, communication system, visual aids, templates, active board, highlighters, graphic organizers, task analysis, manipulatives, real world materials, modeling)
<b>Instructional Examples:</b>	
<b>Real World Connections:</b>	
<b>Resources:</b>	

**Grade HS Math**

**A-REI.10-12 Element Card**

**Domain:** Algebra – Reasoning with Equations and Inequalities

**Cluster:** Represent and solve equations and inequalities graphically.

<p><b>Standard: A-REI.10:</b> Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line)</p> <p><b>A-REI.11:</b> Explain why x-coordinates of the points where the graphs of the equations <math>y=f(x)</math> and <math>y=g(x)</math> intersect are the solutions of the equations <math>f(x) = g(x)</math>; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations, include cases where <math>f(x)</math> and/or <math>g(x)</math> are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.</p> <p><b>A-REI.12:</b> Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p>	<p><b>Essential Element EE.A-REI.10-12:</b> Interpret the meaning of a point of the graph of a line. <i>For example, on a graph of pizza purchases, trace the graph to a point and tell the number of pizzas purchased and the total cost of the pizzas.</i></p>
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<p><b>Grade 8 Essential Element EE.8.SP.4:</b> Construct a graph or table from given categorical data, and compare data categorized in the graph or table.</p>	<p><b>Post-Secondary Essential Element:</b></p> <ul style="list-style-type: none"> <li>• Real Life Application</li> </ul>
<p><b>I Can Statements:</b></p> <ul style="list-style-type: none"> <li>• I can recognize a graph.</li> <li>• I can use a graph.</li> <li>• I can indicate the x and y axis on a graph.</li> <li>• I can demonstrate the relationship between x and y on a graph.</li> <li>• I can interpret the information on a given graph to real life.</li> </ul>	
<p><b>Key Vocabulary:</b></p> <ul style="list-style-type: none"> <li>• axis</li> <li>• equation</li> <li>• variable</li> <li>• coordinates</li> </ul>	<p><b>Supports (specific to student):</b> (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"> <li>• Graph templates</li> <li>• Menus from fast food restaurants.</li> <li>• News 2 You</li> <li>• Newspaper</li> </ul>

## Grade HS Math

A-REI.10-12 Element Card

**Domain:** Algebra – Reasoning with Equations and Inequalities

**Cluster:** Represent and solve equations and inequalities graphically.

### Instructional Examples:

- Find requested points on a graph.
- Graph a given a set points.
- On a graph, students will indicated correct placement of personal data.
- Be familiar with the different types of graphs.

### Real World Connections:

- Budgeting
- Read the weather prediction, rainfall averages, long range planning
- Track gas prices
- Comparative menu selections
- Bowling Score Card

### Resources:

- <http://www.brainpopjr.com/math/data/linegraphs/grownups.weml>
- <http://www.teach-nology.com/worksheets/math/graph/parts.html>
- <http://www.cimt.plymouth.ac.uk/projects/mepres/book8/y8s14lpd.pdf>

## Grade HS Math

## A-SSE.1 Element Card

**Domain:** Algebra – Seeing Structure in Expressions

**Cluster:** Interpret the structure of expressions.

**Standard: A-SSE.1:** Interpret expressions that represent a quantity in terms of its context:

- a. Interpret parts of an expression, such as terms, factors, and coefficients.
- b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret  $P(1+r)^n$  as the product of  $P$  and a factor not depending on  $P$ .*

**Essential Element EE.A-SSE.1:** Identify an algebraic expression involving one arithmetic operation to represent a real-world problem.

**Grade 8 Essential Element : EE.8.EE.7:**

- Solve simple algebraic equations with one variable using addition and subtraction.

**Post-Secondary Essential Element:**

- Real Life Application

**I Can Statements:**

- I can identify the variable in an equation.
- I can identify an algebraic expression.
- I can relate a given algebraic expression to a real-world problem.

**Key Vocabulary:**

- variable
- expression
- factor

**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)

- Power cards
- Social skill stories/situation
- Tableware
- Cue card for inverse operations

**Instructional Examples:**

- Select the algebraic expression from a given set of examples.
- Identify inverse operations.
- Make a classroom model to demonstrate inverse operations.

**Real World Connections:**

- Shopping
- Sharing a snack evenly
- Setting a table

## Grade HS Math

A-SSE.1 Element Card

**Domain:** Algebra – Seeing Structure in Expressions

**Cluster:** Interpret the structure of expressions.

- Score keeping in leisure activities
- Banking

### Resources:

- [http://www.bigideasmath.com/protected/content/ipe/grade%206/01/g6\\_01\\_01.pdf](http://www.bigideasmath.com/protected/content/ipe/grade%206/01/g6_01_01.pdf)
- [http://www.glencoe.com/sites/common\\_assets/mathematics/TN\\_2012/MC1\\_te/Chapter\\_05\\_8952441.pdf](http://www.glencoe.com/sites/common_assets/mathematics/TN_2012/MC1_te/Chapter_05_8952441.pdf)
- <https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/why-of-algebra/e/one-step-equation-intuition>
- <http://www.ixl.com/math/algebra-1/solve-one-step-linear-equations>
- <http://www.ixl.com/math/algebra-1/simplify-variable-expressions-involving-like-terms-and-the-distributive-property>

## Grade HS Math

## A-SSE.3 Element Card

**Domain:** Algebra – Seeing Structure in Expressions

**Cluster:** Write expressions in equivalent forms to solve problems.

**Standard: A-SSE.3: Choose and produce an equivalent form of an expression to reveal and explain properties of a quantity represented by the expression.**

- a. Factor a quadratic expression to reveal the zeros of the function it defines.
- b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
- c. Use the properties of exponents to transform expressions for exponential functions. *For example, the expression  $1.15^t$  can be rewritten as  $(1.15^{1/12})^{12t} \approx 1.012^{12t}$  to reveal the approximate equivalent monthly interest rate if the annual rate is 15 %.*

**Essential Element EE.A-SSE.3:** Solve simple algebraic equations with one variable using multiplication and division.

**Grade 8 Essential Element EE.8.EE.7:**

- Solve simple algebraic equations with one variable using addition and subtraction.

**Post-Secondary Essential Element:**

- Real Life Application

**I Can Statements:**

- I can use manipulatives to demonstrate the process of multiplication.
- I can use manipulatives to demonstrate the process of division.
- I can use multiplication to solve a simple algebraic equation.
- I can use division to solve a simple algebraic equation.

**Key Vocabulary:**

- equation
- multiplication
- division
- sets
- groups

**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:**

- Given a math problem and manipulatives, students work together to demonstrate the multiplication/division process.
- As a group, solve for the unknown in an equation. (e.g., We have \$36 and three people, how much can each person spend at the fair?)
- Using a map, determine how many miles need to be traveled per day in order to meet an arrival deadline.

**Real World Connections:**

- Divide snacks/juice
- Order pizza

## Grade HS Math

A-SSE.3 Element Card

**Domain:** Algebra – Seeing Structure in Expressions

**Cluster:** Write expressions in equivalent forms to solve problems.

- Pay bills, (fixed and unfixed expenses)
- Determine how often you need to do laundry.

**Resources:**

- <http://www.brighthouseeducation.com/high-school-math-lessons/127708-solving-one-step-equations-using-multiplication-or-division/>
- <http://mathforum.org/library/drmath/view/57529.html>

## Grade HS Math

## A-SSE.4 Element Card

**Domain:** Algebra – Seeing Structure in Expressions

**Cluster:** Write expressions in equivalent forms to solve problems.

**Standard: A-SSE.4:** Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.*

**Essential Element EE.A-SSE.4:** Determine the successive term in a geometric sequence given the common ratio.

**Grade 8 Essential Element EE.8.F.1-3:** Given a function table containing at least two ordered pairs, identify a missing number that completes another ordered pair (limited to linear functions).

**Post-Secondary Essential Element:**

- Real Life Application

**I Can Statements:**

- I can do skip counting. (e.g., 2's, 5's, 10's, odds, evens)
- I can complete a given sequence.
- I can complete a geometric sequence using a calculator.

**Key Vocabulary:**

- ratio
- sequence
- unknown

**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)

- Counting chart to 100
- Graph paper with large squares
- Template for geometric sequence

**Instructional Examples:**

- Students will complete a given pattern in terms of repetition.
- Students will determine the unknown in a sequence of pictures/letters/numbers.
- Solve a geometric sequence (e.g., 25, 50, 75, \_\_\_\_\_)

**Real World Connections:**

- Count back change
- Tell time
- Budget

**Resources:**

- <http://www.ck12.org/book/CK-12-Algebra-II-with-Trigonometry-Concepts/r3/section/11.8/>
- <http://www.paulabliss.com/LifeSkillsInstruction.htm>

**Grade HS Math**

**A-SSE.4 Element Card**

**Domain:** Algebra – Seeing Structure in Expressions

**Cluster:** Write expressions in equivalent forms to solve problems.

## Grade HS Math

F-IF.1-3 Element Card

**Domain:** Algebra: Functions – Interpreting Functions

**Cluster:** Understand the concept of a function, and use function notation.

**Standard: F-IF.1:** Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If  $f$  is a function and  $x$  is an element of its domain, then  $f(x)$  denotes the output of  $f$  corresponding to the input  $x$ . The graph of  $f$  is the graph of the equation  $y=f(x)$ .

**F-IF.2.** Use function notation, evaluates functions for inputs in their domains, and interprets statements that use function notation in terms of a context.

**F-IF.3.** Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by  $f(0) = f(1) = 1$ ,  $f(n + 1) = f(n) + f(n - 1)$  for  $n \geq 1$ .*

**Essential Element EE.F-IF.1-3:** Use the concept of function to solve problems.

**Grade 8 Essential Element EE.8.F.1-3:** Given a function table containing at least 2 complete ordered pairs, identify a missing number that completes another ordered pair (limited to linear functions).

**Post-Secondary Essential Element:**

- Real Life Application

**I Can Statements:**

- I can find the next number in a pattern.
- I can solve for the unknown in an equation.
- I can identify the relationship between two variables.
- I can use the concept of function to solve problems.

**Key Vocabulary:**

- function
- variables
- relationship
- unknown

**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:**

- Determine the correct coins needed for a vending machine.
- Identify the relationship between two variables on a given graph. (e.g., plant growth/rainfall, student height/weight)
- Use the grid on a given map to locate a specific location.
- Use the scale/legend on a map.

## Grade HS Math

F-IF.1-3 Element Card

**Domain:** Algebra: Functions – Interpreting Functions

**Cluster:** Understand the concept of a function, and use function notation.

### Real World Connections:

- Buy something from a vending machine
- Use a map
- Determine cost of a movie/sport event with a group of friends
- Budget transportation costs for a week/month/year

### Resources:

- [http://www.edugains.ca/resourcesLNS/GuidestoEffectiveInstruction/GEL\\_Math\\_K-6\\_PaterningAlgebra\\_Gr4-6/Guide\\_Patterning\\_and\\_Algebra\\_456.pdf](http://www.edugains.ca/resourcesLNS/GuidestoEffectiveInstruction/GEL_Math_K-6_PaterningAlgebra_Gr4-6/Guide_Patterning_and_Algebra_456.pdf)
- <http://www.ixl.com/math/algebra-1>

## Grade HS Math

## N-RN.1 Element Card

**Domain:** Number and Quantity – Real Number System

**Cluster:** Extend the properties of exponents to rational exponents.

**Standard: N-RN.1:** Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define  $5^{1/3}$  to be the cube root of 5 because we want  $(5^{1/3})_3 = (5^{1/3})_3$  to hold, so  $(5^{1/3})_3$  must equal 5.*

**Essential Element EE.N-RN.1:** Determine the value of a quantity that is squared or cubed.

### Grade 8 Essential Element EE.8.EE.1:

- Identify the meaning of an exponent (limited to exponents of 2 and 3).

### Post-Secondary Essential Element:

- Real Life Application

### I Can Statements:

- I can illustrate concept of squared.
- I can illustrate concept of cubed.
- I can use objects to solve simple exponential representations.
- I can rewrite expressions using exponents.

### Key Vocabulary:

- exponent
- cubed
- squared

**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:

- Demonstrate the concept of squared/cubed using manipulatives.
- Given a numeral in exponential form, the students will use objects to represent the numeral.

### Real World Connections:

- Counting money
- Square feet/yard

### Resources:

- <http://www.discoveryeducation.com/teachers/free-lesson-plans/discovering-math-computations.cfm>
- [http://www.k12math.com/math-concepts/algebra/radical\\_equations/radicals.html](http://www.k12math.com/math-concepts/algebra/radical_equations/radicals.html)
- <http://www.math.com/school/subject1/lessons/S1U1L9GL.html>

## HS Math Resources

### HS Math: DLM Essential Elements

Number and Quantity—The Real Number System

N-RN.1

EE.N-RN.1 – Determine the value of a quantity that is squared or cubed.

<http://www.discoveryeducation.com/teachers/free-lesson-plans/discovering-math-computations.cfm>

[http://www.k12math.com/math-concepts/algebra/radical\\_equations/radicals.html](http://www.k12math.com/math-concepts/algebra/radical_equations/radicals.html)

<http://www.math.com/school/subject1/lessons/S1U1L9GL.html>

N-RN.2-3 – Not Applicable.

Number and Quantity—Quantities

N-Q.1-3

EE.N.Q.1-3 – Express Quantities to the appropriate precision of measurement.

<http://www.ask.com/question/what-is-a-precise-measurement-and-lesson-plans>

<https://www.teachingchannel.org/videos/measurement-lesson-ideas?fd=1>

<https://www.teachingchannel.org/videos/teaching-volume>

Number and Quantity—The Complex Number System

N-CN.1 – Not Applicable.

N-CN.2

EE.N-CN.2.a – Use the commutative, associative, and distributive properties to add, subtract, and multiply whole numbers.

[http://alex.state.al.us/lesson\\_view.php?id=26396](http://alex.state.al.us/lesson_view.php?id=26396)

<http://www.purplemath.com/modules/numbprop.htm>

<http://www.math.com/school/subject1/lessons/S1U1L13DP.html>

[https://www.khanacademy.org/math/arithmetric/multiplication-division/ditributive\\_property/v/the-distributive-property](https://www.khanacademy.org/math/arithmetric/multiplication-division/ditributive_property/v/the-distributive-property)

EE.N-CN.2.b – Solve real-world problems involving addition and subtraction of decimals, using models when needed.

<http://learnzillion.com/lessons/1150-use-addition-and-subtraction-to-solve-realworld-problems-involving-decimals>

[http://alex.state.al.us/lesson\\_view.php?id=26251](http://alex.state.al.us/lesson_view.php?id=26251)

[http://www.gvsd.org/cms/lib02/pa01001045/centricity/domain/446/pa5etex\\_0305.pdf](http://www.gvsd.org/cms/lib02/pa01001045/centricity/domain/446/pa5etex_0305.pdf)

EE.N.CN.2.c – Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed.

<http://www.ck12.org/user:YmdyZWVvQG1pdGFjYWRIbXkub3Jn/section/Multiplying-Decimals-and-Whole-Numbers-%253A%253Aof%253A%253A-Multiplication-and-Division-of-Decimals/>  
<http://mbpms.chatham.k12.nc.us/modules/groups/homepagefiles/cms/2394745/File/6th%20Grade%20Math/6chap04.pdf>  
[http://www.glencoe.com/sites/common\\_assets/mathematics/TN\\_2012/MC1\\_se/Chapter\\_01\\_8\\_95241.pdf](http://www.glencoe.com/sites/common_assets/mathematics/TN_2012/MC1_se/Chapter_01_8_95241.pdf)  
[http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/mathematics/grade6/Unit\\_8\\_Multiplication\\_and\\_Division\\_of\\_Decimals\\_final.pdf](http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/mathematics/grade6/Unit_8_Multiplication_and_Division_of_Decimals_final.pdf)

N-CN.3-9 – Not Applicable.

Number and Quantity—Vector and Matrix Quantities.

N-VM.1-12 – Not Applicable.

Algebra—Seeing Structure in Expressions

A-SSE.1

EE.A-SSE.1 – Identify an algebraic expression involving one arithmetic operation to represent a real-world problem.

[http://www.bigideasmath.com/protected/content/ipe/grade%206/01/g6\\_01\\_01.pdf](http://www.bigideasmath.com/protected/content/ipe/grade%206/01/g6_01_01.pdf)  
[http://www.glencoe.com/sites/common\\_assets/mathematics/TN\\_2012/MC1\\_te/Chapter\\_05\\_8\\_952441.pdf](http://www.glencoe.com/sites/common_assets/mathematics/TN_2012/MC1_te/Chapter_05_8_952441.pdf)  
[https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/why-of-algebra/e/one\\_step\\_equation\\_intuition](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/why-of-algebra/e/one_step_equation_intuition)  
<http://www.ixl.com/math/algebra-1/solve-one-step-linear-equations>  
<http://www.ixl.com/math/algebra-1/simplify-variable-expressions-involving-like-terms-and-the-distributive-property>

A.SSE.2 – Not Applicable

EE.A-SSE.3 – Solve simple algebraic equations with one variable using multiplication and division.

<http://www.brighthubeducation.com/high-school-math-lessons/127708-solving-one-step-equations-using-multiplication-or-division/>  
<http://mathforum.org/library/drmath/view/57529.html>

EE.A-SSE.4 – Determine the successive term in a geometric sequence given the common ratio.

<http://www.ck12.org/book/CK-12-Algebra-II-with-Trigonometry-Concepts/r3/section/11.8/>  
<http://www.paulabliss.com/LifeSkillsInstruction.htm>

Algebra—Arithmetic with Polynomials and Rational Expressions

A-APR.1-7 -- Not Applicable

## Algebra—Creating Equations

### A.CED.1

EE.A-CED.1 – Create an equation involving one operation with one variable, and use it to solve real-world problem.

<http://www.uen.org/Lessonplan/preview.cgi?LPid=23403>

<http://www.paulabliss.com/LifeSkillsInstruction.htm>

### A-CED.2-4

EE.A-CED.2-4 – Solve one-step inequalities.

[coe.jmu.edu/cta/CTA%20Mathematics/612Math7.15Inequalities2.docx](http://coe.jmu.edu/cta/CTA%20Mathematics/612Math7.15Inequalities2.docx)

<http://www.graniteschools.org/depart/teachinglearning/curriculuminstruction/math/secondary/mathematics/Math%207%20Lessons/25-NewMath7LessonEJan3SolvingInequalities.pdf>

<http://betterlesson.com/lesson/19562/introduction-to-inequalities>

<http://www.ixl.com/math/algebra-1/solve-one-step-linear-inequalities-addition-and-subtraction>

## Algebra—Reasoning with Equations and Inequalities

A-REI.1 – Not Applicable

A-REI.2 – Not Applicable. See EE.A-CED.1.

A-REI.3 -- Not Applicable. See EE.A-CED.1.

A-REI.4, a-b – Not Applicable

A-REI.5 – Not Applicable

A-REI.6 – Not Applicable. See EE. A-REI.10-12

A-REI.7 – Not Applicable. See EE. A-REI.10-12

A-REI.8 – Not Applicable.

A-REI.9 – Not Applicable.

### A-REI.10-12

EE.A-REI.10-12 – Interpret the meaning of a point on the graph of a line. *For example, on a graph of pizza purchases, trace the graph to a point and tell the number of pizzas purchased and the total cost.*

<http://www.brainpopjr.com/math/data/linegraphs/grownups.weml>

<http://www.teach-nology.com/worksheets/math/graph/parts.html>

<http://www.cimt.plymouth.ac.uk/projects/mepres/book8/y8s14lpd.pdf>

## Functions—Interpreting Functions

### F-IF.1-3

EE.F-F-IF.1-3 – Use the concept of function to solve problems.

[http://www.edugains.ca/resourcesLNS/GuidestoEffectiveInstruction/GEI\\_Math\\_K-6\\_PatterningAlgebra\\_Gr4-6/Guide\\_Patterning\\_and\\_Algebra\\_456.pdf](http://www.edugains.ca/resourcesLNS/GuidestoEffectiveInstruction/GEI_Math_K-6_PatterningAlgebra_Gr4-6/Guide_Patterning_and_Algebra_456.pdf)

<http://www.ixl.com/math/algebra-1>

F-IF.4-6

EE.F-IF.4-6 – Construct graphs that represent linear functions with different rates of change and interpret which is faster/slower, higher/lower, etc.

[http://www.teachervision.fen.com/tv/printables/botr/botr\\_029\\_27-27.pdf](http://www.teachervision.fen.com/tv/printables/botr/botr_029_27-27.pdf)

<http://www.teach-nology.com/worksheets/math/graph/>

<http://lf4eled.tripod.com/teacher/id19.html>

F-IF.7, a-e – Not Applicable. See EE.F-IF.1-3.

F-IF.8, a-b – Not Applicable.

F-IF.9 – Not Applicable.

Functions—Building Functions

F-BF.1.a-b

EE.F-BF.1. Select the appropriate graphical representation (first quadrant) given a situation involving constant rate of change.

<http://nces.ed.gov/nceskids/createagraph/default.aspx>

<http://mrnussbaum.com/coolgraphing/>

<http://www.ixl.com/math/algebra-1>

F-BF.1.c – Not Applicable.

F-BF.2

EE.F-BF.2 – Determine an arithmetic sequence with whole numbers when provided a recursive rule.

[http://fym.la.asu.edu/~tturner/MAT\\_117\\_online/SequenceAndSeries/Sequences.htm](http://fym.la.asu.edu/~tturner/MAT_117_online/SequenceAndSeries/Sequences.htm)

<http://www.slidermath.com/probs/Pattern4.shtml>

<http://www.topmarks.co.uk/interactive.aspx?cat=20>

F-BF.3-5 – Not Applicable.

Functions—Linear, Quadratic, and Exponential Models

F-LE.1-3

EE.F-FE.1-3 – Model a simple linear function such as  $y = mx$  to show that these functions increase by equal amounts over equal intervals.

<https://www.math.okstate.edu/~noell/ebsm/linear.html>

<https://www.teachingchannel.org/videos/graphing-linear-equations-lesson>

<http://www.ixl.com/math/algebra-1>

F-LE.4 – Not Applicable.

F-FE.5 – Not Applicable. See EE.F-IF.1-3

Functions—Trigonometric Functions

F-TF.1-9 – Not Applicable.

## Geometry—Congruence

### G-CO.1

EE.G-CO.1 – Know the attributes of perpendicular lines, parallel lines, and line segments; angles; and circles.

<http://www.graniteschools.org/depart/teachinglearning/curriculuminstruction/math/secondary/mathematics/Math%207%20Lessons/32->

[NewMath7LessonFFeb3BasicGeometryIdeasandAngleMeasurement.pdf](http://www.graniteschools.org/depart/teachinglearning/curriculuminstruction/math/secondary/mathematics/Math%207%20Lessons/32-NewMath7LessonFFeb3BasicGeometryIdeasandAngleMeasurement.pdf)

<https://www.cohs.com/editor/userUploads/file/Meyn/Geo%20Ch%201%20Student%20WB.pdf>

G-CO.2 – Not Applicable.

G-CO.3 – Not Applicable.

### G-CO.4-5

EE.G.CO.4-5 – Given a geometric figure and a rotation, reflection, or translation of that figure, identify the components of the two figures that are congruent.

<http://www.mathopenref.com/congruent.html>

[http://www.edugains.ca/resources/LNS/GuidestoEffectiveInstruction/GEI\\_Math\\_K-6\\_GeomSpatialSense\\_Gr4-6/Guide\\_Geometry\\_Spatial\\_Sense\\_456.pdf](http://www.edugains.ca/resources/LNS/GuidestoEffectiveInstruction/GEI_Math_K-6_GeomSpatialSense_Gr4-6/Guide_Geometry_Spatial_Sense_456.pdf)

<http://www.ixl.com/math/algebra-1/similar-figures-side-lengths-and-angle-measures>

### G-CO.6-8

EE.G-CO.6-8 – Identify corresponding congruent and similar parts of shapes.

[http://alex.state.al.us/lesson\\_view.php?id=21195](http://alex.state.al.us/lesson_view.php?id=21195)

<http://www.learningpt.org/pdfs/mscLessonPlans/dotson.pdf>

<http://www.ixl.com/math/algebra-1>

G-CO.9-13 – Not Applicable.

## Geometry—Similarity, Right Triangles, and Trigonometry

G-SRT.1-3 – Not Applicable. See EE.G-CO.6-8.

G-SRT.4 – Not Applicable.

G.SRT.5 – Not Applicable. See EE.G-CO.6-8

G.SRT.6-11 – Not Applicable.

## Geometry—Circles

G-C.1-5 – Not Applicable.

## Geometry—Expressing Geometric Properties with Equations

G-GPE.1-4 – Not Applicable.

G-GPE.5-6 – Not Applicable. See EE.G-CO.1

G-GPE.7

EE.G.GPE.7 – Find perimeters and areas of squares and rectangles to solve real-world problems.

<http://www.youtube.com/watch?v=pURnQNzb4uc>

<http://learnzillion.com/lessons/1167-use-a-chart-to-understand-how-rectangles-can-have-the-same-perimeter-with-different-areas>

<http://www.ixl.com/math/algebra-1/perimeter>

<http://www.ixl.com/math/algebra-1/area>

Geometry—Geometric Measurement and Dimension

G-GMD.1

EE.G-GMD.1-3 – Make a prediction about the volume of a container, the area of a figure, and the perimeter of a figure, and then test the prediction using formulas or models.

<http://voices.yahoo.com/math-lesson-plan-defining-perimeter-area-volume-10369677.html>

<http://www.ixl.com/math/algebra-1>

[http://www.glencoe.com/sites/common\\_assets/mathematics/TN\\_2012/MC1\\_se/Chapter\\_09\\_8\\_95241.pdf](http://www.glencoe.com/sites/common_assets/mathematics/TN_2012/MC1_se/Chapter_09_8_95241.pdf)

G-GMD.2 – Not Applicable.

G-GMD.3 – Not Applicable. See EE.8.G.9 and EE.G-GPE.7.

G-GMD.4

EE.G-GMD.4 – Identify the shapes of two-dimensional cross-sections of three-dimensional objects.

<https://www.teachingchannel.org/videos/visualizing-geometry-lesson>

[http://www.glencoe.com/sites/common\\_assets/mathematics/TN\\_2012/MC1\\_se/Chapter\\_09\\_8\\_95241.pdf](http://www.glencoe.com/sites/common_assets/mathematics/TN_2012/MC1_se/Chapter_09_8_95241.pdf)

<http://staff.rentonschools.us/renton/secondary-math/geometry-ccss-m-resources/download/G.GMD.4+lesson+plan-Identifying+Three-Dimensional+Figures+by+Rotating+Two-Dimensional+Figures.docx?id=74464>

[http://www.mhschool.com/math/mathconnects/tn/se/030308\\_chapter\\_10.pdf](http://www.mhschool.com/math/mathconnects/tn/se/030308_chapter_10.pdf)

Geometry—Modeling with Geometry

G-MG.1-3

EE.G.MG.1-3 – Use properties of geometric shapes to describe real-life objects.

[http://www.mhschool.com/math/mathconnects/tn/se/030308\\_chapter\\_10.pdf](http://www.mhschool.com/math/mathconnects/tn/se/030308_chapter_10.pdf)

<http://www.fayar.net/east/teacher.web/math/Illuminations/lessonplans/prek-2/shape/Shape.pdf>

[http://www.teach-nology.com/teachers/lesson\\_plans/math/shapes/](http://www.teach-nology.com/teachers/lesson_plans/math/shapes/)

Statistics and Probability—Interpreting Categorical and Quantitative Data

S-ID.1-2

EE.S-ID.1-2 – Given data, construct a simple graph (line, pie, bar, or picture) or table, and interpret the data.

<http://nces.ed.gov/nceskids/createagraph/>

<http://www.ixl.com/math/algebra-1>

<http://www.800score.com/gre-guided7view1h.html>

[http://www.internet4classrooms.com/grade\\_level\\_help/embedded\\_inquiry\\_data\\_table\\_sixth\\_6th\\_grade\\_science.htm](http://www.internet4classrooms.com/grade_level_help/embedded_inquiry_data_table_sixth_6th_grade_science.htm)

S-ID.3

EE.S-ID.3 – Interpret general trends on a graph or chart.

<http://math.about.com/od/worksheets/ss/graphcharts.htm>

<http://www.teachervision.fen.com/graphs-and-charts/lesson-plan/34514.html>

[http://www.internet4classrooms.com/grade\\_level\\_help/embedded\\_inquiry\\_data\\_table\\_sixth\\_6th\\_grade\\_science.htm](http://www.internet4classrooms.com/grade_level_help/embedded_inquiry_data_table_sixth_6th_grade_science.htm)

S-ID.4

EE.S-ID.4 – Calculate the mean of a given data set (limit the number of data points to fewer than five)

<http://betterlesson.com/lesson/6723/calculate-mean>

<http://curry.virginia.edu/curryedaway/?lesson-plan=calculating-mean-median-mode>

[https://www.juab.k12.ut.us/index.php?option=com\\_content&view=article&id=1229:5th-grade-algebra-lesson-plan-mean-median-mode-and-range&catid=66:grammar&Itemid=58](https://www.juab.k12.ut.us/index.php?option=com_content&view=article&id=1229:5th-grade-algebra-lesson-plan-mean-median-mode-and-range&catid=66:grammar&Itemid=58)

S-ID.5 – Not Applicable. See EE.F-IF.1 and EE.A-REI.6-7

S-ID.6, a-c – Not Applicable.

S-ID.7 – Not Applicable. See EE. F-IF.4-6

S-ID.8-9 – Not Applicable.

Statistics and Probability—Making Inferences and Justifying Conclusions

S-IC.1-2

EE.S-IC.1-2 – Determine the likelihood of an event occurring when the outcomes are equally likely to occur.

[http://www.mathgoodies.com/lessons/vol6/intro\\_probability.html](http://www.mathgoodies.com/lessons/vol6/intro_probability.html)

<http://www.ixl.com/math/algebra-1/experimental-probability>

<http://stattrek.com/probability/what-is-probability.aspx>

S-IC.3 – Not Applicable. See EE.S-ID.1-2.

S-IC.4 – Not Applicable. See EE.S-ID.1-2.

S-IC.5 – Not Applicable. See EE.S-ID.1-2.

S-IC.6 – Not Applicable. See EE.S-ID.1-2.

Statistics and Probability—Conditional Probability and the Rules of Probability.  
S-CP.1-5

EE.S-CP.1-5 – Identify when events are independent or dependent.

<https://www.teachingchannel.org/videos/teaching-dependent-and-independent-events>

<http://www.classzone.com/eservices/home/pdf/student/LA212EAD.pdf>

<http://mste.illinois.edu/courses/educ362sp04/folders/fischer/lesplan1.htm>

S-CP.6-7 – Not Applicable. See EE.S-IC.1-2.

S-CP.8-9 – Not Applicable.

Statistics and Probability—Using Probability to Make Decisions

S-MD.1-7 – Not Applicable.

## General

<http://nichcy.org/research/ee/math#ld>

[http://www.doe.k12.de.us/infosuites/students\\_family/specialed/NEW/files/March2011.DE.Incl.Conf.pdf](http://www.doe.k12.de.us/infosuites/students_family/specialed/NEW/files/March2011.DE.Incl.Conf.pdf)

<http://www.hoagiesgifted.org/eric/faq/lesnplan.html>

[https://www.osep-meeting.org/2006conf/Presentations/.../BO\\_D1.PPT](https://www.osep-meeting.org/2006conf/Presentations/.../BO_D1.PPT)

<http://www.paulabliss.com/LifeSkillsInstruction.htm>

<http://www.eds-resources.com/edexc.htm>

<http://new-to-teaching.blogspot.com/2013/04/math-for-students-with-mild-moderate.html>

<http://www.ixl.com/math/algebra-1>

[http://www.edugains.ca/resources/LNS/GuidestoEffectiveInstruction/GEI\\_Math\\_K-6\\_PaterningAlgebra\\_Gr4-6/Guide\\_Paterning\\_and\\_Algebra\\_456.pdf](http://www.edugains.ca/resources/LNS/GuidestoEffectiveInstruction/GEI_Math_K-6_PaterningAlgebra_Gr4-6/Guide_Paterning_and_Algebra_456.pdf)

<http://www.cpt.fsu.edu/ese/pdf/dsinlssn.pdf>

[http://wvde.state.wv.us/teach21/essd/math9-12\\_instructionalguide.pdf](http://wvde.state.wv.us/teach21/essd/math9-12_instructionalguide.pdf)

[http://schools.nyc.gov/NR/rdonlyres/835F949D-A3D9-419E-A54C-A004209AAC80/0/NYCDOEG8MathExpressionsandEquations\\_Final.pdf](http://schools.nyc.gov/NR/rdonlyres/835F949D-A3D9-419E-A54C-A004209AAC80/0/NYCDOEG8MathExpressionsandEquations_Final.pdf)

<http://www.ck12.org/book/CK-12-Middle-School-Math---Grade-6/r5/>

[http://www.glencoe.com/sites/common\\_assets/mathematics/TN\\_2012/MC1\\_se/Chapter\\_09\\_8\\_95241.pdf](http://www.glencoe.com/sites/common_assets/mathematics/TN_2012/MC1_se/Chapter_09_8_95241.pdf)

[https://www.teachingchannel.org/videos?categories=subjects\\_math&gclid=CKLBmdv03rgCFQ1gMgodSyYA-w](https://www.teachingchannel.org/videos?categories=subjects_math&gclid=CKLBmdv03rgCFQ1gMgodSyYA-w)