



**CNMI PUBLIC SCHOOL SYSTEM
OFFICE OF CURRICULUM AND INSTRUCTION
MIDDLE SCHOOL PRIORITY STANDARDS MAP
MATHEMATICS**

Sixth Grade Priority Standards Map Mathematics

Sixth Grade Priority Standards Map Mathematics

Legend:

	Content Area		Vocabulary
	Grade Level and Quarter		Weekly Pacing
	Primary Instructional Materials		Priority Standards

Content Area: Mathematics	
Grade Level: 6th	Quarter: 1st
<p>This standards map is developed with the following premises:</p> <ul style="list-style-type: none"> All CNMI PSS Common Core State Standards for Sixth Grade will be achieved in a school year. Enduring understandings are the big generalizations for the topic/concept. 	
<p>Primary Instructional Material Approved by BOE.</p> <p>Digits by Pearson</p>	
<p>Enduring Understandings:</p> <ul style="list-style-type: none"> Identify when two expressions are equivalent. Perform arithmetic operations, including those involving whole-number exponents, using the order of operations. Identify parts of an expressions using mathematical terms. Read expressions in which letters stand for numbers. Evaluate expressions in which letters stand for numbers. Write expressions in which letters stand for numbers. Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. 	<p>Essential Questions:</p> <p><u>Topic 1 - Variables and Equations</u></p> <ul style="list-style-type: none"> What is the power of mathematical expressions? <p><u>Topic 2 - Equivalent Expressions</u></p> <ul style="list-style-type: none"> What is a property? Why are properties useful? <p><u>Topic 3 - Equations and Inequalities</u></p> <ul style="list-style-type: none"> How can you represent relationships that are equal and not equal? Why would you want to represent those relationships? <p><u>Topic 4 - Two-Variable Relationships</u></p> <ul style="list-style-type: none"> How are two-variable relationships different from one-variable relationships? When do you need two variables?

- Evaluate numerical expressions involving whole-number exponents.
- Write numerical expressions involving whole-number exponents.
- Apply properties of operations to generate equivalent expressions.
- Identify when two expressions are equivalent.
- Apply properties of operations to generate equivalent numerical expressions.
- Multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- Find the least common multiple (LCM) of two whole numbers.
- Find the greatest common factor (GCF) of two whole numbers.
- Demonstrate solving an equation as a process of answering the question - which values from a specified set, if any, make the equation true?
- Apply and extend previous understandings of expressions and equations.
- Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ for cases in which p , q , and x are all nonnegative rational numbers.
- Solve real-world and mathematical problems by writing and solving equations of the form $px = q$ for cases in which p , q , and x are all nonnegative rational numbers.
- Represent solution of inequalities of the form $x > c$ or $x < c$ on number line diagrams.
- Demonstrate solving an inequality as a process of answering the question - which values from a specified set, if any, make the inequality true?
- Demonstrate solving an inequality as a process of answering the question - which

<p>values from a specified set, if any, make the inequality true?</p> <ul style="list-style-type: none"> • Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. • Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. • Use variables to represent two quantities in a real-world problem that change in relationship to one another. • Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. • Write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. • Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 1, Lessons 1 - 3)</p>	<p>6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. 6.EE.A.2a Write expressions that record operations with numbers and with letters standing for numbers. 6.EE.A.2b Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. 6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p>

<p style="text-align: center;">Week 2 (Topic 1, Lessons 4 - 6)</p>	<p>6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents. 6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. 6.EE.A.2a Write expressions that record operations with numbers and with letters standing for numbers. 6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).</p>
<p style="text-align: center;">Week 3 (Topic 2, Lessons 1 - 3)</p>	<p>6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.EE.A.3 Apply the properties of operations to generate equivalent expressions. 6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).</p>
<p style="text-align: center;">Week 4 (Topic 2, Lessons 4 - 7)</p>	<p>6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. 6.EE.A.3 Apply the properties of operations to generate equivalent expressions. 6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).</p>
<p style="text-align: center;">Week 5 (Topic 3, Lessons 1 - 3)</p>	<p>6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. 6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes a equation or inequality true. 6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers. 6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).</p>
<p style="text-align: center;">Week 6 (Topic 3, Lessons 4 - 5)</p>	<p>6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers. 6.EE.B.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p>

	<p>6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.</p>
<p>Week 7 (Topic 3, Lessons 6 - 7)</p>	<p>6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.</p> <p>6.EE.B.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p>6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.</p>
<p>Week 8 (Topic 4, Lessons 1 - 2)</p>	<p>6.EE.B.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p>6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p>
<p>Week 9 (Topic 4, Lessons 3 - 4)</p>	<p>6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p>

Content Area: Mathematics

Grade Level: 6th

Quarter: 2nd

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Sixth Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Apply and extend previous understandings of multiplication with fractions.
- Solve word problems involving multiplication of a fraction by a whole number, by using visual fraction models and equations to represent the problem.
- Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
- Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models to represent the problem.

Essential Questions:

Topic 5 - Multiplying Fractions

- What is a fraction of a fraction?
- Why does it matter?

Topic 6 - Dividing Fractions

- How is dividing by a fraction similar to dividing by a whole number?
- How is it different?
- How can the meaning of division be extended from whole numbers to fractions?

Topic 7 - Fluency with Decimals

- How can you extend the use of place value to decimal operations?
- How is working with decimals easier than working with fractions?

Topic 8 - Integers

- What does it mean to have less than nothing?

- Solve real-world problems involving multiplication of fractions and mixed numbers by using equations to represent the problem.
- Interpret and compute quotients of fractions.
- Solve word problems involving division of fractions.
- Solve real-world and mathematical problems by writing and solving equations of the form $px = q$ for cases in which p , q , and x are all nonnegative rational numbers.
- Add multi-digit decimals.
- Subtract multi-digit decimals.
- Multiply multi-digit decimals.
- Divide multi-digit decimals.
- Convert between fractions and decimals.
- Compare and order decimals and fractions.
- Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ for cases in which p , q , and r are all nonnegative rational numbers.
- Find and position integers and other rational numbers on a horizontal or vertical number line diagram.
- Recognize opposite signs of numbers indicating locations on opposite sides of zero on the number line.
- Interpret statements of inequality as statements about the relative position of two numbers on a number line.
- Write, interpret, and explain statements of order for rational numbers in real-world contexts.
- Identify the absolute value of a rational number as its distance from zero on the number line.
- Find and position pairs of integers and other rational numbers on a coordinate plane.
- Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.

- Why do we need numbers other than positive whole numbers?
- How do you know when to use positive numbers and when to use negative numbers?

Topic 9 - Rational Numbers

- Why do we need positive and negative numbers?
- How do you know when to use positive numbers and when to use negative numbers?

<ul style="list-style-type: none"> • Find distances between points with the same first coordinate or the same second coordinate. • Use coordinates to find the length of a side of a polygon joining points with the same first coordinate or the same second coordinate. • Represent three-dimensional figures using nets made up of rectangles and triangles. • Interpret absolute value as magnitude for a positive and negative quantity in a real-world situation. • Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both coordinate axes. • Draw polygons in the coordinate plane given coordinates for the vertices. 	
<p align="center">Pacing Map (by weeks):</p>	<p align="center">Standards and Benchmarks: (BOE Approved):</p>
<p align="center">Week 1 (Topic 5, Lessons 1 - 2)</p>	<p>6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e. g., by using visual fraction models and equations to represent the problem.</p>
<p align="center">Week 2 (Topic 5, Lessons 3 - 4)</p>	<p>6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e. g., by using visual fraction models and equations to represent the problem.</p>
<p align="center">Week 3 (Topic 6, Lessons 1 - 5)</p>	<p>6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e. g., by using visual fraction models and equations to represent the problem.</p>
<p align="center">Week 4 (Topic 7, Lessons 1 - 4)</p>	<p>6.RP.A.3b Solve unit rate problems including those involving unit pricing and constant speed. 6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm. 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. 6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole numbers exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p>
	<p>6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm. 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p>

<p style="text-align: center;">Week 5 (Topic 7, Lessons 5 - 7)</p>	<p>6.NS.C.7 Understand ordering and absolute value of rational numbers. 6.NS.C.7a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. 6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.</p>
<p style="text-align: center;">Week 6 (Topic 8, Lessons 1 - 3)</p>	<p>6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. 6.NS.C.6a Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself. 6.NS.C.6c Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one of both axes. 6.NS.C.7 Understand ordering and absolute value of rational numbers. 6.NS.C.7a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. 6.NS.C.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts. 6.NS.C.7c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. 6.NS.C.7d Distinguish comparisons of absolute value from statements about order.</p>
<p style="text-align: center;">Week 7 (Topic 8, Lessons 4 - 6)</p>	<p>6.NS.C.6b Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. 6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. 6.NS.C.7 Understand ordering and absolute value of rational numbers. 6.NS.C.7c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. 6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p>
	<p>6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p>

<p>Week 8 (Topic 9, Lessons 1 - 3)</p>	<p>6.NS.C.6a Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.</p> <p>6.NS.C.6c Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one of both axes.</p> <p>6.NS.C.7 Understand ordering and absolute value of rational numbers.</p> <p>6.NS.C.7a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram</p> <p>6.NS.C.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts.</p> <p>6.NS.C.7c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.</p>
<p>Week 9 (Topic 9, Lessons 4 - 6)</p>	<p>6.NS.C.6b Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p> <p>6.NS.C.6c Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one of both axes.</p> <p>6.NS.C.7 Understand ordering and absolute value of rational numbers.</p> <p>6.NS.C.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts.</p> <p>6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p>6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p>

Content Area: Mathematics

Grade Level: 6th

Quarter: 3rd

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Sixth Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Use ratio language to describe a ratio relationship between two quantities.
- Find equivalent ratios.
- Associate a unit rate with a ratio.
- Use ratio and rate reasoning to solve real-world and mathematical problems using tables of equivalent ratios
- Solve unit rate problems involving unit pricing.
- Solve unit rate problems involving constant speed.
- Use ratio reasoning to convert measurement unit.
- Use unit ratio and rate reasoning to solve real world and mathematical problem using equation.

Essential Questions:

Topic 10 - Ratios

- What math models can you use for making comparisons?
- Which models are helpful in which situations?

Topic 11 - Rates

- What math models can you use for making comparisons?
- Which models are helpful in which situations?

Topic 12 - Ratio Reasoning

- What math models can you use for making comparisons?
- Which models are helpful in which situations?

Topic 13 - Area

- How can you rearrange shapes to make other shapes?
- What would you want to?

- Use ratio and rate reasoning to solve real-world and mathematical problems plotting pairs of values on the coordinate plane.
- Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
- Use rate language in the context of a ratio relationship.
- Find a percent of a quarter on a rate per 100
- Use ratio and rate reasoning to solve problem involving percent
- Using ratio and rate reasoning to solve real-world and mathematical problems using tables of equivalent ratios.
- Evaluate expressions in which letters stand for numbers.
- Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem.
- Find the area of right triangles by composing into rectangles or decomposing into triangles or other shapes.
- Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems.
- Find the area of parallelograms by composing into rectangles or decomposing into triangles or other shapes.
- Find the area of other triangles by composing into rectangles or decomposing into triangles or other shapes.

<ul style="list-style-type: none"> Find the shapes of special quadrilaterals by composing into rectangles or decomposing into triangles or other shapes. Find the area of polygons by composing into rectangles or decomposing into triangles or other shapes. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 10, Lessons 1 - 3)</p>	<p>6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems.</p>
<p>Week 2 (Topic 10, Lessons 4 - 6)</p>	<p>6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems.</p>
<p>Week 3 (Topic 11, Lessons 1 - 3)</p>	<p>6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio $a : b$ with $b \neq 0$, and use rate language in the context of a ratio relationship 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, 6.RP.A.3b Solve unit rate problems including those involving unit pricing and constant speed.</p>
<p>Week 4 (Topic 11, Lessons 4 - 6)</p>	<p>6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, 6.RP.A.3d Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>
<p>Week 5 (Topic 12, Lessons 1 - 3)</p>	<p>6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio $a : b$ with $b \neq 0$, and use rate language in the context of a ratio relationship 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems. 6.RP.A.3a Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. 6.RP.A.3c Find a percent of a quantity as a rate per 100. 6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the</p>

	relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
Week 6 (Topic 12, Lessons 4 - 5)	6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems. 6.RP.A.3c Find a percent of a quantity as a rate per 100.
Week 7 (Topic 13, Lessons 1 - 2)	6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
Week 8 (Topic 13, Lessons 3 - 4)	6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
Week 9 (Topic 13, Lessons 5 - 6)	6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

Content Area: Mathematics

Grade Level: 6th

Quarter: 4th

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Sixth Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Identify three-dimensional figures made up of rectangles, triangles, and other polygons.
- Represent three-dimensional figures using nets made up of rectangles and triangles, and other polygons.
- Use nets made up of rectangles and triangles to find the surface area of three-dimensional figures in the context of solving real-world and mathematical problems.
- Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.
- Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths.
- Find the surface area and volume of a right rectangular prism in the context of solving real-world and mathematical problems.
- Recognize a statistical question as one that anticipates variability in the data related to

Essential Questions:

Topic 14 - Surface Area and Volume

- How big is a box?
- What does big mean?
- If you want to compare boxes, what do you compare?

Topic 15 - Data Displays

- What kinds of data displays show how things vary?
- What kinds of data displays hide how things vary?
- When would you use each kind?

Topic 16 - Measures of Center and Variation

- What can you do with data to make it more useful?
- How does what you are looking for determine how data is best used and represented?

<p>the question and accounts for it in the answers.</p> <ul style="list-style-type: none"> • Summarize numerical data sets in relation to their context, such as by describing the nature of the attribute under investigation. • Display numerical data in plots on a number line, including dot plots. • Summarize numerical data sets in relation to their context, such as by describing any overall pattern and any striking deviations from the overall pattern. • Display numerical data in plots on a number line, including histograms. • Display numerical data in plots on a number line, including box plots. • Summarize numerical data sets in relation to their context, such as by giving quantitative measures of center and variability. • Display numerical data in plots on a number line. • Recognize that a measure of center for a numerical data set summarizes all of its values with a single number. • Demonstrate that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape. • Recognize that a measure of variability for a numerical data set describes how its values vary with a single number. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 14, Lessons 1 - 2)</p>	<p>6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.A.4 Represent three-dimensional figures using nets made of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p>

	<p>6.EE.A2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p>
<p>Week 2 (Topic 14, Lessons 3 - 4)</p>	<p>6.EE.A2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p> <p>6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p>
<p>Week 3 (Topic 14, Lessons 5 - 6)</p>	<p>6.EE.A2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p> <p>6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formula $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p> <p>6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p>
<p>Week 4 (Topic 15, Lessons 1 - 2)</p>	<p>6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.</p> <p>6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>6.SP.B.5b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</p> <p>6.SP.B.5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviation from the overall pattern with reference to the context in which the data were gathered.</p>

<p style="text-align: center;">Week 5 (Topic 15, Lessons 3 - 4)</p>	<p>6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>6.SP.B.5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviation from the overall pattern with reference to the context in which the data were gathered.</p> <p>6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p>
<p style="text-align: center;">Week 6 (Topic 15, Lessons 5 -6)</p>	<p>6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>6.SP.B.5a Reporting the number of observations.</p>
<p style="text-align: center;">Week 7 (Topic 16, Lessons 1 - 2)</p>	<p>6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>6.SP.B.5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviation from the overall pattern with reference to the context in which the data were gathered.</p> <p>6.SP.B.5d Summarize numerical data sets in relation to their context, such as by: Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>
<p style="text-align: center;">Week 8 (Topic 16, Lessons 3 - 4)</p>	<p>6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>6.SP.B.5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviation from the overall pattern with reference to the context in which the data were gathered.</p>

	<p>6.SP.B.5d Summarize numerical data sets in relation to their context, such as by: Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>
<p>Week 9 (Topic 16, Lessons 5 - 6)</p>	<p>6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>6.SP.B.5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviation from the overall pattern with reference to the context in which the data were gathered.</p> <p>6.SP.B.5d Summarize numerical data sets in relation to their context, such as by: Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>

Seventh Grade Priority Standards Map Mathematics

Seventh Grade Priority Standards Map Mathematics

Legend:

Content Area		Vocabulary
Grade Level and Quarter		Weekly Pacing
Primary Instructional Materials		Priority Standards

Content Area: Mathematics	
Grade Level: 7th	Quarter: 1st
<p>This standards map is developed with the following premises:</p> <ul style="list-style-type: none"> All CNMI PSS Common Core State Standards for Seventh Grade will be achieved in a school year. Enduring understandings are the big generalizations for the topic/concept. 	
<p>Primary Instructional Materials (BOE Approved):</p> <p style="text-align: center;">Digits by Pearson</p>	
<p>Enduring Understandings:</p> <ul style="list-style-type: none"> Apply and extend previous understandings of equivalent ratios. Compute unit rates associated with ratios of fractions. Decide whether two quantities are in a proportional relationship by testing for equivalent ratios in a table. Recognize and represent proportional relationships between quantities. Decide whether two quantities are in a proportional relationship by graphing on a coordinate plane and observing whether the graph is a straight line through the origin. Explain what a point (x, y) on the graph of a proportional relationship means in terms 	<p>Essential Questions:</p> <p><u>Topic 1 - Ratios and Rates</u></p> <ul style="list-style-type: none"> How do you distinguish the different kinds of rates? What kinds of real world relationships are rates? <p><u>Topic 2 - Proportional Relationships</u></p> <ul style="list-style-type: none"> How can you distinguish relationships that are proportional from relationships that are not proportional? <p><u>Topic 3 - Percents</u></p> <ul style="list-style-type: none"> When is it most convenient to use percents? <p><u>Topic 4 - Adding and Subtracting Rational Numbers</u></p> <ul style="list-style-type: none"> What are the different types of rational numbers? What kinds of problems can you solve by adding the different types of rational numbers? What kinds of problems can you solve by subtracting the different types of rational numbers?

<p>of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate</p> <ul style="list-style-type: none"> • Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams and verbal descriptions of proportional relationships. • Represent proportional relationships by equations. • Solve problems involving scale drawings of geometric figures. • Use proportional relationships to solve multistep ratio and percent problems involving taxes and gratuities (tips). • Use proportional relationships to solve multistep ratio and percent problems involving commissions and fees. • Solve real-world and mathematical problems involving the four operations with rational numbers. • Use proportional relationships to solve multistep ratio and percent problems involving simple interest. • Use proportional relationships to solve multistep ratio and percent problems involving percent increase and decrease. • Use proportional relationships to solve multistep ratio and percent problems markups and markdowns. • Apply and extend previous understandings of rational numbers, including opposites and absolute value as a distance from zero. • Describe situations in which opposite quantities combine to make 0. 	
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<ul style="list-style-type: none"> • Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers. • Use absolute value understanding to find $p + q$ as the number located a distance q from p, in the positive or negative direction depending on whether q is positive or negative. • Recognize additive inverses as pairs of numbers that have a sum of 0. • Interpret sums of rational numbers by describing real-world contexts. • Apply properties of operations as strategies to add and subtract rational numbers. • Use horizontal or vertical line diagram to represent addition and subtraction. • Solve subtraction problems involving rational numbers by adding the additive inverse, $p - q = p + (-q)$. • Find the distance between two rational numbers on the number line using the absolute value of their difference, and apply this principle in real-world contexts. • Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 1, Lessons 1- 3)</p>	<p>7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.</p>
<p>Week 2 (Topic 1, Lessons 4 - 5)</p>	<p>7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.</p>
	<p>7.RP.A.2 Recognize and represent proportional relationships between quantities.</p>

<p style="text-align: center;">Week 3 (Topic 2, Lessons 1 - 3)</p>	<p>7.RP.A.2a Decide whether two quantities are in proportional relationships. 7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. 7.RP.A.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.</p>
<p style="text-align: center;">Week 4 (Topic 2, Lessons 4 - 6)</p>	<p>7.RP.A.2 Recognize and represent proportional relationships between quantities. 7.RP.A.2a Decide whether two quantities are in proportional relationships. 7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. 7.RP.A.2c Represent proportional relationships by equations. 7.RP.A.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate. 7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.</p>
<p style="text-align: center;">Week 5 (Topic 3, Lessons 1 - 2)</p>	<p>7.RP.A.2 Recognize and represent proportional relationships between quantities. 7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. 7.RP.A.2c Represent proportional relationships by equations. 7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p>
<p style="text-align: center;">Week 6 (Topic 3, Lessons 3 - 4)</p>	<p>7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers. 7.RP.A.2 Recognize and represent proportional relationships between quantities. 7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p>
<p style="text-align: center;">Week 7 (Topic 3, Lessons 5 - 7)</p>	<p>7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. 7.NS.A.1a Describe situations in which opposite quantities combine to make 0. 7.NS.A.1 b Understand $p + q$ as the number located a distance q from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. 7.NS.A.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. 7.NS.A.1d Apply properties of operations as strategies to add and subtract rational numbers.</p>

**Week 8 to Week 9
(Topic 4, Lessons 1 - 7)**

7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

7.NS.A.1 b Understand $p + q$ as the number located a distance $|q|$ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

7.NS.A.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

7.NS.A.1d Apply properties of operations as strategies to add and subtract rational numbers.

7. EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

Content Area: Mathematics

Grade Level: 7th

Quarter: 2nd

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Seventh Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Apply and extend previous understandings of multiplication and division of fractions to multiply and divide rational numbers.
- Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy

Essential Questions:

Topic 5 - Multiplying and Dividing Rational Numbers

- What models and relationships help you make sense of multiplying and dividing positive and negative rational numbers?

Topic 6 - Decimals and Percents

- Fractions, decimals, and percents – when is it most helpful to use which representation?

the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers.

- Apply properties of operations as strategies to multiply and divide rational numbers.
- Interpret products of rational numbers by describing real-world contexts.
- Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number.
- Interpret quotients of rational numbers by describing real-world contexts.
- Solve real-world and mathematical problems involving the four operations with rational numbers.
- Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically.
- Convert a rational number to a decimal using long division.
- Recognize that the decimal form of a rational number terminates in 0s or eventually repeats.
- Apply and extend previous understandings of fractions, decimals, and percents to use them interchangeably to solve real-world and mathematical problems.
- Use proportional relationships to solve multistep ratio and percent problems involving percent error.
- Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- Understand that rewriting an expression in different forms in a problem context can

Topic 7 - Equivalent Expressions

- How does rewriting an expression help you think about a situation in a new way?

Topic 8 - Equations

- When is it useful to model a relationship with an equation?
- How does rewriting an equation help you think about the relationship in a new way?

Topic 9 - Inequalities

- How can you represent relationships in a world where equations don't always work?

<p>shed light on the problem and how the quantities in it are related.</p> <ul style="list-style-type: none"> • Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations to solve problems by reasoning about the quantities. • Solve word problems leading to equations of the form $px + q = r$, where p, q, and r are specific rational numbers. Solve equations of this form fluently. • Graph the solution set of the inequality and interpret it in the context of the problem. • Use variables to represent quantities in a real-world or mathematical problem, and construct simple inequalities to solve problems by reasoning about the quantities. • Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. • Use variables to represent quantities in a real-world or mathematical problem, and construct simple inequalities to solve problems by reasoning about the quantities. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 5, Lessons 1 - 4)</p>	<p>7. NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.</p> <p>7. NS.A.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.</p> <p>7. NS. A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $\frac{p}{q} = \frac{(-p)}{q} = \frac{p}{(-q)}$. Interpret quotients of rational numbers by describing real-world context.</p>

	<p>7.NS.A.2c Apply properties of operations as strategies to multiply and divide rational numbers.</p>
<p>Week 2 (Topic 5, Lessons 5 - 6)</p>	<p>7. NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.</p> <p>7.NS.A.2c Apply properties of operations as strategies to multiply and divide rational numbers</p> <p>7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p> <p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p>
<p>Week 3 (Topic 6, Lessons 1 - 4)</p>	<p>7. NS. A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $\frac{p}{q} = \frac{(-p)}{q} = \frac{p}{(-q)}$. Interpret quotients of rational numbers by describing real-world contexts.</p> <p>7.NS.A.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</p> <p>7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p>
<p>Week 4 (Topic 6, Lessons 5 - 7)</p>	<p>7. NS. A.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $\frac{p}{q} = \frac{(-p)}{q} = \frac{p}{(-q)}$. Interpret quotients of rational numbers by describing real-world contexts.</p> <p>7.NS.A.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</p> <p>7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p>
<p>Week 5 (Topic 7, Lessons 1 - 5)</p>	<p>7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.</p>
<p>Week 6 (Topic 8, Lessons 1 - 3)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p>

	<p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.EE.B.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p>
<p>Week 7 (Topic 8, Lessons 4 - 5)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.EE.B.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p>
<p>Week 8 (Topic 9, Lessons 1 - 3)</p>	<p>7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.</p> <p>7.EE.B.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.</p>
<p>Week 9 (Topic 9, Lessons 4 - 5)</p>	<p>7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.EE.B.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.</p>

Content Area: Mathematics

Grade Level: 7th

Quarter: 3rd

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Seventh Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Name parts of a geometric figure using appropriate letters and symbols.
- Measure parts of geometric figures using the appropriate tools and units of measure.
- Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations to solve problems by reasoning about the quantities.
- Use facts about adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
- Use facts about complementary angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
- Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions.
- Use facts about supplementary angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
- Use facts about vertical angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
- Apply and extend previous understandings of circles.
- Solve problems using the formula for the circumference of a circle.
- Solve problems using the formula for the area of a circle.

Essential Questions:

Topic 10- Angles

- How can you best describe relationships between these angles?
- Are some relationships more useful than others in certain situations?

Topic 11- Circles

- What makes a circle a circle?
- What does it mean to talk about the size of a circle?

Topic 12 - 2- and 3- Dimensional Shapes

- How much information do you need to be able to draw a unique figure?

Topic 13 - Surface Area and Volume

- In what ways can you measure a three-dimensional figure?
- Are some measurements more useful in certain situations than others?

<ul style="list-style-type: none"> • Give an informal derivation of the relationship between the circumference and area of a circle. • Construct triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. • Describe the two-dimensional figures that result from slicing three-dimensional figures, as a plane sections of right rectangular prisms and right rectangular pyramids. • Solve real-world and mathematical problems involving area of two-dimensional objects and surface area of three-dimensional objects composed of triangles, quadrilaterals, and polygons. • Describe the two-dimensional figures that result from slicing three-dimensional composite figures built from prisms and pyramids. • Solve real-world problems involving surface area and volume of a three-dimensional object composed of right prisms. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 10, Lessons 1 - 3)</p>	<p>7.EE.B.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p> <p>7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</p>
	<p>7.EE.B.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an</p>

<p style="text-align: center;">Week 2 (Topic 10, Lessons 4 - 6)</p>	<p>algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p> <p>7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</p>
<p style="text-align: center;">Week 3 (Topic 11, Lessons 1 - 3)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.EE.B.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p> <p>7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>7.G.B.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.</p>
<p style="text-align: center;">Week 4 (Topic 11, Lessons 4 - 5)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.G.B.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.</p>

<p>Week 5 (Topic 12, Lessons 1 - 3)</p>	<p>7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p>
<p>Week 6 (Topic 12, Lessons 4 - 6)</p>	<p>7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.</p> <p>7.G.B.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p>
<p>Week 7 (Topic 13, Lessons 1 - 2)</p>	<p>7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p> <p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.G.B.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p>
<p>Week 8 to Week 9 (Topic 13, Lesson 3 - 5)</p>	<p>7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p> <p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>7.G.B.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p>

Content Area: Mathematics

Grade Level: 7th

Quarter: 4th

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Seventh Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Understand that statistics can be used to gain information about a population by examining a sample of the population.
- Understand the generalizations about a population from a sample are valid only if the sample is representative of that population.
- Use data from a random sample to draw inferences about a population with an unknown characteristics of interest.
- Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.
- Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.
- Understand that statistics can be used to gain information about a population by examining a sample of the population.
- Use measures of center and measures of variability for numerical data from random samples.
- Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
- Differentiate between single and multiple populations.

Essential Questions:

Topic 14 - Sampling

- How can you make conclusions about the entire group without checking every member of the group?

Topic 15 - Comparing Two Populations

- How can you draw conclusions about the groups without checking every member of each group?

Topic 16 - Probability Concepts

- How do you measure the probability of an event?
- Can you use probability to predict future events?
- How confident can you be in your predictions?

Topic 17 - Compound Events

- How do you measure the probability of more than one event?
- Can you use probability to predict future events?
- How confident can you be in your predictions?

- Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.
- Identify the probability of a chance event using a number between 0 and 1 to express the likelihood of the event occurring.
- Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.
- Develop a probability model and use it to find probabilities of events.
- Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
- Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.
- Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.
- Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams.
- Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
- Identify the outcomes in a sample space that compose a compound event described in everyday language.
- Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
- Design and use a simulation to generate frequencies for compound events.

Pacing Map (by weeks):	Standards and Benchmarks: (BOE Approved):
<p>Week 1 (Topic 14, Lessons 1 - 3)</p>	<p>7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.</p> <p>7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.</p> <p>7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships</p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p> <p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p>
<p>Week 2 (Topic 14, Lessons 4 - 7)</p>	<p>7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships</p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p> <p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.</p> <p>7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.</p>
<p>Week 3 (Topic 15, Lessons 1 - 3)</p>	<p>7.SP.A.1 Understand that statistics can be used to gain information about a population by</p>

	<p>examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.</p> <p>7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.</p> <p>7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.</p>
<p>Week 4 (Topic 15, Lessons 4 - 6)</p>	<p>7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.</p> <p>7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.</p>
<p>Week 5 (Topic 16, Lessons 1 - 3)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p> <p>7.SP.C.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.</p> <p>7.SP.C.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.</p>
<p>Week 6 (Topic 16, Lessons 4 - 6)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p>

	<p>7.SP.C.7a Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.</p> <p>7.SP.C.7b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.</p>
<p>Week 7 (Topic 17, Lessons 1 - 2)</p>	<p>7.SP.C.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p> <p>7.SP.C.8b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language, identify the outcomes in the sample space which compose the event.</p> <p>7.SP.C.8c Design and use a simulation to generate frequencies for compound events.</p>
<p>Week 8 (Topic 17, Lessons 3 - 4)</p>	<p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.</p> <p>7.SP.C.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.</p> <p>7.SP.C.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p> <p>7.SP.C.8a Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.</p> <p>7.SP.C.8c Design and use a simulation to generate frequencies for compound events.</p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p>
<p>Week 9 (Topic 17, Lessons 5 - 7)</p>	<p>7.SP.C.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.</p> <p>7.SP.C.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p> <p>7.SP.C.8a Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.</p> <p>7.SP.C.8c Design and use a simulation to generate frequencies for compound events.</p> <p>7.SP.C.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.</p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</p> <p>7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically.</p>

	Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
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Eighth Grade Priority Standards Map Mathematics

Eighth Grade Priority Standards Map Mathematics

Legend:

Content Area		Vocabulary
Grade Level and Quarter		Weekly Pacing
Primary Instructional Materials		Priority Standards

Content Area: Mathematics	
Grade Level: 8th	Quarter: 1st
<p>This standards map is developed with the following premises:</p> <ul style="list-style-type: none"> All CNMI PSS Common Core State Standards for Eighth Grade will be achieved in a school year. Enduring understandings are the big generalizations for the topic/concept. 	
<p>Primary Instructional Materials (BOE Approved):</p> <p>Digits by Pearson</p>	
<p>Enduring Understandings:</p> <ul style="list-style-type: none"> Express rational numbers using decimal expansions that eventually repeat Apply and extend understanding of rational numbers and decimal expansions to describe the characteristics of irrational numbers Estimate the value of an irrational number Use rational approximations of irrational numbers to compare the size of irrational numbers and locate them approximately on number line diagram Solve linear equations in one variable Solve two step linear equations with rational number coefficients Solve linear equations with rational number coefficients including equations 	<p>Essential Questions:</p> <p><u>Topic 1 - Rational and Irrational Numbers</u></p> <ul style="list-style-type: none"> What other types of numbers are there? Why do you need them? What does being able to express numbers in equivalent forms allow you to do? How do you estimate an irrational number? Why might you need to be able to estimate an irrational number? <p><u>Topic 2 - Linear Equations in One Variable</u></p> <ul style="list-style-type: none"> Why do you write equations? What kind of problems need two operations? Why do some equations have the same variable on both sides? How can you model a problem with an equation that uses the Distributive Property? What does it mean if an equation is simplified to $0=0$? Do all problems have exactly one solution? <p><u>Topic 3 - Integer Exponents</u></p> <ul style="list-style-type: none"> How can you make such measurements easy to use and compare?

<p>whose solutions require collecting like terms</p> <ul style="list-style-type: none"> • Solve linear equations with rational number coefficients including equations whose solutions require expanding expressions using the distributive property and collecting terms • Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property • Transform linear equations in one variable into simpler forms until an equivalent equation with one solution ($x = a$), infinitely many solutions ($a = a$), or no solution ($a = b$) results • Use square root and cube root symbols to represent solutions to equations of the form x to the power of 2 = p, and x to the power of 3 = p, where p is a positive rational number • Know that the square root of 2 is irrational • Evaluate square roots of small perfect squares • Evaluate cube roots of small perfect cubes • Describe and apply properties of exponents • Know and apply the multiplication property of exponents with the same base to generate equivalent expressions • Know and apply the division property of exponents with the same base to generate equivalent expressions 	<ul style="list-style-type: none"> • How can you apply what you know about squares and square roots to write and solve equations of the form x to the power of 2 = p? How can you use equations in that form? • How is solving an equation an equation that includes cubes similar to solving an equation that includes squares? How is it different? • How can you apply what you know about multiplying numerical expressions to multiplying algebraic expressions containing exponents? • How can you apply what you know about dividing numerical expressions to dividing algebraic expressions containing exponents? • When do you need an exponent that is equal to zero? When do you need an exponent that is negative? What makes these exponents useful? <p>Topic 4 - Scientific Notation</p> <ul style="list-style-type: none"> • Scientific measurements frequently involve very large or very small numbers. How can you make such measurements easy to use and compare?
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 1, Lessons 1 - 4)</p>	<p>8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually.</p> <p>8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is</p>

	<p><i>between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i></p> <p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the $\sqrt{2}$ is irrational.</p>
<p>Week 2 (Topic 2, Lessons 1 - 2)</p>	<p>8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). <i>For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i></p> <p>8.EE.C.7 Solve linear equations in one variable.</p> <p>8.EE.C.7a Give examples of 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).</p> <p>8.EE.C.7b Solve linear equations with rational number coefficients including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p>
<p>Week 3 (Topic 2, Lessons 3 - 4)</p>	<p>8.EE.C.7 Solve linear equations in one variable.</p> <p>8.EE.C.7a Give examples of 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).</p> <p>8.EE.C.7b Solve linear equations with rational number coefficients including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p>
<p>Week 4 (Topic 3, Lessons 1 - 2)</p>	<p>8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.</p> <p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>
<p>Week 5 (Topic 3, Lessons 3 - 4)</p>	<p>8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.</p>

	<p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>
<p>Week 6 (Topic 3, Lessons 5 - 6)</p>	<p>8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.</p> <p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>
<p>Week 7 (Topic 4, Lessons 1 - 2)</p>	<p>8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.</p> <p>8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology.</p>
<p>Week 8 to Week 9 (Topic 4, Lessons 3 - 4)</p>	<p>8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.</p> <p>8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology.</p>

Content Area: Mathematics	
Grade Level: 8th	Quarter: 2nd
<p>This standards map is developed with the following premises:</p> <ul style="list-style-type: none"> ● All CNMI PSS Common Core State Standards for Eighth Grade will be achieved in a school year. ● Enduring understandings are the big generalizations for the topic/concept. ● Common Core Mathematics skill benchmark can be taught continuously throughout the year. 	

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

Big Idea(s) / Major Understanding(s): Students will...

- Graph proportional relationships, interpreting the unit rate as the slope of the graph.
- Define the equation $y = mx$ for a line through the origin.
- Compare two different proportional relationships represented in different ways.
- Define the equation $y = mx + b$ for a line intercepting the vertical axis at b .
- Apply and extend understanding of linear equations in two variables to define a system of two linear equations in two variables.
- Solve real-world and mathematical problems leading to two linear equations in two variables.
- Analyze and solve pairs of simultaneous linear equations.
- Solve simple cases of systems of two linear equations in two variables by inspection.
- Solve systems of two linear equations in two variables by graphing the two equations in the same rectangular coordinate plane and naming the coordinates of the point of intersection of the two lines.

Essential Questions:

Topic 5 - Proportional Relationships, Lines, and Linear Equations

- How can you recognize a proportional relationship?
- How are proportional relationships and linear equations related?
- Do all linear equations model proportional relationships?

Topic 6 - Systems of Two Linear Equations

- Real-world problems often involve multiple equations, sometimes containing two, three, or more variables. What methods can you use to solve pairs of simultaneous linear equations in two variables?
- How do you know when to use each method?

Topic 7 - Defining and Comparing Functions

- What is a function?
- What are functions good for?

Topic 8 - Linear Functions

- How do you know a linear function when you see one?

- Estimate solutions systems of two linear equations in two variables by graphing the equations.
- Solve systems of two linear equations in two variables algebraically using substitution.
- Define a function as a rule that assigns to each input exactly one output.
- Define a function as a table of values that assigns to each input exactly one output.
- Represent the same function as a set of ordered pairs, a table of values, a graph, and a rule.
- Classify a linear function as a rule defined by an equation of the form $y = mx + b$, whose graph is a straight line.
- Recognize functions that are not linear given a rule, a set of ordered pairs, a graph, or a table.
- Describe qualitatively the functional relationship between two quantities by analyzing a graph.
- Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
- Determine the rate of change and initial value of a linear function from a description of a relationship or from two (x, y) values, including reading these from a table or a graph.
- Compare the properties of two functions when each is represented in a different way
- Construct a function to model a linear relationship between two quantities.
- 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.	
Pacing Map (by weeks):	Standards and Benchmarks: (BOE Approved):
Week 1 (Topic 5, Lessons 1 - 3)	<p>8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.</p> <p>8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p>
Week 2 (Topic 5, Lessons 4 - 6)	<p>8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.</p> <p>8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p>
Week 3 (Topic 6, Lessons 1 - 2)	<p>8.EE.C.7a Give examples of 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).</p> <p>8.EE.C.7b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p>8.EE.C.8 Analyze and solve pairs of simultaneous linear equations.</p> <p>8.EE.C.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</p> <p>8.EE.C.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.</p> <p>8.EE.C.8c Solve real-world and mathematical problems leading to two linear equations in two variables.</p>
Week 4 to Week 5 (Topic 6, Lessons 3 - 6)	<p>8.EE.C.7a Give examples of 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).</p> <p>8.EE.C.7b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p>8.EE.C.8 Analyze and solve pairs of simultaneous linear equations.</p>

	<p>8.EE.C.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</p> <p>8.EE.C.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.</p> <p>8.EE.C.8c Solve real-world and mathematical problems leading to two linear equations in two variables.</p>
<p>Week 6 (Topic 7, Lessons 1 - 3)</p>	<p>8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.</p> <p>8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>8.F.A.3 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.</p> <p>8.EE.C.8c Solve real-world and mathematical problems leading to two linear equations in two variables.</p>
<p>Week 7 (Topic 7, Lessons 4 - 6)</p>	<p>8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.</p> <p>8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>8.F.A.3 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.</p> <p>8.F.B.4 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.</p> <p>8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p>
<p>Week 8 to Week 9 (Topic 8, Lesson 1 - 5)</p>	<p>8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>8.F.B.4 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.</p>

8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Content Area: Mathematics

Grade Level: 8th

Quarter: 3rd

This standards map is developed with the following premises:

- All CNMI PSS Common Core State Standards for Eighth Grade will be achieved in a school year.
- Enduring understandings are the big generalizations for the topic/concept.

Primary Instructional Materials (BOE Approved):

Digits by Pearson

Enduring Understandings:

- Be able to experimentally verify properties of rotations by exploring the properties of translations, reflections, rotations.
- Use coordinates to identify dilations, translations, rotations, and reflections, as well as describe its effects on two-dimensional figures.
- Determine whether two figures are congruent or similar by deciding if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
- Given similar figures, describe a sequence of rotations, reflections, translations, and dilations that exhibits the similarity between them.
- Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.

Essential Questions:

Topic 9 - Congruence

- What does it mean for two figures to be identical?
- How can you be sure that they are identical?

Topic 10 - Similarity

- Artists and architects sometimes represent real-life objects on a smaller or larger scale. Why might you want to represent an object on a smaller or larger scale? How can you be sure that you scale an object correctly?

Topic 11 - Reasoning in Geometry

- How do geometric properties and logical reasoning allow you to form arguments and make conclusions about relationships in geometry?

Topic 12 - Using the Pythagorean Theorem

- Deductive reasoning is a process of reasoning logically from given facts to a conclusion. If you do not have measuring tools, how can you deduce what the side lengths are of a right triangle? How can you deduce that a triangle is right?

<ul style="list-style-type: none"> • Use facts about the angles created when parallel lines are cut by a transversal to solve problems, and about the angles when lines are cut by a transversal to decide whether they are parallel lines. • Use facts about the angle sum of triangles to solve problems, and use facts about the angle-angle criterion for similarity of triangles to solve problems. • Explore the basic principles of a mathematical proof, including the Pythagorean Theorem and its converse. • Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions, and to find the distance between two points in a coordinate system. • Apply the Converse of the Pythagorean Theorem to determine if a triangle is a right triangle. 	
<p align="center">Pacing Map (by weeks):</p>	<p align="center">Standards and Benchmarks: (BOE Approved):</p>
<p align="center">Week 1 (Topic 9, Lessons 1 - 2)</p>	<p>8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations. 8.G.A.1a Verify experimentally the properties of rotations, reflections, and translations Lines are taken to lines, and line segments to line segments of the same length. 8.G.A.1b Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure. 8.G.A.1c Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines. 8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. 8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.</p>
<p align="center">Week 2</p>	<p>8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations. 8.G.A.1a Verify experimentally the properties of rotations, reflections, and translations Lines are taken to lines, and line segments to line segments of the same length. 8.G.A.1b Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.</p>

<p>(Topic 9, Lessons 3 - 4)</p>	<p>8.G.A.1c Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines.</p> <p>8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.</p> <p>8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.</p>
<p>Week 3 (Topic 10, Lesson 1)</p>	<p>8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.</p>
<p>Week 4 (Topic 10, Lessons 2 - 3)</p>	<p>8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p>
<p>Week 5 (Topic 11, Lessons 1 - 3)</p>	<p>8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.</p>
<p>Week 6 (Topic 11, Lessons 4 - 5)</p>	<p>8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.</p>
<p>Week 7 (Topic 12, Lessons 1 - 2)</p>	<p>8.G.B.6 Explain a proof of the Pythagorean Theorem and its converse.</p> <p>8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</p>
<p>Week 8 (Topic 12, Lessons 3 -4)</p>	<p>8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</p> <p>8.G.B.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.</p>

Week 9 (Topic 12, Lesson 5)	8.G.B.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
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Content Area: Mathematics	
Grade Level: 8th	Quarter: 4th
<p>This standards map is developed with the following premises:</p> <ul style="list-style-type: none"> All CNMI PSS Common Core State Standards for Eighth Grade will be achieved in a school year. Enduring understandings are the big generalizations for the topic/concept. 	
<p>Primary Instructional Materials (BOE Approved):</p> <p style="text-align: center;">Digits by Pearson</p>	
<p>Enduring Understandings:</p> <ul style="list-style-type: none"> Apply and extend understanding of three-dimensional figures to define the properties of cones, cylinders, and spheres. Use the formulas for the surface areas of cylinders, cones, and spheres to solve real-world and mathematical problems. Interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns in scatter plots such as clustering, outliers, positive or negative association, linear association, and nonlinear association. For scatter plots that suggest a linear association, informally fit a straight line, 	<p>Essential Questions:</p> <p><u>Topic 13 - Surface Area and Volume</u></p> <ul style="list-style-type: none"> How are a spaghetti box, the Great Pyramid, a water pipe, a sugar cone, and a soccer ball related? What math models can you use to represent these objects? How can math models help you measure and talk about the size of these objects? <p><u>Topic 14- Scatter Plots</u></p> <ul style="list-style-type: none"> Real-world data is messy. How can you make sense of it? <p><u>Topic 15 - Analyzing Categorical Data</u></p> <ul style="list-style-type: none"> Sometimes people look at the same data and reach different conclusions. How is it possible to use the same data to support two different conclusions? When is one conclusion about data better than another one?

<p>and informally assess the model fit by judging the closeness of the data points to the line.</p> <ul style="list-style-type: none"> • Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. • Apply and extend understanding of data to define the characteristics of bivariate categorical data. • Construct 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 association between the two variables. • 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 association between the two variables. 	
<p>Pacing Map (by weeks):</p>	<p>Standards and Benchmarks: (BOE Approved):</p>
<p>Week 1 (Topic 13, Lessons 1 - 2)</p>	<p>8.G.C.9 Know the formula for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</p> <p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form x to the power of $2 = p$ and x to the power of $3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>
<p>Week 2 (Topic 13, Lessons 3 - 4)</p>	<p>8.G.C.9 Know the formula for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</p> <p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form x to the power of $2 = p$ and x to the power of $3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>

Week 3 (Topic 13, Lessons 5 - 6)	<p>8.G.C.9 Know the formula for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</p> <p>8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>
Week 4 (Topic 14, Lessons 1 - 2)	8.SPA.1 Construct and Interpret scatter plot for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering outliers, positive or negative association, and linear association, and nonlinear association.
Week 5 (Topic 14, Lessons 3 - 4)	8.SPA.1 Construct and Interpret scatter plot for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering outliers, positive or negative association, and linear association, and nonlinear association.
Week 6 (Topic 14, Lessons 5 - 6)	<p>8.F.B.4 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.</p> <p>8.SPA.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.</p> <p>8.SPA.3 Use the equation of a linear model to solve problems in the content of bivariate measurement data, interpreting the slope and intercept.</p>
Week 7 (Topic 15, Lessons 1 - 2)	<p>8.SPA.4 Understand the patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in 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 association between the two variables.</p> <p>8.F.B.4 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.</p>
Week 8 (Topic 15, Lessons 3 - 4)	
Week 9 (Topic 15, Lessons 5 - 6)	