

**Course/Subject: Core Connections 3** **Grade Level: 8**

**Textbook(s) / Instructional Materials Used: *Core Connections, Course 3 Second Edition\**, Version 5.0 ISBN-13: 978-1-60328-077-8**

**Month(s): August - September** **Unit 1**

**Problem Solving**

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Students will understand . . .</p> <p>Points on a graph represent real data (M08.B-.2.1.2).</p> <p>Analyze and interpret bivariate data displayed in multiple representations. (M08.D-S.1.1 )</p>	<p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p> <p>CC.2.2.8.C.1 Define, evaluate, and compare functions.</p> <p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p> <p>CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in</p>		<p>What does it mean to estimate or analyze numerical quantities?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p> <p>How can data be organized and represented to provide insight into the relationship between quantities?</p> <p>How does the type of data influence the choice of display?</p>	<p>Students will know . . .</p> <p>How to extend a tile pattern and how to generalize the geometric description of the pattern.</p> <p>Students will be able to:</p> <p>Interpret points on graphs and continuous graphs.</p> <p>Make predictions from graphed data.</p> <p>Extend tile patterns and represent them</p>	<p>Line of Best Fit</p> <p>Linear association</p> <p>Linear equation</p> <p>Negative correlation</p> <p>Non-Linear association</p> <p>Outlier</p> <p>Positive Correlation</p> <p>Scatterplot</p> <p>Bivariate data</p> <p>Clustering</p> <p>Rational Numbers</p>	<p>Construct, analyze, and interpret bivariate data displayed in scatter plots.</p> <p>Identify and use linear models to describe bivariate measurement data.</p> <p>Use frequencies to analyze patterns of association seen in bivariate data.</p> <p>Distinguish between rational and irrational numbers using their properties.</p> <p>Convert a terminating or repeating decimal</p>

	<p>multiple representations.</p> <p>M08.B-F.2.1.1 Construct a function to model a linear relationship between two quantities. (CC.2.2.8.c.2)</p> <p>M08.B-F.2.1.2 Describe qualitatively the function relationship between two quantities by analyzing a graph. Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally.</p>			algebraically.	Irrational numbers	<p>into a rational number.</p> <p>Use rational approximations of irrational numbers to compare the size of irrational numbers.</p> <p>Define, interpret, and compare functions displayed algebraically, graphically, numerically in tables, or by verbal descriptions.</p>
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Month(s): September	Unit 2
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**Simplifying with Variables**

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
Students will understand . . .	CC.2.2.8.B.3 Analyze and solve linear equations and		What are variables, and why are they important?	Students will know . . .	Linear equation  Expressions	Analyze, model and solve linear equations.

<p>How to write and simplify algebraic expressions. (M08.B-E.1.1).</p> <p>How to solve for a variable if you know that two expressions are equal (M08.B-E.1.1) (CC.2.2-8.B.3).</p> <p>How to compare two complicated algebraic expressions (M08.B-E.1.1).</p>	<p>pairs of simultaneous linear equations.</p> <p>CC.2.2-8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>M08.B-E.1.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents.</p>		<p>How can algebraic expressions be made simpler?</p> <p>When can it be used?</p> <p>How is the variable solved for in an algebra equation?</p>	<p>What is a term and how to combine like terms.</p> <p>How to find the simplest expression to represent perimeter.</p> <p>The concept of zero and will learn how to represent zero to simplify algebraic expressions.</p> <p>How to record their work in order to show their solution steps.</p> <p>Students will be able to:</p> <p>Represent expressions and equations using algebra tiles, visualizing the terms of algebra.</p> <p>Work with positive and negative algebra terms.</p>		
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				<p>Recognize and represent zero in various forms with algebra tiles.</p> <p>Compare algebraic expressions.</p> <p>Record algebraic steps using the language of algebra (translated from algebra tiles).</p> <p>Solve equations for the variable.</p>		
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<b>Month(s):</b> October	<b>Unit 3</b>
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**Graphs and Equations**

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>How to find a rule from a table (M08.B-F.1.1).</p> <p>How to represent a situation using a table, a rule, and a graph (M08.B-F.1.1) (CC.2.2.8.C.1).</p>	<p>CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.</p> <p>CC.2.2.8.B.3 Analyze and solve linear</p>		<p>How are tables, graphs and rules related?</p> <p>How can a pattern be best represented?</p> <p>How can a solution be checked to be sure it is correct?</p> <p>How many solutions are there for an equation?</p>	<p>Students will know . . .</p> <p>How to identify the rule for a pattern and state it in words.</p> <p>How to evaluate algebraic expressions to make</p>	<p>Coefficient</p> <p>Function</p> <p>Relation</p> <p>Linear</p> <p>Equation</p> <p>Rate of Change</p>	<p>Analyze and describe linear relationships between two variables, using slope.</p> <p>Make connections between slope, lines and linear equations.</p>

<p>How to graph linear and parabolic rules using an appropriate scale (M08.B-E.3.1)</p> <p>What it means for something to be the solution to an equation, and what it means for an equation to have no solution (M08.B-F.1.1)</p> <p>How to determine the number of solutions to an equation (CC.2.2.8.B.3).</p>	<p>equations and pairs of simultaneous linear equations.</p> <p>M08.B-E.3.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents.</p> <p>M08.B-F.1.1 Define, evaluate, and compare functions displayed algebraically, graphically, or numerically in tables or by verbal descriptions.</p> <p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>CC.2.2.8.C.1 Define, evaluate, and compare functions.</p>			<p>predictions about a pattern.</p> <p>The difference between discrete and continuous graphs.</p> <p>How to set up appropriate axes for a data set.</p> <p>That a solution is a value that makes an equation true.</p> <p>Students will be able to:</p> <p>Find a rule (equation) from a table of values.</p> <p>Represent a mathematical situation with a table, graph and rule.</p> <p>Determine the number of solutions for an equation.</p> <p>Generate tables and graphs for quadratic</p>	<p>Equations</p> <p>Slope</p> <p>Y-intercept</p>	<p>Interpret solutions to a linear equation and systems of two linear equations.</p> <p>Analyze, model and solve linear equations.</p> <p>Analyze and solve pairs of simultaneous equations.</p> <p>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.</p>
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				<p>equations.</p> <p>Check solutions to algebraic equations.</p> <p>Improve their equation solving skills (without manipulatives).</p>		
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Month(s): November	Unit 4
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**Multiple Representations**

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
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<p>Students will understand . . .</p> <p>How to change any representation of data to any of the other representations (such as a pattern, table, graph, or rule.) (M08.B.E.3.1) (M08.B-F.1.1) (CC.2.2.8.C.1).</p> <p>How to use the connections between patterns, tables, graphs, and rules to solve problems (M08.B-E.2.1).</p>	<p>CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.</p> <p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>M08.B-F.1.1 Define, evaluate, and compare functions displayed algebraically, graphically, or numerically in tables or by verbal descriptions.</p> <p>M08.B.E.3.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents.</p> <p>M08.B-E.2.1 Analyze and describe linear</p>		<p>How are tables, graphs and rules related?</p> <p>How can a pattern be best represented?</p> <p>How can a solution be checked to be sure it is correct?</p> <p>How many solutions are there for an equation?</p>	<p>Students will know . . .</p> <p>The connections between all of the representations of a pattern, a graph, a table, a geometric presentation and an equation.</p> <p>The connections between the growth of a pattern and its linear equation.</p> <p>How to create graphs quickly without using an <math>x \rightarrow y</math> table.</p> <p>Students will be able to:</p> <p>Establish a rule (equation) given a table or graph.</p> <p>Create a complete graph without a table, using <math>y = mx + b</math>.</p>	<p>Coefficient</p> <p>Function</p> <p>Relation</p> <p>Linear</p> <p>Equation</p> <p>Rate of Change</p> <p>Equations</p> <p>Slope</p> <p>Y-intercept</p>	<p>Analyze and describe linear relationships between two variables, using slope.</p> <p>Make connections between slope, lines and linear equations.</p> <p>Interpret solutions to a linear equation and systems of two linear equations.</p> <p>Analyze, model and solve linear equations.</p> <p>Analyze and solve pairs of simultaneous equations.</p> <p>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.</p>
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	<p>relationships between two variables, using slope.</p> <p>CC.2.2.8.C.1 Define, evaluate, and compare functions.</p> <p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p>			<p>Find the point of intersection of two graphs and relate it to the equations of the lines.</p> <p>Solve systems of equations when both are in <math>y = mx + b</math> form.</p>		
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<b>Month(s): December</b>	<b>Unit 5</b>
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**Systems of Equations**

<b><u>Big Idea</u></b>	<b><u>Standard</u></b>	<b><u>Eligible Content</u></b>	<b><u>Essential Questions &amp; Lesson Essential Question</u></b>	<b><u>Concepts</u></b>	<b><u>Vocabulary</u></b>	<b><u>Competencies</u></b>
<p>Students will understand . . .</p> <p>How to solve multi-variable equations for one of the variables (M08.B-E.3.1).</p>	<p>CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.</p>		<p>How can I change it to <math>y=mx+b</math> form?</p> <p>How can I eliminate fractions in equations?</p> <p>When are they the same?</p> <p>What if systems are not in <math>y=mx+b</math> form?</p>	<p>Students will know . . .</p> <p>How to change fractional and decimal coefficients and constants to integers.</p>	<p>Simultaneous linear equations</p>	<p>Analyze and describe linear relationships between two variables, using slope.</p> <p>Make connections between slope, lines and linear</p>



<p>How to solve equations with fractional coefficients (M08.B-E.3.1).</p> <p>How to find the point where two lines intersect (CC.2.2.8.B.3).</p> <p>How to use the connections between graphs, tables, rules, and patterns to solve problems (CC.2.2.8.B.3).</p>	<p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>M08.B-E.3.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents.</p> <p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p>			<p>The meaning of points of intersection.</p> <p>How to solve systems of equations algebraically when both equations are in <math>y=mx+b</math> form.</p> <p>Students will be able to: Solve two-variable linear equations for one variable.</p> <p>Write rules and find intersections from contexts in word problems.</p> <p>Identify systems that represent the same line or parallel lines (that is, systems that have infinitely many solutions or no solution).</p>		<p>equations.</p> <p>Interpret solutions to a linear equation and systems of two linear equations.</p> <p>Analyze, model and solve linear equations.</p> <p>Analyze and solve pairs of simultaneous equations.</p>
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<b>Month(s):</b> January	<b>Unit 6</b>
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**Transformations and Similarity**

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
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<p>Students will understand . .</p> <p>How to move a shape on a coordinate grid using rigid transformations (translations, rotations, and reflections). (M08.C-G.1.1)</p> <p>How to compare shapes to determine similarity. (CC.2.3.HS.A.5)</p> <p>The meaning of congruence and how it relates to similarity and use shapes to explore different scale factors. (CC.2.3.8.A.2)</p>	<p>CC.2.3.8.A.2 Understand and apply congruence, similarity, and geometric transformations using various tools.</p> <p>M08.C-G.1.1 Apply properties of geometric transformations to verify congruence or similarity.</p> <p>CC.2.3.8.A.2 Apply rigid transformations to determine and explain congruence.</p> <p>CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.</p>		<p>How can I visualize it?</p> <p>How can I describe the motion?</p> <p>How can I transform it?</p> <p>How can I break it into smaller pieces?</p> <p>What do similar shapes tell us?</p>	<p>Students will know . . .</p> <p>The rules for multiplying positive and negative integers through the concept of dilation.</p> <p>Addition and subtraction of integers.</p> <p>Addition, subtraction and multiplication of fractions.</p> <p>The concept of dilation.</p> <p>The connections between adding a negative with subtracting a positive number and will generalize how to tell if the sum will be positive, negative or zero.</p> <p>Students will be able to:</p> <p>Connect addition and</p>	<p>Congruence</p> <p>Congruent</p> <p>Figures</p> <p>Dilations</p> <p>Reflection</p> <p>Rotation</p> <p>Similarity</p> <p>Transformation</p> <p>Translation</p>	<p>Use transformations to demonstrate congruence and similarity of geometric figures.</p> <p>Use various tools to understand and apply geometric transformations to geometric figures.</p>
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				<p>subtraction of integers to movement along a number line.</p> <p>Transform shapes by flipping, turning, and sliding them on a coordinate grid.</p> <p>Describe movement on a graph using coordinates and expressions.</p> <p>Recognize that equivalent fractions can be used to find missing parts of similar figures.</p>		
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<b>Month(s): February</b>	<b>Unit 7</b>
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<b>Slope and Association</b>
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<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
Students will understand . . . How to create scatterplots that show the relationship between two	CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.		<p>How can I represent the data?</p> <p>Is there a relationship? How can I describe the relationship?</p> <p>How does y change with respect to x?</p>	<p>Students will know . . .</p> <p>How to draw a line of best fit and use it to make predictions.</p>	<p>Coefficient</p> <p>Function</p> <p>Relation</p> <p>Linear Equation</p>	<p>Analyze and describe linear relationships between two variables, using slope.</p> <p>Make connections</p>

<p>variables. (M08.D-S.1.1)</p> <p>How to identify associations between sets of data and represent the relationship with a trend line (line of best fit). (M08.D-S.1.2, CC.2.4.8.B.2)</p> <p>Measure the steepness of a line by using slope. (M08.B-E.2.1)</p> <p>Find the slope of a line given its equation, its graph, or any two points on the line. (CC.2.2.8.B.2)</p>	<p>CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>CC.2.2.8.C.1 Define, evaluate, and compare functions.</p> <p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p> <p>CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations.</p> <p>M08.D-S.1.1 Analyze and interpret bivariate data displayed in multiple representations.</p> <p>M08.D-S.1.2 Understand that patterns of</p>		<p>How can I find the slope ratio?</p> <p>What can slope tell you?</p>	<p>Different associations and will consider the direction of an association.</p> <p>How to describe the rate of change of a line (slope) numerically, as the ratio between the vertical change and horizontal change.</p> <p>Negative slope have decreasing rates of change and a slope of zero will have no change.</p> <p>How to use scatterplots to make predictions, if possible, and identify when it is not possible to make predictions.</p> <p>That for data to be linear the data must have constant growth</p>	<p>Rate of Change</p> <p>Equations</p> <p>Slope</p> <p>Y-intercept</p> <p>Line of Best Fit</p> <p>Linear association</p> <p>Negative correlation</p> <p>Non-Linear association</p> <p>Outlier</p> <p>Positive correlation</p> <p>Scatterplot</p> <p>Bivariate data</p> <p>Clustering</p>	<p>between slope, lines and linear equations.</p> <p>Interpret solutions to a linear equation and systems of two linear equations.</p> <p>Analyze, model and solve linear equations.</p> <p>Analyze and solve pairs of simultaneous equations.</p> <p>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.</p>
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	<p>association can be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.</p> <p>M08.B-E.2.1 Analyze and describe linear relationships between two variables, using slope.</p> <p>CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.</p> <p>CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.</p>			<p>and that for a point to lie on the graph; it must make the equation true.</p> <p>Students will be able to:</p> <p>Create scatterplots and identify whether there is a relationship between two sets of data.</p> <p>Identify slopes from graphs, and will recognize the effect of scaling on the steepness of a line.</p> <p>Use slope to describe the average rate when the rate is not constant.</p> <p>Look for and describe associations between two categorical variables I two-way tables.</p>		
<p><b>Month(s): March</b></p>			<p><b>Unit 8</b></p>			

## Exponents and Functions

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Students will understand...</p> <p>How to simplify expression written with positive exponents. (M08.B-E.1.1) Writing numbers greater than on in scientific notation. (M08.B-E.1.1)</p> <p>The difference between raising a single number to a power and raising a grouped quantity to a power. (CC.2.2.8.B.1)</p> <p>How to determine if a relation is a function by looking at its table or graph. (M08.B-F.2.1, CC.2.2.8.C.2)</p>	<p>CC.2.2.8.C.1 Define, evaluate, and compare functions.</p> <p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.</p> <p>CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.</p> <p>M08.B-E.1.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents.</p> <p>M08.B-F.2.1 Represent or interpret functional</p>		<p>Is the graph linear?</p> <p>What happens if the exponent is negative?</p> <p>How do I compute numbers written in scientific notation?</p> <p>Can I predict the output?</p> <p>Is it a function?</p>	<p>Students will know...</p> <p>How to compare simple and compound interest.</p> <p>The relationships are functions and which are not, using both a graph and a table.</p> <p>How to identify and describe functions.</p> <p>Students will be able to:</p> <p>Recognize linear and non-linear situations from tables and graphs.</p> <p>Simplify expressions with positive exponents.</p> <p>Perform calculations</p>	<p>Rational number</p> <p>Irrational number</p> <p>Cube root</p> <p>Perfect cube</p> <p>Perfect Square</p> <p>Square Root</p> <p>Relation</p> <p>Function</p> <p>Scientific Notation</p> <p>Two-way tables</p>	<p>Distinguish between rational and irrational numbers using their properties.</p> <p>Convert a terminating or repeating decimal into a rational number.</p> <p>Use rational approximations of irrational numbers to compare the size of irrational numbers.</p> <p>Apply concepts of integer exponents to generate equivalent expressions.</p> <p>Use and evaluate square roots and cube roots to represent solutions to equations.</p> <p>Define, interpret, and compare functions displayed</p>

	<p>relationships between quantities using tables, graphs, and descriptions.</p> <p>CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.</p> <p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.</p> <p>CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.</p> <p>CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.</p>			<p>with numbers in scientific notation with and without a calculator.</p>		<p>algebraically, graphically, numerically in tables, or by verbal descriptions.</p>
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<b>Month(s): April</b>	<b>Unit 9</b>
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**Angles and the Pythagorean Theorem**

<u>Big Idea</u>	<u>Standard</u>	<u>Eligible Content</u>	<u>Essential Questions &amp; Lesson Essential Question</u>	<u>Concepts</u>	<u>Vocabulary</u>	<u>Competencies</u>
<p>Students will understand . . .</p> <p>The relationship between side lengths of a right triangle as the Pythagorean Theorem and apply that relationship to solve problems. (M08.C-G.2.1)</p> <p>How to apply the Pythagorean Theorem to problems in a variety of two-dimensional, everyday contexts. (M08.C-G.2.1)</p> <p>How to find the square root of a number and identify irrational numbers. (M08.A-N.1.1, CC.2.1.8.E.1)</p>	<p>CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems.</p> <p>M08.C-G.2.1 Solve problems involving right triangles by applying the Pythagorean theorem.</p> <p>M08.A-N.1.1 Apply concepts of rational and irrational numbers.</p> <p>CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.</p> <p>CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems.</p>		<p>How can I find missing parts of right triangles? What kind of number is it?</p>	<p>Students will know . . .</p> <p>How to distinguish rational numbers from irrational numbers</p> <p>Students will be able to:</p> <p>Compare the side lengths of squares to see what combinations of side lengths will make triangles.</p> <p>Find values of square roots by estimation, by using a calculator, and by using a graph.</p> <p>Convert terminating and repeating decimals to fractions.</p>	<p>Pythagorean theorem</p> <p>Square root</p>	<p>Apply the Pythagorean Theorem and its converse to solve mathematical problems in two and three dimensions.</p> <p>Distinguish between rational and irrational numbers using their properties.</p> <p>Convert a terminating or repeating decimal into a rational number.</p> <p>Use rational approximations of irrational numbers to compare the size of irrational numbers.</p>

Month(s): May - June

Unit 10

Surface Area and Volume



<b><u>Big Idea</u></b>	<b><u>Standard</u></b>	<b><u>Eligible Content</u></b>	<b><u>Essential Questions &amp; Lesson Essential Question</u></b>	<b><u>Concepts</u></b>	<b><u>Vocabulary</u></b>	<b><u>Competencies</u></b>
<p>Students will understand . . . How to find the cube root of a number. (M08.A-N.1.1)</p> <p>How to find the surface areas of cylinders and pyramids. (CC.2.3.8.A.1)</p> <p>How to find the volumes of non-rectangular shapes, including cylinders, pyramids, cones and spheres. (M8.C-G.3.1)</p>	<p>CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.</p> <p>M08.A-N.1.1 Apply concepts of rational and irrational numbers.</p> <p>M8.C-G.3.1 Apply volume formulas of cones, cylinders and spheres.</p> <p>CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.</p> <p>CC.2.1.8.E.1 Distinguish between rational and irrational</p>		<p>How does the volume of a cylinder compare with the volume of a cone?</p> <p>What is the volume of a three-dimensional circle (sphere)?</p>	<p>Students will know . . .</p> <p>How to find the volume of a cube given a side length and to find the sides length when given the volume.</p> <p>How to find the surface area and volume of a cylinder and a rectangular prism.</p> <p>Find surface area and volume of cylinders, pyramids, cones and spheres.</p> <p>Students will be able to:</p> <p>Find the surface area and volume of a cylinder and a rectangular prism, comparing the process and</p>	<p>Cone</p> <p>Cylinder</p> <p>Sphere</p> <p>Cube Root</p>	<p>Apply concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.</p> <p>Use and evaluate square roots and cube roots to represent solutions to equations.</p>

	<p>numbers using their properties.</p> <p>CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.</p>			<p>resulting volumes.</p> <p>Apply their knowledge of volume to create a cone with a maximum volume.</p> <p>Find the cube root of a number.</p>		
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