Introduction

In Grade 8, instructional time should focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

	ASSIGNMENT (CALL TO ACTION)	RESOURCE/ URL
Welcome to the Grade 8 Mathematics Pennsylvania Learns iTunes U course. We are setting the stage for this course by providing you with background information about Pennsylvania Mathematics Core Standards and the Standards for Mathematical Practice.		
Pennsylvania Core Standards: The State Board approved the final Chapter 4 regulations on September 12, 2013. The Independent Regulatory Review Commission (IRRC) approved the final regulation on November 21, 2013. With publication of Chapter 4 in the Pennsylvania Bulletin, the new regulations took effect on March 1, 2014. As part of the new regulations, Pennsylvania's Core Standards offer a set of rigorous, high-quality academic expectations in Mathematics that all students should master by the end of each grade level. The PA Core Standards are robust and relevant to the real world and reflect the knowledge and skills our young people need to succeed in life after high school, in both post-secondary education and a globally competitive workforce.	**REVIEW** the "Teacher Resources" and "Student Resources" section of the PA Core Implementation section of the SAS Portal.	http:// www.pdesas.org /Standard/ PACore

Standards for Mathematical Practice and Content

TOPIC	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	RESOURCE/URL
About the Standards for Mathematical Practice and Content	The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: This report explores how students in pre-K through 8th grade learn mathematics and highlights the importance of the inclusion of the following in teaching and learning: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).			
Standards for Mathematical Practice	The eight Standards of Mathematical Practice: 1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning. The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years.			
		LEARN how the standards improve teaching, make learning more engaging, create shared expectations, and cultivate lifelong learning for students.	NCTM and The Hunt Institute have produced a series of videos to enhance understanding of the mathematics that students need to succeed in college, life, and careers. Beginning in the primary grades, the videos address the importance of developing a solid foundation for algebra, as well as laying the groundwork for calculus and other postsecondary mathematics coursework. The series also covers the Standards for Mathematical Practice elaborated in the PA Core Standards for Mathematics and examines why developing conceptual understanding requires a different approach to teaching and learning.	https:// itunes.apple.com/us/ itunes-u/hunt-institute-ccss-series/ id461816983?mt=10

TOPIC	MESSAGE	ASSIGNMENT (CALL TO ACTION)	CONTENT DIRECTIONS	RESOURCE/URL
Standards for Mathematical Content	The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices. The content standards which set an expectation of understanding are potential "points of intersection" between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.			
		DEEPEN your understanding of the PA Core Standards shifts in mathematics.	This course is intended to deepen your understanding of the PA Core Standards shifts in mathematics. It is designed to stimulate thinking around designing and delivering instruction matched to the Standards and how this may change your classroom practice. The content describes how the Standards differ from previous Standards and thoroughly explains the Shifts of focus, coherence and rigor.	https://itunes.apple.com/us/course/ccss-for-teachers-math-shifts/id679843407

Grade 8 - Module 1: The Number System and Properties of Exponents

Topic Title	Topic Description	Assignment/Call to Action
Module 1: The Number System and Properties of Exponents	This year begins wtih students extending the properties of exponents to integer exponents in Module 1. They use the number line model to support their understanding of rational and irrational numbers. Scientific notation is also explored.	
	Focus Standards: CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions. CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties. CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.	
Properties of Exponents	In this lesson, students will apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents). Properties will be provided.	DEVELOP a few of the properties of integer exponents.
		READ the properties of integers exponents.
		EXPAND understanding of the rules of exponents through viewing a series of videos.

		PRACTICE applying the properties of integer exponents.
		APPLY the properties of integer exponents to a real world problem.
Square roots and Cube roots	In this lesson, students will use square root and cube root symbols to represent solutions to equations of the form x squared = p and x cubed = p, where p is a positive rational number. Evaluate square roots of perfect squares (up to and including 12 squared) and cube roots of perfect cubes (up to and including 5 cubed) without a calculator.	LEARN about taking the square root and cube root of a number.
		PRACTICE taking the square root of a perfect square.
		PRACTICE taking the cube root of perfect cubes.
		PRACTICE solving equations using square roots or cube roots.
Rational or Irrational Numbers	In this lesson, students will determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths).	LEARN whether a number is rational or irrational.
		LEARN whether a number is rational or irrational.

		READ about whether a number is rational or irrational. PRACTICE identifying a number as rational or irrational.
Converting Terminating or Repeating Decimals to a Fractional Form	In this lesson, students will convert a terminating or repeating decimal to a rational number (limit repeating decimals to thousandths).	LEARN how to convert repeating decimals into fractions.
		PRACTICE converting repeating decimals into fractions.
Estimate the Value of Irrational Numbers	In this lesson , students will estimate the value of irrational numbers without a calculator (limit whole number radicand to less than 144).Example: √5 is between 2 and 3 but closer to 2.	LEARN how to estimate the value of irrational numbers without a calculator.
		PRACTICE estimating the value of a square root.
Compare and Order Irrational Numbers	In this lesson , student will use rational approximations of irrational numbers to compare and order irrational numbers and locate/identify rational and irrational numbers at their approximate locations on a number line.	PRACTICE using rational approximations of irrational numbers to compare, order, and approximate the location of irrational numbers on a number line.
Express Large or Small Numbers as a Single Digit Times an Integer Power of 10	In this lesson, students will estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another.	LEARN about real world uses for numbers expressed as a power of 10.
		LEARN about and PRACTICE comparing numbers expressed in the form of a single digit times an integer power of ten.
Scientific Notation	In this lesson, students will perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation	LEARN about scientific notation through listening to a song.

	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 (e.g., interpret 4.7EE9 displayed on a calculator as 4.7×109).	LEARN how to write numbers in scientific notation.
		PRACTICE writing numbers in scientific notaiton.
		ENGAGE in a webquest and CREATE a worksheet to estimate very large and very small quantities expressed in scientific notation.
		LEARN how to multiply and divide numbers in scientific notation.
		PRACTICE multiplying and dividing numbers in scientific notation.
		APPLY your understanding in a real world scenario.
		APPLY your understanding in a real world scenario.

Content URL or Location	URL Checked with iPAD	Alternative to IOS or Notes
Demonstrate and explain your solution within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/8/EE/A/1/tasks/1438	
	https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Check to see the properties you established in the last post match with these defined properties.	http://www.mathplanet.com/education/algebra-1/exponents-and-exponential-functions/properties-of-exponents	
Use these videos if any of the properties from the previous post are unclear to you.	https://learnzillion.com/lesson_plans/4112-2-use-patterns-to-write-rules-for-multiplying-exponents-c	
	https://learnzillion.com/lesson_plans/3477-3-multiply-exponential-expressions-with-common-bases-by-adding-exponents-fp	
	https://learnzillion.com/lesson_plans/3479-4-divide-exponential-expressions-with-common-bases-by-simplifying-fp	

Import the sheet into the Explain Everything app and annotate over it.	http://www.mathworksheetsland.com/8/3intexp/matching.pdf	
	https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	
Import the sheet into the Explain Everything app and annotate over it.	http://map.mathshell.org/download.php?fileid=808	
	https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	
	https://learnzillion.com/lesson_plans/2042-6-solving-equations-of-the-form-x-2-p-and-x-3-p-with-rational-and-irrational-roots-fp	
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-roots/e/square_roots	
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-roots/e/cube_roots	
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-roots/e/equations-w-square-and-cube-roots	
	http://www.shmoop.com/video/rational-irrational-numbers/	
	https://learnzillion.com/lessons/221-distinguish-between-rational-and-irrational-numbers	

Engage in the practice problems at the bottom of the page.	http://www.mathwarehouse.com/arithmetic/numbers/rational-and-irrational-numbers-with-examples.php	
	https://learnzillion.com/lessons/223-convert-repeating-decimals-into-fractions	
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-repeating-decimals/e/converting_repeating_decimals_to_fractions_1	
	https://learnzillion.com/lessons/224-place-nonperfect-square-roots-between-2-integers	
	https://www.khanacademy.org/math/pre-algebra/exponents-radicals/radical-radicals/e/square_roots_2	
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-approximating-irrational-numbers/e/approximating-irrational-numbers-without-a-calculator	
	http://www.teachertube.com/video/119236	
View the videos and engage in the practice exercises. If the link doesn't work for the exercises, use the Khan Academy app.	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-orders-of-magnitude	
	http://www.youtube.com/watch?v=AWof6knvQwE&edufilter=okMgIJJx4LqGlJwfRqmGyQ&safe=active	

	https://learnzillion.com/lessons/180-convert-from-standard-to-scientific-notation	
	https://www.ixl.com/math/grade-8/convert-between-standard-and-scientific-notation	
Follow all directions and complete your worksheet within the Microsoft Word app.	http://www.mathgoodies.com/webquests/scientific_notation	
	https://itunes.apple.com/us/app/microsoft-word/id586447913?mt=8	https://play.google.com/store/apps/details?id=com.microsoft.office.word&hl=en
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-scientific-notation-compu/v/multiplying-and-dividing-in-scientific-notation	
	https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/cc-8th-scientific-notation-compu/e/multiplying_and_dividing_scientific_notation	
Demonstrate and explain your solution within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/tasks/476	
	https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Import the task into Explain Everything to demonstrate and explain your thinking.	http://map.mathshell.org/download.php?fileid=1046	
	https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Grade 8 - Module 2: Transformations, Congruence, and Similarity

Outline Description	Title Post	Assignment/Call to Action	Content Title	Content URL or Location	Alternative to IOS or Notes
Module 2: Transformations, Congruence, and Similarity	In Module 2, students study congruency and similarity by experimenting with rotations, reflections, and translations, and dilations of geometrical figures. **Module 2 Focus Standards** CC.2.3.8.A.2 Understand and apply congruence, similarity, and geometric transformations using various transformations.				
Transformations	In this lesson, students will identify and apply properties of rotations, reflections, and translations. Example: Angle measures are preserved in rotations, reflections, and translations.	IDENTIFY the properties of translations, rotations, and reflections.	Use the applet to do several transformations of your choice. Within the Explain Everything app, explain the effects of translations, reflections, and rotations on the original image. Example: Angle measures are preserved in rotations, reflections, and translations.	http://www.shodor.org/interactivate/activities/Transmographer/	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		ASSESS whether your conclusions were correct as to the effects of translations, reflections, and rotations on the original image.	Verify the properties of rotations, reflections, and translations by watching this series of videos.	https://learnzillion.com/lesson_plans/3296-5-determine-what-features-stay-congruent-after-a-rigid-transformation-c?card=46910	
		DETERMINE whether the new image is the result of a translation, reflection or rotation.		http://www.ixl.com/math/grade-8/identify-reflections-rotations-and-translations	
Transformations in the coordinate plane	In this lesson, students will describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures, using coordinates.	INVESTIGATE the effects of transformations on coordinates of shapes.	Download the Sketchpad Explorer app.	https://itunes.apple.com/us/app/sketchpad-explorer/id452811793?mt=8	http://www.dynamicgeometry.com
		INVESTIGATE the effects of transformations on coordinates of shapes.	After clicking on the link, click "Download Transformation.gsp" and choose to open in the Sketchpad Explorer app. Also, download all 4 worksheets and import them into Explain Everything or print them out. Complete one worksheet at a time using the Sketchpad Explorer app and activity.	http://mathbits.com/MathBits/GSP/Transformations.htm	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		ASSESS whether you have developed the correct effects of transformations on coordinates by watching the series of videos.		https://learnzillion.com/lesson_plans/2887-1-understand-transformations-in-the-coordinate-plane-c	
				https://learnzillion.com/lesson_plans/2886-2-describe-transformations-in-the-coordinate-plane-fp#lesson	
		REVIEW the ideas about congruent figures. Answer the practice questions at the bottom of the page.		http://www.mathsisfun.com/geometry/congruent.html	
		REVIEW the ideas about similar figures. Answer the practice questions at the bottom of the page.		http://www.mathsisfun.com/geometry/similar.html	
		PERFORM reflections on a triangle.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/1243	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PERFORM a dilation and explain the effects on the triangle.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/1682	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Transformations and Congruence	In this lesson, students are given two congruent figures and must describe a sequence of transformations that exhibits the congruence between	PERFORM a series of transformations to get move the key to unlock the door.		http://technology.cpm.org/general/keylock/	
		PERFORM a series of transformations to create a greeting card.	Import the task into the Explain Everything app to demonstrate and explain your solution.	http://map.mathshell.org/download.php?fileid=1054	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Outline Description	Title Post	Assignment/Call to Action	Content Title	Content URL or Location	Alternative to IOS or Notes
	them.	PERFORM a series of transformations to align the congruent triangles.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/1232	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Transformations and Similarity	In this lesson, students are given two similar two-dimensional figures and must describe a sequence of transformations that exhibits the similarity between them.	PERFORM a series of transformations in a game setting.		http://spacewolf.adams50.org/game/flexigons	
		PERFORM a series of transformations to determine if the figures are similar.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/1946	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Angles formed when lines are cut by a transversal	In this lesson, students use informal arguments to establish facts about the angle sum and exterior angles of triangles about the angles created when parallel lines are but by a transveral, and the angle-angle criterion for similarity of triangles.	EXPLORE the sum of the interior angles of a triangle.		https://www.desmos.com/calculator/3xrwy6tbti	
		EXPLORE the sum of the exterior angles of a triangle.		https://www.desmos.com/calculator/jpk7am7f7j	
		LEARN the relationship among the angles formed by parallel lines cut by a transversal.		http://www.virtualnerd.com/pre-algebra/geometry/parallel-lines-angle-relationships/parallel-lines-transversals/transversal-diagram-missing-angles	
		PROVE why the measure of the interior angles of a triangle add to 180.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/1501	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE identifying which angles are congruent when parallel lines are cut by a transversal.		https://www.ixl.com/math/grade-8/transversal-of-parallel-lines	
		PRACTICE idenitifying the measures of angles formed by parallel lines and a transversal		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-geometry/cc-8th-angles-between-lines/e/parallel_lines_1	

Grade 8 - Module 3: Geometric Applications of Exponents

Outline Description	Title Post	Assignment	Content Title	Content URL or Location	Alternative to IOS or Notes
Module 3: Geometric Applications of Exponents	In Module 3, students will explore geometric applications of exponents including the Pythagorean Theorem and volume of 3D figures. **Module 3 Focus Standards** CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems. CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.				
Introduction to the Pythagorean Theorem	In this lesson, students will be introduced to the Pythagorean Theorem.	LEARN about a real world application of the Pythagoream theorem.	Science of NFL Football: The Pythagorean Theorem	http://science360.gov/obj/video/d37dd34c-b721-4230-9931-27c663c208df/science-nfl-football-pythagorean-theorem	
		EXPLAIN why the Pythagorean Theorem works.	Click on the Animations and watch closely. Take a screenshot of the animation, import it into Explain Everything and explain what it means and why it works.	https://itunes.apple.com/us/app/pythagoras/id578148314?mt=8	http://www.learnalberta.ca/content/mejhm/index.html?l=0&ID1=AB.MATH.JR.SHAP&ID2=AB.MATH.JR.SHAP.PYTH&lesson=html/video_interactives/pythagoras/pythagorasInteractive.html - Use the sliders to explore why Pythagorean Theorem works
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Applying the Pythagorean Theorem	In this lesson, students will apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. No irrational solutions	LEARN how to find the missing lengths of a triangle using the Pythagorean Theorem.		https://learnzillion.com/lessons/3093-solve-for-unknown-side-lengths-using-the-pythagorean-theorem	
		PRACTICE using the Pythagorean Theorem to find the hypotenuse of the triangle.		https://www.ixl.com/math/grade-8/pythagorean-theorem-find-the-length-of-the-hypotenuse	
		PRACTICE using the Pythagorean Theorem to find missing lengths of the triangle.	Work through the Examples and the Test.	https://itunes.apple.com/us/app/pythagoras/id578148314?mt=8	https://play.google.com/store/apps/details?id=air.tw.com.knsh.G0BBD28317256406499902018E94C2382D&hl=en
		PRACTICE using the Pythagorean Theorem to find missing lengths of the triangle.		http://www.shodor.org/interactivate/activities/PythagoreanExplorer/	
		APPLY the Pythagorean Theorem to solve a real world problem about football.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/655	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		APPLY the Pythagorean Theorem to solve a real world problem.	Import the task into the Explain Everything app to demonstrate and explain your solution.	http://map.mathshell.org/download.php?fileid=1098	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to find a missing length within a three dimensional figure.		https://learnzillion.com/lessons/1303-apply-the-pythagorean-theorem-to-three-dimensional-figures-using-right-triangles	
		PRACTICE finding a missing length in three dimensional figures.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-geometry/cc-8th-pythagorean-theorem/e/pythagorean-theorem-in-3d	
		LEARN how to use the Pythagoream theorem to determine if a triangle is right.		https://learnzillion.com/lesson_plans/3769-4-understand-the-converse-of-the-pythagorean-theorem-c	
		PRACTICE using the Pythagorean Theorem to determine if a triangle is right.		https://www.ixl.com/math/grade-8/converse-of-the-pythagorean-theorem-is-it-a-right-triangle	
		PRACTICE using the Pythagorean Theorem to solve real world problems.	Import the task into the Explain Everything app to demonstrate and explain your solution.	http://www.mathworksheetsland.com/8/24expproof/guided.pdf	

Outline Description	Title Post	Assignment	Content Title	Content URL or Location	Alternative to IOS or Notes
Converse of the Pythagorean Theorem	In this lesson, students will apply the converse of the Pythagorean Theorem to show a triangle is a right triangle.			https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE using the Pythagorean Theorem to solve a mathematical problem.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/content-standards/tasks/60	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Finding Distance in the Coordinate Plane	In this lesson, students will apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	LEARN how to apply the Pythagorean Theorem to find the distance between two points in a coordinate plane.		https://learnzillion.com/lessons/1309-find-the-length-of-a-line-segment-on-the-coordinate-plane-using-the-pythagorean-theorem	
		PRACTICE using the Pythagorean Theorem to find the distance between two points.		https://www.ixl.com/math/grade-8/distance-between-two-points	
		APPLY the Pythagorean Theorem to find the distance between two points in a coordinate plane.	Plot the points within the Desmos app. Take a screenshot and import it into Explain Everything app to demonstrate your solution.	https://www.illustrativemathematics.org/content-standards/tasks/1919	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://www.desmos.com
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Volumes of 3D Shapes	In this lesson, students will apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems.	LEARN about the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Watch all three videos.	https://learnzillion.com/resources/99891-volume-of-cylinders-cones-and-spheres	
		READ about the relationships between the volumes of three dimensions shapes.		http://www.math.com/school/subject3/lessons/S3U4L4DP.html	
		PRACTICE finding the volume of 3D shapes.		https://www.ixl.com/math/grade-8/volume-of-prisms-and-cylinders	
				https://www.ixl.com/math/grade-8/volume-of-pyramids-and-cones	
		SOLVE a real world problem involving volume of 3D shapes.	Import the task into the Explain Everything app to demonstrate and explain your solution.	https://www.illustrativemathematics.org/illustrations/517	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		SOLVE a real world problem involving volume of 3D shapes.	Import the task into the Explain Everything app to demonstrate and explain your solution.	http://map.mathshell.org/download.php?fileid=1110	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Grade 8 - Module 4: Linear Relationships

Outline Description	Title Post	Assignment	Content Title	Content URL or Location	Alternative to IOS or Notes
Module 4: Linear Relationships	In Module 4, students use similar triangles learned in Module 2 to explain why the slope of a line is well-defined. Students learn the connection between proportional relationships, lines, and linear equations as they develop ways to represent a line by an equation. They analyze and solve linear equations and pairs of simultaneous linear equations. The equation of a line provides a natural transition into the idea of a function explored in the next module.				
	Module 4 Focus Standards: CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations. CC. 2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.				
Graphing Proportional Relationships	In this lesson, students will graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. Example: Compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	LEARN how to graph proportional relationships interpreting the unit rate as the slope of the graph.	Graph, interpret and compare proportional relationships	https://learnzillion.com/lesson_plans/8859-understand-proportional-relationships-by-relating-graphs-and-equations	
		LEARN how to draw the graph of a proportional relationship given a table of values and recognize that the unit rate is the coefficient of x as well as the slope of the line.	Work through all 4 parts of the activity including reading the introduction and engaging in the interactive portions.	http://www.texasgateway.org/resource/graphing-proportional-relationships	
		PRACTICE finding the rate of change on a graph.		https://www.ixl.com/math/grade-8/find-the-constant-of-variation-graphs	
		PRACTICE drawing a graph and writing an equation for a proportional relationship.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/cc-8th-graphing-prop-rel/e/graphing-proportional-relationships	
		PRACTICE drawing a graph of a real world proportional relationship.	Use the Desmos app to complete the task. Take a screenshot of the graph and import into Explain Everything to explain your thinking.	https://www.illustrativemathematics.org/content-standards/8/EE/B/5/tasks/129	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://www.desmos.com
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		PRACTICE comparing proportional relationships in differen forms.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/cc-8th-graphing-prop-rel/e/comparing-proportional-relationships	
		PRACTICE drawing a graph of a real world proportional relationship.	Use the Desmos app to complete the task. Take a screenshot of the graph and import into Explain Everything to explain your thinking.	https://www.illustrativemathematics.org/content-standards/8/EE/B/5/tasks/184	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://www.desmos.com
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Slope and Similar Right Triangles	In this lesson, students will use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.	LEARN how to use similar triangles to explain why the slope m is the same between two points on a non-vertical line in the coordinate plane.		https://learnzillion.com/lessons/1414-describe-a-line-with-a-unique-slope	
		LEARN how to use similar triangles to explain why the slope m is the same between two points on a non-vertical line in the coordinate plane.		http://www.pbslearningmedia.org/resource/muen-math-ee-vidslopeline/slope-similar-triangles/	
		PRACTICE using similar triangles to explain why the slope m is the same between two points on a non-vertical line in the coordinate plane.	Import the task into the Explain Everything app to demonstrate your thinking.	http://d43fweuh3sg51.cloudfront.net/media/media_files/Understandin_Slope_Similar_Triangles_handout.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Deriving the Equation y = mx + b	In this lesson, students will 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.	DETERMINE how parts of the equations y = mx + b affect the graph of a line.		https://www.desmos.com/calculator/59qdbtnlzy	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how the equation of a line relates to its graph and PRACTICE writing equations.	Engage in the Lesson, followed the Practice and Challenge activities.	https://itunes.apple.com/us/app/graphing-linear-equations/id927464123?mt=8	https://learnzillion.com/lesson_plans/3606-5-build-y-mx-and-y-mx-b-equations-from-linear-graphs-using-similar-triangles-fp - Engage in the entire lesson

Outline Description	Title Post	Assignment	Content Title	Content URL or Location	Alternative to IOS or Notes
		PRACTICE matching an equations with a graph.	Import into the Explain Everything app to demonstrate and explain your thinking.	http://map.mathshell.org/download.php?fileid=1106	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Solving Linear Equations	In this lesson, students will solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	LEARN how to solve equations using algebra tiles.		https://www.youtube.com/watch?v=CpnzNmw1Mg8	
		PRACTICE solving equations using algebra tiles.		http://illuminations.nctm.org/Activity.aspx?id=3482	
		LEARN to solve two step equations with rational number coefficients.		https://learnzillion.com/lessons/1015-solving-two-step-linear-equations	
		PRACTICE solving two step equations with rational number coefficients.		http://www.ck12.org/assessment/ui/views/test.view.new.html?practice/Equations-with-Fractions-Practice?type=practice&referrer=featured_content&ep=http://www.ck12.org/algebra/Equations-with-Fractions/	
		LEARN how to solve linear equations with variables on both sides.		https://learnzillion.com/lessons/1016-solving-linear-equations-with-a-variable-on-each-side	
		REVIEW steps for solving multi-step equations.		http://www.purplemath.com/modules/solvelin3.htm	
		PRACTICE solving equations with variables on both sides.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-solving-equations/cc-8th-linear-equations/e/linear_equations_3	
		PRACTICE solving equations with variables on both sides using pictures.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/8/EE/C/7/tasks/392	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Identifying the Number of Solutions to a Linear Equation	In this lesson, students will write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers).	LEARN how to identify linear equations in one variable with one solution, infinitely many solutions, or no solutions.		https://learnzillion.com/lesson_plans/3097-1-understand-that-linear-equations-in-one-variable-may-have-one-solution-no-solution-or-infinitely-many-solutions-c	
		PRACTICE determining the number of solutions to an equation in one variable.		https://www.ixl.com/math/grade-8/identities-and-equations-with-no-solutions	
		DETERMINE the type and number of solutions a set of equations has.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/8/EE/C/7/tasks/550	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

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Grade 8 - Module 5: Functions

Outline Description	Title Post	Assignment/Call to Action	Content Title	Content URL or Location	Alternative to IOS or Notes
Module 5: Functions	Students are introduced to functions in the context of linear equations and area/volume formulas in Module 5. They define, evaluate, and compare functions using equations of lines as a source of linear functions and area and volume formulas as a source of non-linear functions. Module 5 Focus Standards : CC.2.2.8.C.1 Define, evaluate, and compare functions. CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.				
What is a Function?	In this lesson, students will determine whether a relation is a function.	UNDERSTAND the concept of a function through an inquiry-based activity.	Import the task into the Explain Everything app and annotate over it.	https://www.illustrativemathematics.org/content-standards/8/F/A/tasks/1928	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		CREATE the graph of a function which passes the vertical line test.	After engaging in the applet, complete the questions from the worksheet within the Explain Everything app.	http://www.shodor.org/interactivate/activities/VerticalLineTest/	
				http://www.shodor.org/media/content/interactivate/worksheets/Vertical_Line_Test_Exploration_Questions	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		ASSESS your current understanding of a function by watching the videos.		http://www.virtualnerd.com/common-core/grade-8/8_F-functions/A/1/function-conceptual-definition	
		LEARN about the usefulness of the vertical line test to check to see if a relation is a function.		http://www.mysecretmathtutor.com/pre-calculus---vertical-line-test-for-functions.html	
		DETERMINE if a graph represents a function.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/cc-8th-function-intro/e/recog-func-2	
		UNDERSTAND the concept of a function through use of an interactive in-out machine	Choose random number to enter as input values. Based on the table of inputs and outputs, try to determine the correct rule.	http://www.shodor.org/interactivate/activities/NumberCruncher/	
Linear vs Non-linear functions	In this lesson, students will interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear.	EXPLORE the differences between linear and non-linear functions.	Use the Desmos app to graph the points. Import a screenshot into Explain Everything to explain your thinking.	https://www.illustrativemathematics.org/content-standards/8/F/A/3/tasks/813	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://www.desmos.com
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to recognize linear and non-linear functions.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/linear-nonlinear-functions/v/recognizing-linear-functions	
		PRACTICE identifying a function as linear or non-linear.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/linear-nonlinear-functions-tut/e/linear-non-linear-functions	
		DETERMINE whether functions are linear or non-linear.	Demonstrate and explain your thinking within the Explain Everything app.	http://s3.amazonaws.com/illustrativemathematics/attachments/000/010/148/original/student_task_813.pdf?1462401272	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to construct a function to model a linear relationship between two quantities.	Watch the series of videos.	https://learnzillion.com/lesson_plans/8979-construct-linear-functions-from-tables	

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Constructing a Function to Model a Linear Relationship	In this lesson, students will construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.	PRACTICE writing a rule from a function table.		https://www.ixl.com/math/grade-8/write-a-rule-for-a-function-table	
		READ about how to construct a function to model a linear relationship between two quantities.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/8th-linear-functions-modeling/a/modeling-with-tables-equations-and-graphs	
		PRACTICE constructing a function based on a real world scenario.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/8th-linear-functions-modeling/e/constructing-linear-functions-word-problems	
		WRITE the correct equation to represent the table or values or the graph.	Import the worksheet into the Explain Everything app and annotate over it.	http://www.mathworksheetsland.com/8/15funmod/ip.pdf	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		INTERPRET linear functions based on a real world scenario.	Import the task into the Explain Everything app and annotate over it.	https://www.illustrativemathematics.org/content-standards/8/F/B/4/tasks/552	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		CONSTRUCT a function to model a relationship between two quantities.	Import the task into the Explain Everything app and annotate over it.	http://map.mathshell.org/download.php?fileid=1058	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		CONSTRUCT a function to model a relationship between two quantities.	Import the task into the Explain Everything app and annotate over it.	https://www.illustrativemathematics.org/content-standards/8/F/B/4/tasks/247	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Comparing Functions	In this lesson, students will compare properties of two functions each represented in a different way (i.e., algebraically, graphically, numerically in tables, or by verbal descriptions).Example: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	LEARN how to compare two linear functions in different forms.	Understand and Compare Functions	https://learnzillion.com/lesson_plans/5196-compare-two-functions-by-analyzing-an-equation-and-a-graph	
		COMPARE two linear functions in different forms.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/comparing-features-of-functions-1	
		COMPARE two linear functions in different forms.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/illustrations/641	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Qualtitative Graphs	In this lesson, students will describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally.	LEARN how to describe qualitatively the functional relationship between two quantities by analyzing a graph.		https://learnzillion.com/lessons/1843-create-a-verbal-description-of-a-linear-relation-given-a-graph-or-equation	
		DESCRIBE the functional relationships between two quantities by analyzing a graph.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/8/F/B/5/tasks/632	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		DESCRIBE the functional relationships between two quantities by analyzing a graph.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/illustrations/633	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to sketch a graph that exhibits the qualitative features of a function.		https://learnzillion.com/lessons/1842-sketch-a-graph-of-a-linear-relation-given-the-function-behavior	
		SKETCH a graph that exhibits the qualitative features of a function.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/content-standards/8/F/B/5/tasks/674	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Outline Description	Title Post	Assignment/Call to Action	Content Title	Content URL or Location	Alternative to IOS or Notes
		SKETCH a graph that exhibits the qualitative features of a function.	Choose a video to watch. After the video has played through the situation in slow motion, pause the video and attempt to draw the graph on the attached document. Continue watching the video to see if you were correct.	http://graphingstories.com	
				http://graphingstories.com/Content/public/handouts/graphingstories-student-template.pdf	

Grade 8 - Module 6: Linear Functions in Statistics

Outline Description	Title Post	Assignment	Content Title	Content URL or Location	Alternative to IOS or Notes
Module 6: Linear Functions in Statistics	In Module 6, students return to linear functions in the context of statistics and probability as bivariate data provides support in the use of linear functions. Module 6 Focus Standards CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations. CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.				
Scatterplots	In this lesson, students will construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative correlation, linear association, and nonlinear association.	LEARN how to construct and interpret scatter plots.		https://learnzillion.com/lessons/1179-construct-a-scatter-plot	
				https://learnzillion.com/lessons/1188-interpret-a-scatter-plot-by-identifying-clusters-and-outliers	
				https://learnzillion.com/lessons/1201-interpret-and-distinguish-linear-and-non-linear-scatter-plots	
		PRACTICE constructing scatter plots.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/cc-8th-scatter-plots/e/constructing-scatter-plots	
		PRACTICE interpreting scatter plots.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/cc-8th-scatter-plots/e/interpreting-scatter-plots	
		PRACTICE interpreting scatter plots.	Import the task into the Explain Everything app and annotate over it.	http://map.mathshell.org/download.php?fileid=1066	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Line of Best Fit	In this lesson, students suggest a linear association for scatter plots, identify a line of best fit by judging the closeness of the data points to the line.	LEARN how to identify the line of best fit by hand and with a calculator through reading and engaging in the activities.		http://www.regentsprep.org/regents/math/algebra/ad4/linefit.htm	
		LEARN how to identify the strength of association based on the line of best fit.		https://learnzillion.com/lessons/3227-construct-a-line-of-best-fit	
				https://learnzillion.com/lessons/3228-determine-the-type-of-association-in-a-scatter-plot	
				https://learnzillion.com/lessons/3110-determine-the-strength-of-an-association-by-comparing-scatter-plots	
		PRACTICE identifying a line of best fit.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/cc-8th-line-of-best-fit/e/plotting_the_line_of_best_fit	
		PRACTICE identifying a line of best fit.	Import the task into the Explain Everything app and annotate over it.	http://map.mathshell.org/download.php?fileid=1130	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to create a scatter plot on Desmos.	You will not need the r value as mentioned in the video.	https://www.youtube.com/watch?v=miiYmGZ2990	
		CREATE a scatterplot and IDENIFITY the line of best fit using Desmos.	Complete the task using the Desmos app, take a screenshot of the graph and import into Explain Everything to explain your final answer.	https://www.illustrativemathematics.org/content-standards/8/SP/A/2/tasks/1558	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://www.desmos.com
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Interpreting the Slope and Intercept of a Line of Best Fit	In this lesson, students use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. Example: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr. as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.	LEARN how to use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	Engage in all three lessons completely.	https://learnzillion.com/lesson_plans/2591-7-interpret-the-slope-and-intercept-of-a-line-of-best-fit-fp	
				https://learnzillion.com/lesson_plans/2593-8-find-and-interpret-a-line-of-best-fit-a	
				https://learnzillion.com/lesson_plans/2587-9-use-the-line-of-best-fit-to-solve-problems-c	
		PRACTICE using the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/cc-8th-patterns-in-data/e/linear-models-of-bivariate-data	
		PRACTICE using the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	Import the task into the Explain Everything app and annotate over it.	https://www.illustrativemathematics.org/content-standards/8/SP/A/3/tasks/1370	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN how to construct and interpret two-way tables.		https://learnzillion.com/lesson_plans/5132-construct-a-two-way-table-from-a-list	
		PRACTICE constructing and interpreting two-way tables.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/two-way-tables/e/two-way-frequency-tables	

Outline Description	Title Post	Assignment	Content Title	Content URL or Location	Alternative to IOS or Notes
Two Way Table	In this lesson, students construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables. Example: Given data on whether students have a curfew on school nights and whether they have assigned chores at home, is there evidence that those who have a curfew also tend to have chores?			https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/two-way-tables/e/two-way-relative-frequency-tables	
				https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-data/two-way-tables/e/frequencies-of-bivariate-data	
		PRACTICE interpreting two-way tables.	Demonstrate and explain your thinking within the Explain Everything app.	https://www.illustrativemathematics.org/illustrations/973	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Outline Description	Title Post	Assignment/Call to Action	Content Title	Content URL or Location	Alternative to IOS or Notes
Module 7: Systems of Linear Equations	In Module 7, students extend their knowledge of linear equations and functions by analyzing and solving systems of linear equations.				
	Module 7 Focus Standards: CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.				
Solutions to a System of Equations	Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	DETERMINE how to identify the solution of a system.	Use the Desmos calculator to graph part a. Take a screenshot to import into the Explain Everything app. Use Explain Everything to answer parts b through d.	https://www.illustrativemathematics.org/content-standards/8/EE/C/8/tasks/1364	
				https://itunes.apple.com/us/app/graphing-calculator-by-desmos/id653517540?mt=8	https://www.desmos.com
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		LEARN about the solution to a system of equations through graphing.		https://learnzillion.com/lessons/1017-determine-if-a-system-of-two-linear-equations-in-two-variables-has-one-solution-by-graphing	
		GRAPH a system of equations to solve the system.		https://www.ixl.com/math/grade-8/solve-a-system-of-equations-by-graphing	
Solving a System by Graphing	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. Example: 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	LEARN how to solve a system of equations by substitution.		https://learnzillion.com/lessons/1362-solve-systems-of-linear-equations-using-substitution	
		PRACTICE solving a system of equations by substitution.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-systems-topic/cc-8th-systems-overview/e/systems_of_equations_with_substitution	
		LEARN how solve a system of equations by elimination.		https://learnzillion.com/lessons/1369-solve-systems-of-linear-equations-by-the-addition-elimination-method	
		PRACTICE solving a system of equations by elmination.		https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-systems-topic/cc-8th-systems-overview/e/systems_of_equations_with_substitution	
				https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-systems-topic/cc-8th-systems-overview/e/systems_of_equations_with_elimination	
Solving Real World Problems using a System of Equations	Solve real-world and mathematical problems leading to two linear equations in two variables. Example: Given coordinates for two pairs of points, determine whether the line	MATCH a system of equations to the real world scenario.		http://www.ck12.org/assessment/ui/views/test.view.new.html?practice/Applications-of-Linear-Systems-Practice?type=practice&referrer=featured_content&ep=http://www.ck12.org/algebra/Applications-of-Linear-Systems/	
		PRACTICE graphing and solving a system of equations based on real world scenarios.		http://www.ixl.com/math/algebra-1/solve-a-system-of-equations-by-graphing-word-problems	
		DETERMINE the correct equation to represent the situation and SOLVE to find the solution.	Import into the Explain Everything app to demonstrate your thinking.	http://map.mathshell.org/download.php?fileid=1114	

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	points, determine whether the line through the first pair of points intersects the line through the second pair.			https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		DETERMINE the correct equation to represent the situation and SOLVE to find the solution.	Import into the Explain Everything app to demonstrate your thinking.	http://map.mathshell.org/download.php?fileid=1094	
				https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Topic Title	Topic Description	Assignment	Content Title	Content URL or Location	URL Checked with iPAD	Notes
Grade 8 Teacher Resources						
Module 1	In this lesson, students develop the rules of exponents.	ENGAGE students in the lesson to develop the rules of exponents.		http://alex.state.al.us/lesson_view.php?id=32149		
	In this lesson, students use geoboards to explore the relationships between the area of a square and its side length. They also gain a numeric and geometric understanding of squaring a number and envision what the square root of a number looks like.	ENGAGE students in the lesson to understand taking the square root and how that relates to the length of a side of a square.		http://illuminations.nctm.org/Lesson.aspx?id=3089		
Module 2	Students will describe the effects of dilations, translations, rotations, and reflections.	ENGAGE students in the lesson to develop the properties of transformations.		http://cc.betterlesson.com/common_core/browse/500/day-four-five		
Module 3	Students will play Jeopardy to practice the Pythagoren Theorem and the converse of the Pythagoren Theorem	ENGAGE students in the game of Jeopardy to practice use of the Pythagorean Theorem.		http://www.math-play.com/Pythagorean-Theorem-Jeopardy/Pythagorean-Theorem-Jeopardy.html	Requires FLASH.	
	Students will apply the Pythagorean Theorem using problem-centered tasks.	ENGAGE students in the lesson understand real world uses of Pythagoream Theorem.	Fire in Pythagorville: Problem-Centered Lessons	http://www.learnnc.org/lp/pages/3850?ref=search		
	Students will apply formulas for volume to solve real-world problems.	ENGAGE students in the lesson to discover the relationships between volumes of three dimensional shapes.		http://www.learner.org/courses/learningmath/measurement/session8/part_b/cylinders.html	Requires FLASH.	
Module 4	Students will graph proportional relationships, interpreting the unit rate as the slope of the graph.	ENGAGE students in a task to graph proprotional relationships, interpreting the unit rate as the slope of the graph.		http://labyrinth.thinkport.org/www/educators/resources/lessons/mineshaft_grade8.pdf	Game requires FLASH.	
Module 5	Students will interpret the unit rate as the slope of a graph.	ENGAGE students in this performance task where they interpret unit rate as the slope of a graph.		http://schools.nyc.gov/NR/rdonlyres/1F533263-05A2-4723-9423-95ABC6C1CB9A/130937/NYCDOE_G8_Math_SlipperySlopes_Final.pdf		
	Students will describe the functional relationships between two quantities by analyzing a graph.	ENGAGE students in this performance task where they describe the functional relationships between two quantities by analyzing a graph.		http://www.insidemathematics.org/assets/common-core-math-tasks/vincent's%20graphs.pdf		
Module 6	Students will be able to determine the line of best fit and make a prediction.	ENGAGE students in the lesson to identify the line of best fit and make a prediction.		http://www.amstat.org/education/stew/pdfs/ScatterIt!PredictBillysHeight.pdf		
Module 7	Students will be able to solve system of equations using various methods.	ENGAGE in solving systems of equations through playing a game.		http://jwilson.coe.uga.edu/EMAT6680Fa2012/Warrayat/EMAT%206690/Unit%20Plan/UnitPlan.html#V4		