

7th Compacted Grade MCCRS Curriculum Map**First Nine Weeks****Unit 2: Ratios and Proportional Relationships**

- Module 1: Analyze proportional relationships and use them to solve real-world and mathematical problems
 - 7.RP.1
 - 7.RP.2
 - 7.RP.2a
 - 7.RP.2b
 - 7.RP.2c
 - 7.RP.2d
 - 7.RP.3

Unit 3: Expressions and Equations

- Module 1: Use properties of operations to generate equivalent expressions
 - 7.EE.1
 - 7.EE.2
- Module 3: Work with radicals and integer exponents
 - 8.EE.1
 - 8.EE.2

Unit 1: The Number System

- Module 1: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers
 - 7.NS.1
 - 7.NS.1a
 - 7.NS.1b
 - 7.NS.1c
 - 7.NS.1d
 - 7.NS.2
 - 7.NS.2a
 - 7.NS.2b
 - 7.NS.2c
 - 7.NS.2d

7th Compacted Grade MCCRS Curriculum Map

- Module 2: Know that there are numbers that are not rational, and approximate them by rational numbers
 - 8.NS.1
 - 8.NS.2
 -

Unit 3: Expressions and Equations

- Module 2: Solve real-life and mathematical problems using numerical and algebraic expressions and equations
 - 7.EE.3
 - 7.EE.4
 - 7.EE.4a
 - 7.EE.4b

Second Nine Weeks

Unit 3: Expressions and Equations

- Module 2: Solve real-life and mathematical problems using numerical and algebraic expressions and equations
 - 8.EE.3
 - 8.EE.4
- Module 4: Understand the connections between proportional relationships, lines, and linear equations
 - 8.EE.5
 - 8.EE.6
- Module 5: Analyze and solve linear equations and pairs of simultaneous linear equations
 - 8.EE.7
 - 8.EE.7a
 - 8.EE.7b

Unit 4: Geometry

- Module 1: Draw, construct, and describe geometrical figures and describe the relationships between them.
 - 7.G.1
 - 7.G.2
 - 7.G.3
- Module 2: Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
 - 7.G.4
 - 7.G.5

7th Compacted Grade MCCRS Curriculum Map

- 7.G.6

Unit 4: Geometry (continued)

- Module 3: Understand congruence and similarity using physical models, transparencies, or geometry software
 - 8.G.1
 - 8.G.1a
 - 8.G.1b
 - 8.G.1c
 - 8.G.2
 - 8.G.3
 - 8.G.4

Third Nine Weeks**Unit 4: Geometry (continued)**

- Module 3: Understand congruence and similarity using physical models, transparencies, or geometry software
 - 8.G.5
 - 8.G.6
- Module 4: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres
 - 8.G.9

Unit 5: Statistics and Probability

- Module 1: Use random sampling to draw inferences about a population
 - 7.SP.1
 - 7.SP.2
- Module 2: Draw informal comparative inferences about two populations
 - 7.SP.3
 - 7.SP.4
- Module 3: Investigate chance processes and develop, use, and evaluate probability models
 - 7.SP.5
 - 7.SP.6
 - 7.SP.7
 - 7.SP.7a

7th Compacted Grade MCCRS Curriculum Map

- 7.SP.7b
- 7.SP.8
 - 7.SP.8a
 - 7.SP.8b
 - 7.SP.8c

7th Compacted Grade MCCRS Curriculum Map**First Nine Weeks****Unit 2: Ratios and Proportionality**

Module 1: Analyze proportional relationships and use them to solve real-world and mathematical problems.	
Standards	Mathematical Practices
7.RP.1 <ul style="list-style-type: none"> Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour. 	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.
7.RP.2 <ul style="list-style-type: none"> Recognize and represent proportional relationships between quantities. 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
7.RP.2a <ul style="list-style-type: none"> Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically.

7th Compacted Grade MCCRS Curriculum Map

	<p>MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.RP.2b</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. 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.RP.2c</p> <ul style="list-style-type: none"> Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$. 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.RP.2d</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.RP.3</p> <ul style="list-style-type: none"> Use proportional relationships to solve multistep ratio and percent problems. <i>Examples: simple interest, tax, markups</i> 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others.</p>

7th Compacted Grade MCCRS Curriculum Map

<i>and markdowns, gratuities and commissions, fees, percent increase and decrease, and percent error.</i>	MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.	
Student Learning Target(s)	Essential Vocabulary	
<ul style="list-style-type: none"> ● Compute unit rate of quantities associated with fractions. ● Use proportional relationships to solve real world and mathematical problems involving fractions. ● Analyze a proportional relationship in relation to solving real world and mathematical problems involving fractions. ● I can compute unit rates that involve finding length and/or area. ● I can compute ratios in a proportional relationship with different units. ● Determine if two rates are equivalent ● Identify the constant of proportionality in ratio tables ● Identify the constant of proportionality from a diagram and verbal descriptions. ● Compare proportional relationships in different forms. ● Write an equation that expresses the relationship between two proportions ● Determine the best deal by comparing equations ● Compare rates by comparing equations that represent relationship among rates ● Calculate percent of a number using a proportional model ● Write and solve multi-step equations to solve ratio problems. ● Write and solve multi-step equations to solve percent problems. ● Determine when it's appropriate to use unit rate in a mathematical or real world scenario 	<ul style="list-style-type: none"> ● Unit rate ● Complex fraction ● Proportional Relationships ● Constant of Proportionality ● Markup ● Simple Interest ● Tax ● Gratuity ● Commission 	
Supplemental Resources		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving

7th Compacted Grade MCCRS Curriculum Map

7.RP.1 7.RP.2a 7.RP.2b 7.RP.2c 7.RP.2d 7.RP.3	Lesson 9, 10, 11, 12, 13, 22	Lesson 9, 10, 11, 12, 13 22
--	------------------------------	-----------------------------

Unit X: Expressions and Equations

Module 1: Use properties of operations to generate equivalent expressions.	
Standards	Mathematical Practices
7.EE.1 <ul style="list-style-type: none"> Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.
7.EE.2 <ul style="list-style-type: none"> 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. For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.” 	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Solve word problems by writing and solving linear equations. 	<ul style="list-style-type: none"> Equivalent expressions

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> ● Compare arithmetic solutions to algebraic solutions ● Identify the sequence of operations used in an approach and indicate when an error occurs ● Understand how quantities relate in a problem solving context ● Describe the relationship between equivalent quantities ● Add linear expressions by combining like terms ● Subtract linear expressions ● Expand linear expressions using the distributive property (whole numbers, integers) ● Expand linear expressions using the distributive property with rational coefficients ● Factor linear expressions ● Solve multi-step linear equations 	
--	--

Supplemental Resources		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.EE.1 7.EE2	Lessons 14, 15	Lessons 14, 15

Module 3: Expressions and equations work with radical and integers exponents	
Standards	Mathematical Practices
8. EE.A.1 <ul style="list-style-type: none"> ● Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure.

7th Compacted Grade MCCRS Curriculum Map

<p>8.EE.A.2</p> <ul style="list-style-type: none"> 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>8.MP.8. Look for and express regularity in repeated reasoning.</p> <p>8.MP.1. Make sense of problems and persevere in solving them.</p> <p>8.MP.2. Reason abstractly and quantitatively.</p> <p>8.MP.3. Construct viable arguments and critique the reasoning of others.</p> <p>8.MP.4. Model with mathematics.</p> <p>8.MP.5. Use appropriate tools strategically.</p> <p>8.MP.6. Attend to precision.</p> <p>8.MP.7. Look for and make use of structure.</p> <p>8.MP.8. Look for and express regularity in repeated reasoning.</p>
---	---

Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Determine if two or more expressions are equivalent. Identify the properties of exponents. Apply the properties of exponents. Simplify expressions using the properties of exponents. <ul style="list-style-type: none"> One rule of exponents ($a^1 = a$) Zero rule of exponents ($a^0 = 1$) Product rule of exponents ($a^x \cdot a^y = a^{x+y}$ $a^x \cdot a^y = a^{x+y}$) Quotient rule of exponents ($\frac{a^x}{a^y} = a^{x-y}$ $\frac{a^x}{a^y} = a^{x-y}$) Negative rule of exponents ($a^{-x} = \frac{1}{a^x}$ $a^{-x} = \frac{1}{a^x}$) Power rule of exponents ($(a^x)^y = a^{x \cdot y}$ $(a^x)^y = a^{x \cdot y}$) 	<ul style="list-style-type: none"> Perfect square Square root Cube root Perfect cube Scientific notation

7th Compacted Grade MCCRS Curriculum Map

- Recognize and evaluate perfect squares.
- Recognize and evaluate perfect cubes.
- Recognize that non-perfect squares are irrational numbers.
- Recognize that non-perfect cubes are irrational numbers.
- Recognize the inverse operation of squares is square rooting and use the process to solve equations.
- Recognize the inverse operation of cubes is taking the cube root and use the process to solve equations.
- Solve word problems and geometric problems such as finding the edge length of a cubical object, given the volume.

Note to teacher: Students are not asked to simplify radical expression in the 8th grade ($\sqrt{8} \sqrt{8} = 2 \sqrt{2} \sqrt{2}$).

- Perform operations with numbers expressed in scientific notation, with and without technology.
- Interpret scientific notation that has been generated by technology.

Supplement Resources Correlation

MCCRS Standard	Ready Mathematics Instruction	Ready Practice and Problem Solving
8.EE.1 8.EE.2	Lessons 1, 2	Lessons 1, 2

Unit 1: Number Systems

7th Compacted Grade MCCRS Curriculum Map

Module 1: Apply and extend previous understandings of operations with fractions.	
Standards	Mathematical Practices
<p>7.NS.1a</p> <ul style="list-style-type: none"> Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.NS.1b</p> <ul style="list-style-type: none"> 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. 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.NS.1c</p> <ul style="list-style-type: none"> 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 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>

7th Compacted Grade MCCRS Curriculum Map

<p>7.NS.1d</p> <ul style="list-style-type: none"> Apply properties of operations as strategies to add and subtract rational numbers 	<p>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.NS.2</p> <ul style="list-style-type: none"> Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers 	<p>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.NS.2a</p> <ul style="list-style-type: none"> 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>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>

7th Compacted Grade MCCRS Curriculum Map

<p>7.NS.2b</p> <ul style="list-style-type: none"> 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 $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. 	<p>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.NS.2c</p> <ul style="list-style-type: none"> Apply properties of operations as strategies to multiply and divide rational numbers. 	<p>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.NS.2d</p> <ul style="list-style-type: none"> 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>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>
<p>Student Learning Target(s)</p> <ul style="list-style-type: none"> Determine the value of opposites using a number line Understand the concept of additive inverse Use additive inverse to make 0 	<p>Essential Vocabulary</p> <ul style="list-style-type: none"> Absolute value Additive inverses Terminating decimals

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> • Determine which value combine make 0 • Create zero pairs using manipulatives • Combine opposite rational numbers on a number line • Add integers using distance on a horizontal/vertical number line • Subtract integers using distance on a horizontal/vertical number line • Use real number properties to justify steps when adding rational numbers • Use real number properties to justify steps when subtracting rational numbers • Solve simple mathematical problems involving the operations of adding/subtracting rational numbers • Solve multi-step mathematical problems involving the operations of adding/subtracting rational numbers 	<ul style="list-style-type: none"> • Repeating decimals • Approximations
---	--

Supplemental Resources		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.NS.1a 7.NS.1b 7.NS.1c 7.NS.1d 7.NS.2a 7.NS.2b 7.NS.2c 7.NS.2d	Lessons 1, 2, 3, 4, 5, 6, 7	Lessons 1, 2, 3, 4, 5, 6, 7

Module 2: Know that there are numbers that are not rational, and approximate them by rational numbers

Standards	Mathematical Practices
8.NS.A.1	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively.

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. 	8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.	
8.NS.A.2 <ul style="list-style-type: none"> 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> 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.	
Student Learning Target(s)	Essential Vocabulary	
<ul style="list-style-type: none"> Distinguish between rational and irrational numbers. Recognize that a repeating/terminating decimal is a rational number. Convert between terminating decimals or repeating decimals and fractional representations of rational numbers. Analyze and generalize patterns and structures of repeating decimals. 	<ul style="list-style-type: none"> Irrational number Real numbers 	
Supplement Resources Correlation		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
8.NS.A.1 8.NS.A.2	Lesson 3	Lesson 3

7th Compacted Grade MCCRS Curriculum Map

Module 2: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Standards	Mathematical Practices
<p>7.EE.3</p> <ul style="list-style-type: none"> 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. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i> 	<p>MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.</p>
<p>7.EE.4</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics.</p>

7th Compacted Grade MCCRS Curriculum Map

	<p>MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.EE.4a</p> <ul style="list-style-type: none"> 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. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.EE.4b</p> <ul style="list-style-type: none"> 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. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Add linear expressions by combining like terms Subtract linear expressions Expand linear expressions using the distributive property (whole numbers, integers) Expand linear expressions using the distributive property with rational coefficients Factor linear expressions Solve multi-step linear equations 	<ul style="list-style-type: none"> Equivalent expressions

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
-------	-------------------------------	------------------------------------

7th Compacted Grade MCCRS Curriculum Map

7.EE.3 7.EE.4 7.EE.4a 7.EE.4b	Lesson 8, 16, 17	Lesson 8, 16, 17
--	------------------	------------------

Second Nine Weeks

<p>8.EE.A.3</p> <ul style="list-style-type: none"> 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. <i>For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.</i> 	<p>8.MP.1. Make sense of problems and persevere in solving them.</p> <p>8.MP.2. Reason abstractly and quantitatively.</p> <p>8.MP.3. Construct viable arguments and critique the reasoning of others.</p> <p>8.MP.4. Model with mathematics.</p> <p>8.MP.5. Use appropriate tools strategically.</p> <p>8.MP.6. Attend to precision.</p> <p>8.MP.7. Look for and make use of structure.</p> <p>8.MP.8. Look for and express regularity in repeated reasoning.</p>
<p>8.EE.A.4</p> <ul style="list-style-type: none"> Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. 	<p>8.MP.1. Make sense of problems and persevere in solving them.</p> <p>8.MP.2. Reason abstractly and quantitatively.</p> <p>8.MP.3. Construct viable arguments and critique the reasoning of others.</p> <p>8.MP.4. Model with mathematics.</p> <p>8.MP.5. Use appropriate tools strategically.</p> <p>8.MP.6. Attend to precision.</p> <p>8.MP.7. Look for and make use of structure.</p> <p>8.MP.8. Look for and express regularity in repeated reasoning.</p>
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Determine if two or more expressions are equivalent. Identify the properties of exponents. Apply the properties of exponents. 	<ul style="list-style-type: none"> Perfect square Square root Cube root Perfect cube

7th Compacted Grade MCCRS Curriculum Map

- Simplify expressions using the properties of exponents.
 - One rule of exponents ($a^1 = a$)
 - Zero rule of exponents ($a^0 = 1$)
 - Product rule of exponents ($a^x \cdot a^y = a^{x+y}$
 $a^x \cdot a^y = a^{x+y}$)
 - Quotient rule of exponents ($\frac{a^x}{a^y} = a^{x-y}$
 $\frac{a^x}{a^y} = a^{x-y}$)
 - Negative rule of exponents ($a^{-x} = \frac{1}{a^x}$
 $a^{-x} = \frac{1}{a^x}$)
 - Power rule of exponents ($(a^x)^y = a^{x \cdot y}$
 $(a^x)^y = a^{x \cdot y}$)
 - Recognize and evaluate perfect squares.
 - Recognize and evaluate perfect cubes.
 - Recognize that non-perfect squares are irrational numbers.
 - Recognize that non-perfect cubes are irrational numbers.
 - Recognize the inverse operation of squares is square rooting and use the process to solve equations.
 - Recognize the inverse operation of cubes is taking the cube root and use the process to solve equations.
 - Solve word problems and geometric problems such as finding the edge length of a cubical object, given the volume.

- Scientific notation

7th Compacted Grade MCCRS Curriculum Map

<p>Note to teacher: Students are not asked to simplify radical expression in the 8th grade ($\sqrt{8} \sqrt{8} = 2 \sqrt{2} \sqrt{2}$).</p> <ul style="list-style-type: none"> • Perform operations with numbers expressed in scientific notation, with and without technology. • Interpret scientific notation that has been generated by technology. 		
Supplement Resources Correlation		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
8.EE.A.1 8.EE.A.2 8.EE.A.3 8.EE.A.4	Lessons 1, 2, 4, 5	Lessons 1, 2, 4, 5

Module 4: Understand the connections between proportional relationships, lines, and linear equations

Standards	Mathematical Practices
<p>8.EE.B.5</p> <ul style="list-style-type: none"> • Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed. 	<p>8.MP.1. Make sense of problems and persevere in solving them.</p> <p>8.MP.2. Reason abstractly and quantitatively.</p> <p>8.MP.3. Construct viable arguments and critique the reasoning of others.</p> <p>8.MP.4. Model with mathematics.</p> <p>8.MP.5. Use appropriate tools strategically.</p> <p>8.MP.6. Attend to precision.</p> <p>8.MP.7. Look for and make use of structure.</p> <p>8.MP.8. Look for and express regularity in repeated reasoning.</p>

7th Compacted Grade MCCRS Curriculum Map

<p>8.EE.B.6</p> <ul style="list-style-type: none"> 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>8.MP.1. Make sense of problems and persevere in solving them.</p> <p>8.MP.2. Reason abstractly and quantitatively.</p> <p>8.MP.3. Construct viable arguments and critique the reasoning of others.</p> <p>8.MP.4. Model with mathematics.</p> <p>8.MP.5. Use appropriate tools strategically.</p> <p>8.MP.6. Attend to precision.</p> <p>8.MP.7. Look for and make use of structure.</p> <p>8.MP.8. Look for and express regularity in repeated reasoning.</p>
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Graph linear relationships in slope intercept form ($y = mx + b$). Graph proportional relationships in the form of $y = mx + b$. Interpret unit rate as slope of the graph of a proportional relationship. Compare two different proportional relationships (slope and y-intercepts) in different ways (i.e. graphically, algebraically, graphically, numerically in tables, or by verbal description). Interpret $y = mx + b$ as defining a linear function. Recognize that equations can be written in other form instead of $y = mx + b$. Compute the outputs from given inputs or compute inputs from given outputs. Determine the y-intercept of a function. Identify equations that do or do not define one variable as a linear function of the other Identify characteristics of similar triangles. Analyze patterns for points on a line through the origin. 	<ul style="list-style-type: none"> Similar triangle Slope Y-intercept Proportional relationship Unit rate Constant of proportionality

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> Analyze patterns for points on a line that do not pass through or include the origin. Derive an equation of the form $y = mx$ for a line through the origin. Derive an equation of the form $y = mx + b$ for a line intercepting the vertical axis at b (the y-intercept). Determine the y-intercept of a line. Find the slope of a line. Use similar triangles to explain why the slope m is the same between any two 		
Supplement Resources Correlation		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
8.EE.B.5 8.EE.B.6	Lessons 11, 12	Lessons 11, 12

Module 5 –Analyze and solve linear equations and pairs of simultaneous linear equations

Standards	Mathematical Practices
8.EE.C.7 <ul style="list-style-type: none"> Solve linear equations in one variable. 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure.

7th Compacted Grade MCCRS Curriculum Map

	8.MP.8. Look for and express regularity in repeated reasoning.
8.EE.C.7a <ul style="list-style-type: none"> 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). 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.
8.EE.C.7b <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 like terms. 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Recognize and give examples of one-variable linear equations with one solution ($x = a$). Recognize and give examples of one-variable linear equations with no solutions ($a = b$, where a and b are different numbers). Recognize and give examples of one-variable linear equations with infinitely many solutions ($a = a$). Solve multi-step linear equations in one variable by combining like terms (w/ rational number coefficients). Solve one-step and two-step linear equations in one variable (w/rational number coefficients). Solve multi-step linear equations in one variable with variables on opposite sides of the equal sign (w/rational number coefficients). 	<ul style="list-style-type: none"> Similar triangle Slope Y-intercept Proportional relationship Unit rate Constant of proportionality

7th Compacted Grade MCCRS Curriculum Map

- Solve multi-step linear equations in one variable by applying the distributive property (w/rational number coefficients).
- Solve multi-step linear equations in one variable by applying the distributive property and combining like terms (w/rational number coefficients).
- Solve mathematical and real-world linear equations in one variable using the distributive property and/or combining like terms (w/rational coefficients).

Note to the teacher: Rational coefficients are important. Ensure that students work with integers in decimal and fraction form.

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
8.EE.C.7 8.EE.C.7a 8.EE.C.7b	Lessons 13, 14	Lessons 13, 14

7th Compacted Grade MCCRS Curriculum Map**Unit 4: Geometry**

Module 1: Draw, construct, and describe geometrical figures and describe the relationships between them.	
Standards	Mathematical Practices
<p>7.G.1</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.G.2</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.G.3</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>

7th Compacted Grade MCCRS Curriculum Map

Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> ● Know how to set up proportions appropriately. ● Use ratios and proportions to create scale drawing. ● Solve problems involving scale drawings of geometric figures using scale factors. ● Compute lengths and areas from scale drawings using strategies such as proportions. ● Reproduce a scale drawing that is proportional to a given geometric figure using a different scale. ● Know which conditions create unique triangles, more than one triangle, or no triangle ● Analyze given conditions, based on the three measures of angles or sides of a triangle, to determine when there is a unique triangle, more than one triangle, or no triangle. ● Construct triangles from three given angle measures to determine when there is a unique triangle, or than one triangle or no triangle. ● Construct triangles from three given side measures to determine when here is a unique triangle, more than one triangle or no triangle. ● Draws geometric figures with a precision. ● Define “slicing” as the cross-section of a 3-D figure. ● Describe the two-dimensional figures that result from slicing a three-dimensional figure such as a right rectangular prism or pyramid. ● Describe the two-dimensional figures that result from slicing a three-dimensional figure by a plane that may or may not be parallel or perpendicular to a base of face. 	<ul style="list-style-type: none"> ● Scale drawing ● Scale ● Scale factor ● Cross-section

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.G.1 7.G.2 7.G.3	Lesson 22, 19, 25	Lesson 22, 19, 25

7th Compacted Grade MCCRS Curriculum Map

Module 2: Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	
Standards	Mathematical Practices
7.G.4 <ul style="list-style-type: none"> 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. 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
7.G.5 <ul style="list-style-type: none"> 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. 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
7.G.6 <ul style="list-style-type: none"> 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. 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary

7th Compacted Grade MCCRS Curriculum Map

- | | |
|--|---|
| <ul style="list-style-type: none"> ● Recognize the parts of a circle (radius, diameter, and center). ● Informally derive the relationship between circumference and area of a circle. ● Given the circumference of a circle, find its area. ● Given the area of a circle, find its circumference. ● Apply circumference or area formulas to solve mathematical and real-world problems ● Know the parts of a circle including radius, diameter, area, circumference, center, and chord. ● Know the formulas for area and circumference of a circle. ● Solve real world and mathematical problems involving area, surface area and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. ● Determine when to use the different formulas in real-world and mathematical problems. ● Identify and recognize types of angles: supplementary, complementary, vertical, and adjacent. ● Determine complements and supplements of a given angle. ● Represent angle relationships using equations to solve for unknown angles. ● Use facts about angle relationships to determine the measure of unknown angles ● Recognize the parts of a circle (radius, diameter, and center). ● Informally derive the relationship between circumference and area of a circle. ● Given the circumference of a circle, find its area. ● Given the area of a circle, find its circumference. ● Apply circumference or area formulas to solve mathematical and real-world problems ● Know the parts of a circle including radius, diameter, area, circumference, center, and chord. | <ul style="list-style-type: none"> ● Circumference ● Center ● Diameter ● Radius ● Pi ● Complementary angles ● Supplementary angles ● Vertical angles ● Right prism |
|--|---|

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> • Know the formulas for area and circumference of a circle. • Solve real world and mathematical problems involving area, surface area and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. • Determine when to use the different formulas in real-world and mathematical problems. 	
--	--

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.G.4 7.G.5 7.G.6	Lessons 21, 18, 23, 24	Lessons 21, 18, 23, 24

7th Compacted Grade MCCRS Curriculum Map**Third Nine Weeks****Unit 4: Geometry (continued)**

Module 3: Understand congruence and similarity using physical models, transparencies, or geometry software.	
Standards	Mathematical Practices
8. G.A.1 <ul style="list-style-type: none"> ● Verify experimentally the properties of rotations, reflections, and translations. <ol style="list-style-type: none"> a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines. 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.
8.G.A.2 <ul style="list-style-type: none"> ● 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. 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.
8. G.A.3 <ul style="list-style-type: none"> ● Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. 	8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically.

7th Compacted Grade MCCRS Curriculum Map

	<p>8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.</p>
<p>8.G.A.4</p> <ul style="list-style-type: none"> 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>8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.</p>
<p>8.G.A.5</p> <ul style="list-style-type: none"> Use informal arguments to establish facts about the angle sum and the 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. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i> 	<p>8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.</p>
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Identify congruency. Reason that a 2-D figure is congruent to another if the second can be obtained by a sequence of rotations, reflections, translation. Describe the sequence of rotations, reflections, translations that exhibits the congruence between 2-D figures using words. Apply the concept of congruency to write congruent statements Define similar figures, as corresponding angles are congruent 	<ul style="list-style-type: none"> Transformation Translation Reflection Line of reflection Rotation Center of rotation Congruent Dilation Scale factor Center Traversal

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> ● Apply the concept of similarity to write similarity statements. ● Use physical models, transparencies, or geometry software to verify the properties of rotations, reflections, and translations ● Identify corresponding sides and corresponding angles. ● Identify center of rotation. ● Identify direction and degree of rotation. ● Identify line of reflection. ● Describe the effects of dilations, translations, rotations, & reflections on 2-D figures using coordinates. ● Define dilations as a reduction or enlargement of a figure. ● Identify scale factor of the dilation. 	<ul style="list-style-type: none"> ● Corresponding angles ● Alternate interior angles ● Linear pair ● Same-side interior angles ● Exterior angle
---	---

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
8.G.A.1 8.G.A.1.a 8.G.A.1b 8.G.A.1c 8.G.A.2 8.G.A.3 8.G.A.4 8.G.A.5	Lessons 18, 19, 20, 21, 22	Lessons 18, 19, 20, 21, 22

Module 4: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres

Standards	Mathematical Practices
------------------	-------------------------------

7th Compacted Grade MCCRS Curriculum Map

<p>8.G.C.9</p> <ul style="list-style-type: none"> Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. 	<p>8.MP.1. Make sense of problems and persevere in solving them. 8.MP.2. Reason abstractly and quantitatively. 8.MP.3. Construct viable arguments and critique the reasoning of others. 8.MP.4. Model with mathematics. 8.MP.5. Use appropriate tools strategically. 8.MP.6. Attend to precision. 8.MP.7. Look for and make use of structure. 8.MP.8. Look for and express regularity in repeated reasoning.</p>	
Student Learning Target(s)	Essential Vocabulary	
<ul style="list-style-type: none"> Identify and define vocabulary: cone, cylinder, sphere, radius, diameter, circumference, area, volume, pi, base, and height. Know formulas for volume of cones, cylinders, and spheres. Compare the volume of cones, cylinders, and spheres. Determine and apply appropriate volume formulas in order to solve mathematical and real-world problems for the given shape. Understand how to apply formulas to multiple composite mathematical solids. 	<ul style="list-style-type: none"> Cone Cylinder Sphere 	
Supplement Resources Correlation		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
8 G.C.9	Lessons 26, 27	Lessons 26, 27

7th Compacted Grade MCCRS Curriculum Map

Fourth Nine Weeks

Unit 5: Statistics and Probability

Module 1: Use random sampling to draw inferences about a population.	
Standards	Mathematical Practices
<p>7.SP.1</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.2</p> <ul style="list-style-type: none"> 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. <i>For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.</i> 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Know statistics terms such as population, sample, sample size, random sampling, and generalizations, valid, biased and unbiased. Recognize sampling techniques such as convenience, random, systematic, and voluntary. Apply statistics to gain information about a population from a sample of the population. 	<ul style="list-style-type: none"> Random sample Population Biased sample

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> • Generate multiple samples (or simulated samples) of the same size to determine the variation in estimates or predictions by comparing and contrasting the samples. • Analyze and interpret data from a random sample to draw inferences about a population with an unknown characteristic of interest. 	
---	--

Supplemental Resources		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.SP.1 7.SP.2	Lesson 26, 27	Lesson 26, 27

Module 2: Draw informal comparative inferences about two populations.

Standards	Mathematical Practices
7.SP.3 <ul style="list-style-type: none"> • 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. <i>For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability on either team; on a dot plot, the separation between the two distributions of heights is noticeable.</i> 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
7.SP.4 <ul style="list-style-type: none"> • Use measures of center and measures of variability (i.e. inter-quartile range) for numerical data from random samples to draw informal comparative inferences about two populations. <i>For example, decide whether the words in a chapter of a seventh-grade science book are generally</i> 	MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically.

7th Compacted Grade MCCRS Curriculum Map

<i>longer than the words in a chapter of a fourth-grade science book.</i>	MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.	
Student Learning Target(s)	Essential Vocabulary	
<ul style="list-style-type: none"> ● Identify measures of central tendency (mean, median, and mode) in a data distribution. ● Identify measures of variation including upper quartile, lower quartile, upper extreme-maximum, lower extreme-minimum, range, interquartile range, and mean absolute deviation. ● Compare two numerical data distributions on a graph by visually comparing data displays, and assessing the degree of visual overlap. ● Compare the differences in the measure of central tendency in two numerical data distributions by measuring the difference between the centers and expressing it as a multiple of a measure of variability. ● Identify measures of central tendency (mean, median, and mode) and measures of variability (range, quartile, etc.). ● Draw informal comparative inferences about two populations from random samples. 	<ul style="list-style-type: none"> ● Random variation ● Mean ● Mean absolute deviation ● Inference 	

Supplemental Resources		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.SP.3 7.SP.4	Lesson 28, 29	Lesson 28, 29

Module 3: Investigate chance processes and develop, use, and evaluate probability models.

Standards	Mathematical Practices
-----------	------------------------

7th Compacted Grade MCCRS Curriculum Map

<p>7.SP.5</p> <ul style="list-style-type: none"> 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 $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.6</p> <ul style="list-style-type: none"> 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. <i>For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.</i> 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.7</p> <ul style="list-style-type: none"> 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>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.7a</p> <ul style="list-style-type: none"> Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. <i>For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</i> 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision.</p>

7th Compacted Grade MCCRS Curriculum Map

	<p>MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.7b</p> <ul style="list-style-type: none"> Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. <i>For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?</i> 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.8</p> <ul style="list-style-type: none"> Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.8a</p> <ul style="list-style-type: none"> 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 events occurs. 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.8b</p> <ul style="list-style-type: none"> Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g. “rolling 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics.</p>

7th Compacted Grade MCCRS Curriculum Map

<p>double sixes”), identify the outcomes in the sample space, which compose the event.</p>	<p>MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
<p>7.SP.8c</p> <ul style="list-style-type: none"> Design and use a simulation to generate frequencies for compound events. <i>For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?</i> 	<p>MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.</p>
Student Learning Target(s)	Essential Vocabulary
<ul style="list-style-type: none"> Draw conclusions to determine that a greater likelihood occurs as the number of favorable outcomes approaches the total number of outcomes. Determine if an event is likely, unlikely, or neither likely Know that probability is expressed as a number between 0 and 1 Know that a random event with a probability of $\frac{1}{2}$ is equally likely to happen. Know that as probability moves closer to 1 it is increasingly likely to happen. Know that as probability moves closer to 0 it is decreasingly likely to happen. or unlikely to occur. Approximate the relative frequency (experimental probability) of an event based on its theoretical probability. Find the probability for compound events using organized lists, tables, and tree diagrams. 	<ul style="list-style-type: none"> Probability Event Outcome Certain Impossible Trial Outcome Experimental probability Theoretical probability Sample space Uniform probability model Compound events Tree diagram

7th Compacted Grade MCCRS Curriculum Map

<ul style="list-style-type: none"> ● Generate sample space to determine the probability of simple events or compound events. ● Use models to determine the probability of events ● Develop a uniform probability model and use it to determine the probability of each outcome/event ● Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. ● Analyze a probability model and justify why it is uniform or explain the discrepancy if it is not. ● Define and describe a compound event. ● Know that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. ● Define simulation. ● Identify the outcomes in the sample space for an everyday event. ● Choose the appropriate method such as organized lists, tables and tree diagrams to represent sample spaces for compound events. ● Find probabilities of compound events using organized lists, tables, tree diagrams, etc. and analyze the outcomes. ● Design and use a simulation to generate frequencies for compound events. 	
---	--

Supplemental Resources		
MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
7.SP.5 7.SP.6 7.SP.7	Lesson 30, 31, 32, 33	Lesson 30, 31, 32, 33

7th Compacted Grade MCCRS Curriculum Map

7.SP.7a 7.SP.7b 7.SP.8 7.SP.8a 7.SP.8b 7.SP.8c		
---	--	--