Plainfield Public Schools
Mathematics
Unit Planning Organizer

Grade	Grade 8
Unit of Study	**Exponents, Expressions and Equations**
Pacing	9 weeks

Standard for Mathematical Practices
MP1. Make sense of problems and persevere in solving them. MP2. Reason abstractly and quantitatively. MP3. Construct viable arguments and critique the reasoning of others. MP4. Model with mathematics. MP5. Use appropriate tools strategically. MP6. Attend to precision. MP7. Look for and make use of structure. MP8. Look for and express regularity in repeated reasoning.

Hyperlinks are noted underlined in italics

UNIT STANDARDS
8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3–5 = 3–3 = 1/33 = 1/27 **8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.** **8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology** **8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed*** **8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.** ***8.*NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational numbers located to the right of –7 on a number line oriented from left to right.** **8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions. For example, by truncating the decimal expansion of the square root of 2, show that the square root of 2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.**

Hyperlinks are noted underlined in italics

"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Focus Standard **8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3–5 = 3–3 = 1/33 = 1/27**		
Know Apply	Integer exponents	1 2

"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Focus Standard **8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.**		
Use	numbers	2

"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Focus Standard **8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology**		
Perform	Operations with numbers	2

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"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Focus Standard **8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed***		
Graph	Proportional relationships	2

"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Focus Standard **8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.**		
Use	slope	2

"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Supporting Standard ***8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational numbers located to the right of –7 on a number line oriented from left to right.***		
Know	Irrational	1

"Unwrapped" Skills (students need to be able to do)	"Unwrapped" Concepts (students need to know)	DOK Levels
Supporting Standard ***8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions. For example, by truncating the decimal expansion of the square root of 2, show that the square root of 2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.***		
Use	Rational numbers Irrational numbers	2

II. Mathematical Standards & Practices …… Explanations and Examples

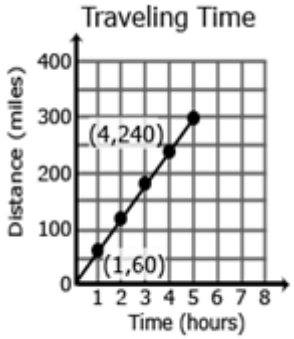
Expressions and Equations (EE) **Understand the connections between proportional relationships, lines, and linear equations.**		
Standards Students are expected to:	Mathematical Practices	Explanations and Examples
8.EE.A.1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $32\times3^{-5} = 3^{-3} = 1/33 = 1/27$.	8.MP.2. Reason abstractly and quantitatively. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure.	*Examples:* • $\frac{4^3}{5^2} = \frac{64}{25}$ • $\frac{4^3}{4^7} = 4^{3-7} = 4^{-4} = \frac{1}{4^4} = \frac{1}{256}$ • $\frac{4^{-3}}{5^2} = 4^{-3}$, $\frac{1}{5^2} = \frac{1}{4^3}$, $\frac{1}{5^2} = \frac{1}{64}$, $\frac{1}{25} = \frac{1}{16,000}$
8.EE.A.3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*	*8.MP.2.* Reason abstractly and quantitatively. *8.MP.5.* Use appropriate tools strategically. *8.MP.6.* Attend to precision.	
8.EE.A.4. Perform operations with numbers expressed in	*8.MP.2.* Reason abstractly and quantitatively.	Students can convert decimal forms to scientific notation and apply rules of exponents to simplify expressions. In working with calculators or spreadsheets, it is important that

Hyperlinks are noted underlined in italics

scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	*8.MP.5.* Use appropriate tools strategically. *8.MP.6*. Attend to precision.	students recognize scientific notation. Students should recognize that the output of 2.45E+23 is 2.45 x 10^{23} and 3.5E-4 is 3.5 x 10^{-4}. Students enter scientific notation using E or EE (scientific notation), * (multiplication), and ^ (exponent) symbols.

Expressions and Equations (EE)

Understand the connections between proportional relationships, lines, and linear equations.

Standards Students are expected to:	Mathematical Practices	Explanations and Examples
8.EE.B.5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*	*8.MP.1.* Make sense of problems and persevere in solving them. *8.MP.2.* Reason abstractly and quantitatively. *8.MP.3.* Construct viable arguments and critique the reasoning of others. *8.MP.4.* Model with mathematics. *8.MP.5.* Use appropriate tools strategically. *8.MP.6.* Attend to precision. *8.MP.7.* Look for and make use of structure. *8.MP.8.* Look for and express regularity in repeated reasoning.	Using graphs of experiences that are familiar to students increases accessibility and supports understanding and interpretation of proportional relationship. Students are expected to both sketch and interpret graphs. **Example**: • Compare the scenarios to determine which represents a greater speed. Include a description of each scenario including the unit rates in your explanation. Scenario 1:  Scenario 2: $y =$

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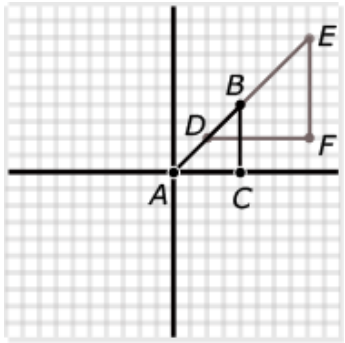
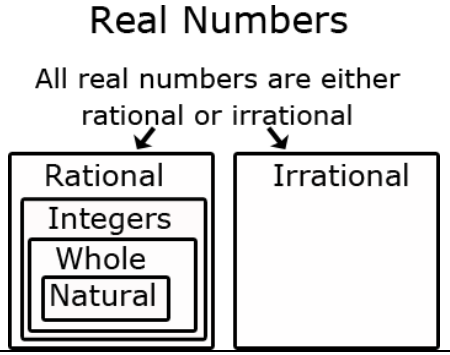
8.EE.B.6. Use similar triangles to explain why the slope *m* is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation *y* = *mx* for a line through the origin and the equation *y* = *mx* + *b* for a line intercepting the vertical axis at *b*.	8.*MP.2.* Reason abstractly and quantitatively. *8.MP.3.* Construct viable arguments and critique the reasoning of others. *8.MP.4*. Model with mathematics. *8.MP.5*. Use appropriate tools strategically. *8.MP.7.* Look for and make use of structure. *8.MP.8.* Look for and express regularity in repeated reasoning.	**Example**: ● Explain why ΔACB is similar to ΔDFE, and deduce that $\overline{AB}$ has the same slope as $\overline{BE}$. Express each line as an equation. 

The Number System (NS) **Know that there are numbers that are not rational, and approximate them by rational numbers.**		
Standards *Students are expected to:*	Mathematical Practices	Explanations and Examples
8.NS.A.1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	*8.MP.2.* Reason abstractly and quantitatively. *8.MP.6.* Attend to precision. *8.MP.7.* Look for and make use of structure.	Students can use graphic organizers to show the relationship between the subsets of the real number system. 

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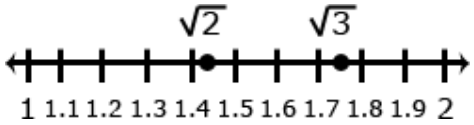
8.NS.A.2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*	*8.MP.2*. Reason abstractly and quantitatively. *8.MP.4*. Model with mathematics. 8.*MP.7*. Look for and make use of structure. *8.MP.8.* Look for and express regularity in repeated reasoning.	Students can approximate square roots by iterative processes. **Examples**: • Approximate the value of $\sqrt{5}$ to the nearest hundredth. Solution: Students start with a rough estimate based upon perfect squares. $\sqrt{5}$ falls between 2 and 3 because 5 falls between $2^2 = 4$ and $3^2 = 9$. The value will be closer to 2 than to 3. Students continue the iterative process with the tenths place value. $\sqrt{5}$ falls between 2.2 and 2.3 because 5 falls between $2.2^2 = 4.84$ and $2.3^2 = 5.29$. The value is closer to 2.2. Further iteration shows that the value of $\sqrt{5}$ is between 2.23 and 2.24 since 2.23^2 is 4.9729 and 2.24^2 is 5.0176. • Compare √2 and √3 by estimating their values, plotting them on a number line, and making comparative statements.  Solution: Statements for the comparison could include: ○ √2 is approximately 0.3 less than √3 ○ √2 is between the whole numbers 1 and 2 ○ √3 is between 1.7 and 1.8

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III. Essential Questions……Corresponding Big Ideas

Essential Questions	Corresponding Big Ideas
How does the pattern for an exponential function represented in a table, graph and or equation? How does it compare to a linear function? How do you write an equation that represents an exponential function? How are the growth factor and growth rate for an exponential function related? When might you use each in an exponential growth pattern? How can you recognize exponential decay function represented from a contextual setting, table, graph that represents a function?	Functions provide a tool for describing how variables change together. In a proportional relationship, the ratio of two quantities remain constant as the corresponding values of the quantities change One important way of describing functions is by identifying the rate at which the variables change together. It is useful to group functions into families with similar patterns of change because these functions, and the situations that they model, share certain general characteristics. Functions can be represented in multiple ways—in algebraic symbols, graphs, verbal descriptions, tables, and so on—and these representations, and the links among them, are useful in analyzing patterns of change. Some representation of a function may be more useful than others , depending on how they are used. Linear functions have constant rates of changes. In exponential growth rate, the rate of change increases over the domain, but in exponential decay, the rate of change decreases over the domain. Linear equation can be solved by symbolic, graphical and numerical methods. On some occasions and in some contexts, one solutions method may be more elegant, efficient or informative that another. The equals sign can be used in defining or giving a name to an expression or function rule. The equals sign can indicate that two expressions are equivalent. It is often

	important to find the value(s) of a variable for which two expressions represent the same quantity. Finding the value(s) of a variable for which two expressions represent the same quantity is known as solving an equation. Functions can be represented in various ways, including through algebraic means, graphs, words and descriptions, and tables. Some representation of a function may be more useful than other, depending on context Links between algebraic and graphical representations of functions are especially important in studying relationship and change. *Source:* *Cooney, T. J., Beckmann, S., & Lloyd, G.M. (2010). Developing essential understanding of functions grades 9-12. Reston, VA: The National Council of Teachers of Mathematics, Inc.* *Lloyd, G., Herbel-Eisenmann, B., & Star, J.R. (2011). Developing essential understanding of expressions, equations, and functions for teaching mathematics in grades 6-8. Reston, VA: The National Council of Teachers of Mathematics, Inc*

Student Learning Objectives

Student Learning Objectives	Concept / Skills	***PARCC Math Evidence Table , Test Specification***	Mathematical Practices
Apply the properties of integer exponents to write equivalent numerical expressions; apply formulas to find the volume of a cone, a cylinder, or a sphere when solving real-world and mathematical problems. 8.EE.A.1, 8.G.C.9.	**Concept(s):** • Exponents as simplified representation of repeated multiplication. **Students are able to:** • Apply properties of exponents to numerical expressions. • Generate equivalent numerical expressions using positive and negative integer exponents. • Find volume of cones, cylinders and spheres using to solve real world problems.	• Tasks do not have a context. • Tasks focus on the properties and equivalence, not on simplification • Half of the expressions involve one property; half of the expressions involves two or three properties. • Tasks should involve a single common base or a potential common base, such as, a task that includes 3, 9 and 27	MP.1 MP.5

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Estimate and express the values of very large or very small numbers with numbers expressed in the form of a single digit times an integer power of 10. Compare numbers expressed in this form, expressing how many times larger or smaller one is than the other. 8.EE.A.3	**Concept(s):** • Very large and very small quantities can be approximated with numbers expressed in the form of a single digit times an integer power of 10. **Students are able to**: • Estimate very large and very small quantities with numbers expressed in the form of a single digit times an integer power of 10. • Compare numbers written in the form of a single digit times an integer power of 10 and express how many times as much one is than the other.	▪ Tasks do not have a context. ▪ Tasks focus on the properties and equivalence, not on simplification. ▪ Half of the expressions involve one property; half of the expressions involves two or three properties. ▪ Tasks should involve a single common base or a potential common base, such as, a task that includes 3, 9 and 27.	MP.2 MP.4 MP.5 MP.6 MP.7 MP.8
Perform operations using numbers expressed in scientific notation, including problems where both decimals and scientific notation are used. In real-world problem-solving situations, choose units of appropriate size for	**Students are able to:** • Multiply and divide numbers expressed in scientific notation, including problems in which one number is in decimal form and one is in scientific notation. • Add and subtract numbers expressed in scientific notation, including problems	• Tasks have “thin context” 2 or no context. • Rules or conventions for significant figures are not assessed. • Some of the tasks involve both decimal and scientific notation.	MP.2 MP.4 MP.5 MP.6 MP.7. MP.8

measurement of very small and very large quantities and interpret scientific notation generated when technology has been used for calculations. 8. EE.A.4	in which one number is in decimal form and one is in scientific notation. • Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. • Interpret scientific notation that has been generated by technology (e.g. recognize 4.1E-2 and 4.1e-2 as 4.1 x 10^{-2}).		
Represent a rational number with its decimal expansion, showing that it eventually repeats, and convert such decimal expansions into rational numbers. 8. NS.A.1	**Concept(s):** • Numbers that are not rational are irrational. • Every number has a decimal expansion. **Students are able to:** • Compare decimal expansions of rational and irrational numbers. • Represent a rational number with its decimal expansion, showing that it repeats eventually. • Convert a decimal expansion (which repeats eventually) into a rational number.	• Tasks do not have a context. • An equal number of tasks require students to write a fraction a/b as a repeating decimal, or write a repeating decimal as a fraction. . • For tasks that involve writing a repeating decimal as a fraction, the given decimal should include no more than two repeating decimals without non-repeating digits after the decimal point (i.e. 2.16666…, 0.23232323…	MP.2

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Use rational numbers to approximate irrational numbers, locate irrational numbers on a number line, and estimate the value of expressions containing irrational numbers. 8. NS.A.2	**Concept(s):** • Rational approximation of irrational numbers **Students are able to:** • Compare irrational numbers by replacing each with its rational approximation. • Locate rational approximations on a number line. • Estimate the value of expressions containing irrational numbers.	• Tasks do not have a context.(	MP.1 MP.4 MP.5
Graph proportional relationships, interpreting slope as unit rate, and compare two proportional relationships, each represented in different ways. 8. EE.B.5	**Concept(s):** • Quantitative relationships can be represented in different ways. **Students are able to:** • Graph proportional relationships. • Interpret unit rate as the slope of a graph. • Compare two different proportional relationships that are represented indifferent ways (table of values, equation, graph, verbal description).		MP.2 MP.4 MP.5 MP.6 MP.7 MP.8

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Derive the equation of a line (y = mx for a line through the origin and the equation y = mx +b for a line intercepting the vertical axis at b) and use similar triangles to explain why the slope (m) is the same between any two points on a non-vertical line in the coordinate plane. 8.EE.B.6	**Concept(s):** No new concept(s) introduced **Students are able to:** • Show, using similar triangles, and explain why the slope, m, is the same between any two distinct points on a non-vertical line. • Derive, from two points, the equation y = mx for a line through the origin. • Derive, from two points, the equation y = mx + b for a line intercepting the vertical axis at b.	▪ Base reasoning on the principle that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane. ▪ Tasks require students to derive the equation y=mx for a line through the origin and the equation y=mx+b for a line intersecting the vertical axis at b. ▪ Apply geometric reasoning in a coordinate setting, and/or use coordinates to draw geometric conclusions.	MP.2 MP.4 MP.5 MP.6 MP.7 MP.8

IV. Unit Vocabulary

Unit Vocabulary Terms	
coordinate plane x-coordinate y-coordinate ordered pair line parallel perpendicular slope rise run rate of change relation y-intercept x-intercept domain –(input) independent variable range-(output) dependent function ordered pairs coordinate plane coordinate pair constant rate function	exponential form exponent base standard form scientific notation exponential growth growth factor exponential functions compound growth growth rate decay factor exponential decay decay rate nth root

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VI. Differentiations/ Modifications

Research Based Effective Teaching Strategies	Modifications	Strategies for Special Needs Learners	Strategies for English Language Learners
Task /Activities that solidifies mathematical concepts Use questioning techniques to facilitate learning Reinforcing Effort, Providing Recognition Practice, reinforce and connect to other ideas within mathematics Promotes linguistic and nonlinguistic representations Cooperative Learning Setting Objectives, Providing Feedback Varied opportunities for students to communicate mathematically Use technological and /or physical tools	Modifications Before or after school tutorial program Leveled rubrics Increased intervention Small groups Change in pace Calculators Extended time Alternative assessments Tiered activities/products Color coded notes Use of movements Use any form of technology Extension Students research and analyze bias advertisements. Investigate the use of provocative wording and propaganda techniques *See Connected Math Program3 Classroom*	Change in pace Calculators Alternative assessments Accommodations as per IEP Modifications as per IEP Use graphic organizer to clarify mathematical functions for students with processing and organizing difficulties'. . *See Connected Math Program 3 Classroom Differentiation for Special Needs Students* Use self-regulations strategies for student to monitor and assess their thinking and performance for difficultly attending to task Cooperative learning (small group, teaming, peer assisted tutoring) to foster communication and	*Whiteboards* *Small Group / Triads* *Word Walls* *Partially Completed Solution* *Gestures* *Native Language Supports* *Pictures / Photos* *Partner Work* *Work Banks* *Teacher Modeling* *Math Journals* *See Connected Math Program 3 Classroom Differentiation for English Language Learners*

Hyperlinks are noted underlined in italics

21st Century Learning Skills: Teamwork and Collaboration Initiative and Leadership Curiosity and Imagination Innovation and Creativity Critical thinking and Problem Solving Flexibility and Adaptability Effective Oral and Written Communication Accessing and Analyzing Information	*Differentiation for Gifted Students*	strengthen confidence. Use technology and/or hands on devices to: clarify abstract concepts and process for : 1. Difficulty interpreting pictures and diagram. 2.difficulties with oral communications 3. Difficulty correctly identifying symbols of numeral 4.Difficulty maintaining attentions Simplify and reduces strategies / Goal structure to enhance motivation, foster independence and self-direction for: 1.Difficulty attending to task	

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		2. Difficulty with following a sequence of steps to solution. 3.Difficulty processing and organizing Scaffolding math idea/concepts guided practice and questioning strategies' to clarify and enhance understanding of math big ideas for : 1.Difficulty with process and organization 2.difficulty with oral and written communication Teacher models strategies' and think out aloud strategies to specify step by step process for: 1. Difficulties processing and organization 2. Difficulty attending to tasks. Use bold numbers and/or words to draw students' attention to important information. ** Provide students with	

		template to fill in relevant information. Have students begin working with an order list of data.	

VII. Instructional Resources

<table>
<tr><th colspan="3">Instructional Resources and Materials</th></tr>
<tr><th>Formative Assessment</th><th colspan="2">Print</th></tr>
<tr><td rowspan="3">Short constructed responses
Extended responses
Checks for Understanding
Exit tickets
Teacher observation
Projects
Group
Timed Practice Test – Multiple Choice & Open-Ended Questions

<u>Performance Tasks:</u>

<u>Giantburgers aligned to 8.EE.A.4</u>
<u>Who has the Better Job aligned to 8.EE.B.5</u>

<u>Additional performance Task for class use</u>

<u>8.EE.A.1 Extending the Definitions of Exponents</u>
<u>8.G.C.9 A Canister of Tennis Balls</u>
<u>8.EE.A.3 Ant and Elephant</u>
<u>Project (optional)</u>
<u>Teach 21 Problem Based Learning : Architectural Planning</u></td><td colspan="2">Connected Math Program Grade 8 Unit: Growing, Growing, Growing: Investigation 1 and Investigation 5 <u>Scope and Sequence for Grade 8</u>

NCTM Visualizing Square and Square Root
Lesson 1: Students Use geoboards to explore the relationships between the area of a square and its side length. 8.EE.A.2
Lesson 2 Students use geoboards to construct non-traditional, "tilted" squares whose side lengths are irrational numbers. 8.NS.A.1, 8.NS.A.2, 8.EE.A.2</td></tr>
<tr><td colspan="2">Technology</td></tr>
<tr><td>Resources for teachers
<u>Connected Math Project (Michigan State University)</u>
<u>My Pearson Training : Connected Math Program</u>
<u>Annenberg Learning : Insight into Algebra 1</u>
<u>National Council of Teachers of Mathematics</u>
<u>Mathematics Assessment Projects</u>
<u>Achieve the Core</u>
<u>Illustrative Mathematics</u>
<u>Mathematics Assessment Projects</u>
<u>Get the Math</u>
<u>Webmath.com</u>
<u>sosmath.com</u>
<u>Mathplanet.com</u>
<u>Interactive Mathematics.com</u>
<u>Inside Mathmatics.org</u></td><td>Resources for Students
<u>My Math Universe.com</u>
<u>Math is Fun website</u>
<u>Khan Academy</u>
<u>Figure This.org website</u>
<u>Virtual Nerd website</u>
<u>Math Snacks websites</u>
<u>Internet 4 Classroom website</u>
<u>A Maths Dictionary for kids</u></td></tr>
</table>

Hyperlinks are noted underlined in italics

	Asia Pacific Economic Cooperation : :Lesson Study Videos *Genderchip.org* *Interactive Geometry* *Mathematical Association of America* *learner.org* *Math Forum : Teacher Place*	

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