

Grade:	8	Expressions and Equations (Exponents) and the Number System	6-7 Weeks
Unit:	1		
Progression			
7th Grade	Students learned to... Understand terminating and repeating numbers and how to solve problems with equations.		
8th Grade	Students will learn ... <ul style="list-style-type: none"> ● Properties of integer exponents ● Square roots and cube roots ● Rational and irrational numbers ● Scientific notation ● Operations and Scientific Notation 		
High School	Students will extend their work... <ul style="list-style-type: none"> ● Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. ● Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. 		

Mathematics Standards (Appendices A & B)

[CCSS.Math.Content.8.EE.A.1](#) Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.

[CCSS.Math.Content.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.

[CCSS.Math.Content.8.EE.A.3](#) Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 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.*

[CCSS.Math.Content.8.EE.A.4](#) Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology

[CCSS.Math.Content.8.NS.A.1](#) Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

[CCSS.Math.Content.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 between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

See Appendix B for Standards of Mathematical Practice

Interdisciplinary Standards		Key Vocabulary	
Technology Integration <i>(Appendix C)</i>	21st Century Skills <i>(Appendix D)</i>	Exponent Base Number Radical Square Root Equation	
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving		
Enduring Understandings <ul style="list-style-type: none"> I can use square and cube roots to understand how to use real numbers in a variety of contexts. I can apply the properties of exponents and Scientific notation to real world context. 		Essential Questions <ul style="list-style-type: none"> How are real numbers used in real-life contexts? How does one simplify and evaluate expressions using distributive property? How does one write numbers using scientific notation? How does one simplify expressions with zero and negative exponents? How does one multiply and divide exponents? 	
Assessment Plan			
Summative Assessment(s)/Performance Based Assessments including 21st Century Learning RCC Interim Assessment, Student p.48 - 49 RCC Performance Task, Student p.50		Formative and Diagnostic Assessment(s) STAR Math Assessment (Fall) RCC Lesson Quizzes Quarterly Assessments	
Text	Ready Common Core Mathematics Instruction 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8643-1 Ready Common Core Mathematics Practice & Problem Solving 8 , 2014, Curriculum Associates, ISBN: 978-1-4957-0485-7		
Print	Ready Common Core Mathematics Teacher Resource Book 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8650-9		
Electronic	www.teacher-toolbox.com		

Week 1	Students will: <ul style="list-style-type: none"> • Understand the properties of integer exponents • Use the properties of integer exponents to evaluate expressions with exponents • Generate equivalent expressions. 		
Lessons	Tasks / Activities	Worksheets	Technology
RCC Lesson 1: Properties of integer exponents.	Teacher Resource Book pg 3-12 Ready Instruction Book pg 2-11 Teacher Resource Book :Hands on activity pg12. Practice & Problem Solving: pg3 -10 Lesson 1 RCC Quiz: https://www.teacher-toolbox.com/dam/jcr:82069afd-61fc-4d0c-9036-b82818b14b48/CC8M_LQ_L01.pdf	Commoncoresheets.com: http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s1	Lesson 1 video (Properties of Integer Exponents Part 1): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1000.10 Lesson 1 video (Properties of Integer Exponents Part 2): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1000.20
Week 2	Students will: <ul style="list-style-type: none"> • Identify perfect squares between 1 and 225 • Understand x^2 and \sqrt{x} are inverses as are x^3 and $\sqrt[3]{x}$. • Solve equations with squares and cubes. • Use squares, cubes, square roots, and cube roots to solve word problems. • Understand and use the square root and cube root symbols. 		
Lessons	Tasks / Activities	Worksheets	Technology
RCC Lesson 2: Square Roots and Cube Roots	Teacher Resource Book pgs. 13-22 Ready Instruction Book 12-21 Teacher Resource Book: Hands on activity pg22. Practice and Problem Solving pg 13 - 20. Lesson 2 RCC Quiz: https://www.teacher-toolbox.com/dam/jcr:ecc598bd-11ad-4d8a-b534-4145601719b5/CC8M_LQ_L02.pdf	Commoncoresheets.com: http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s1	Lesson 2 Video (Square Roots and Cube Roots): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1001.10

Week 3	Students will: <ul style="list-style-type: none"> • Understand and identify rational and irrational numbers are. • Express a repeating decimal as a fraction. • Estimate square roots to the nearest hundredth. • Compare and order rational and irrational numbers using a number line. • Estimate the value of expressions. 		
Lessons	Tasks / Activities	Worksheets	Technology
RCC Lesson 3: Understand rational and irrational numbers	Teacher Resource Book pg 23-30 Ready Instruction Book pg 22-27 Teacher Resource Book: activity pg30. Practice and Problem Solving pg 23-28 Lesson 3 RCC Quiz : https://www.teacher-toolbox.com/dam/jcr:6f099a16-c2cb-438c-bd13-30b6a365349a/CC8M_LQ_L03.pdf	Commoncoresheets.com: http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s1	Lesson 3 Video (Rational and Irrational Numbers Part 1): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1002.10 Lesson 3 Video (Rational and Irrational Numbers Part 2): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1002.20 Lesson 3 Video (Approximating Irrational numbers Part 1): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1005.10 Lesson 3 Video (Approximating Irrational numbers Part 1): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1002.20
Week 4	Students will: <ul style="list-style-type: none"> • Write numbers using scientific notation. • Express numbers written in scientific notation in standard form. • Given two numbers written in scientific notation, identify how many times more one is than the other. 		
Lessons	Tasks / Activities	Worksheets	Technology
RCC Lesson 4: Scientific Notation	Teacher Resource Book pgs 31-40 Ready Instruction Book pgs. 28 -37	Commoncoresheets.com: http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s1 Nasa.gov scientific notation WS	Lesson 4 Video (Scientific Notation Part 1): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1003.10

	<p>Teacher Resource Book: Hands on activity pg 40.</p> <p>Practice and Problem Solving pg 31-38</p> <p>Giant Burger: http://map.mathshell.org/tasks.php?unit=HA18&collection=9</p> <p>Lesson 4 RCC Quiz: https://www.teacher-toolbox.com/dam/jcr:9abbac2b-316b-4882-8af8-a8cc5d756a97/CC8M_LQ_L04.pdf</p>	<p>http://image.gsfc.nasa.gov/poetry/MathDocs/WORK12.pdf</p>	<p>Lesson 4 Video (Scientific Notation Part 2): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1003.20</p>
Week 5/6	<p>Students will:</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. • Solve real-world problems that require operations with numbers expressed in scientific notation. • Choose units of appropriate size for large and small measures. • Interpret scientific notation that has been generated by technology. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 5: Operations and Scientific Notation</u>	<p>Teacher Resource Book. 41-50</p> <p>Ready Instruction Book. 38-47</p> <p>Teacher Resource Book: Hands on activity pg50.</p> <p>Practice and Problem Solving pg 41 - 48</p> <p>Lesson 5 RCC Quiz: https://www.teacher-toolbox.com/dam/jcr:ca2947f1-5812-41e8-909a-dc0a42397fc0/CC8M_LQ_L05.pdf</p>	<p>Commoncoresheets.com: http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s1</p>	<p>Lesson 5 Video (Operatinos with Numbers and Scientific Notation): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1004.10</p> <p>Lesson 5 Video (Scientific Notation Part 1): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1003.10</p> <p>Lesson 5 Video (Scientific Notation Part 2): https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.NO.8.1003.20</p>
Week 7	<p>Students will:</p> <ul style="list-style-type: none"> • Demonstrate mastery of unit objectives 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson X:</u>			

Summative Assessment	Performance Task
RCC Unit X Interim Assessment -Student p. 48 -Scoring Guide (p. 51-52)	RCC Unit X Performance Task -Student p. 50 -Rubric (p. 53)

Grade: 8 Unit: 2	Functions	7 Weeks
Progression		
7th Grade	<p>Students learned to...</p> <ul style="list-style-type: none"> ● Decide whether two quantities are in a proportional relationship. ● Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. ● Represent proportional relationships by equations. ● 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. 	
8th Grade	<p>Students will learn to...</p> <ul style="list-style-type: none"> ● Explain the meaning of a function. ● Compare properties of two functions. ● Study the graph of a function and describe it as increasing, decreasing, linear, or nonlinear. 	
High School	<p>Students will extend their work by...</p> <ul style="list-style-type: none"> ● Understanding that a function assigns to each element of the domain to exactly one element of the range. ● Using function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. ● For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. ● Proving that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. 	

Mathematics Standards (Appendices A & B)

[CCSS.MATH.CONTENT.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.

[CCSS.MATH.CONTENT.8.F.A.2](#) : Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

[CCSS.MATH.CONTENT.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. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points $(1,1)$, $(2,4)$ and $(3,9)$, which are not on a straight line.*

[CCSS.MATH.CONTENT.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.

[CCSS.MATH.CONTENT.8.F.B.5](#) : Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

See Appendix B for Standards of Mathematical Practice

Interdisciplinary Standards		Key Vocabulary	
Technology Integration <i>(Appendix C)</i>	21st Century Skills <i>(Appendix D)</i>	(include vocab from RCC)	Function Rate of Change Initial Value Linear Function Slope Y-Intercept Qualitative Graph
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving		
Enduring Understandings <ul style="list-style-type: none"> I can compare the properties of two functions. I can explain the meaning of a function. 		Essential Questions <ul style="list-style-type: none"> How do you compare the properties of two functions? What is a function? 	

<ul style="list-style-type: none"> I can explain that a function is a relationship where each input has one unique output. I can determine whether a function is increasing, decreasing, linear, and nonlinear. 	<ul style="list-style-type: none"> How do you know whether the graph of a function is increasing, decreasing, linear, and nonlinear?
---	---

Assessment Plan

Summative Assessment(s)/Performance Based Assessments including 21st Century Learning RCC Interim Assessment, Student p.96 RCC Performance Task, Student p.98	Formative and Diagnostic Assessment(s) Quarterly Assessment STAR Math Assessment (Fall) RCC Lesson Quizzes
---	--

Text	Ready Common Core Mathematics Instruction 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8643-1 Ready Common Core Mathematics Practice & Problem Solving 8 , 2014, Curriculum Associates, ISBN: 978-1-4957-0485-7
Print	Ready Common Core Mathematics Teacher Resource Book 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8650-9
Electronic	www.teacher-toolbox.com
Week 1	Students will: <ul style="list-style-type: none"> Understand that a function is a rule that assigns to each input exactly one output. Identify whether a relationship is a function from a diagram, table of values, graph, or equation.

Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 6:</u> Understand Functions	Ready Instruction Book p. 52 - 57 Practice and Problem Solving p.65 - 70 Teacher Resource Book hands-on activity p. 63 EngageNY Module 5 Topic A Lesson 2 Club Function Activity https://www.teachengineering.org/activities/view/van_li_near_eqn_act_lesson2 Lesson 1 Quiz https://www.teacher-toolbox.com/dam/jcr:3fe5c7e8-9239-47e9-b83f-ad87612b1a62/CC8M_LQ_L06.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s3	Lesson Video https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1000.10

Week 2	Students will: <ul style="list-style-type: none"> • Translate among forms of linear functions: equation, table, graph, or verbal description. • Identify the rate of change and initial value of a function. • Compare rate of change and initial value in two linear functions, each represented in a different way. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 7:</u> Compare Functions	Ready Instruction Book p. 58 - 67 Practice and Problem Solving p. 73 - 80 Teacher Resource Book hands-on activity p. 73 EngageNY Lesson 2: Interpreting Rate of Change and Initial Value Classwork and problem Set Comparing Functions Activies: https://d3jc3ahdjad7x7.cloudfront.net/wYnNE88tmf5Qe67dzTA3Qp1TYJxRvCWyocDHg3mmK9fcVZXq.pdf Lesson 2 Quiz https://www.teacher-toolbox.com/dam/jcr:97a3f646-9042-4b06-82f9-09ea0613ebab/CC8M_LQ_L07.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s3	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1011.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1000.10
Week 3	Students will: <ul style="list-style-type: none"> • Determine if a function is linear or nonlinear. • Interpret the equation $y = mx + b$ as defining a linear equation. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 8:</u> Understand Linear Functions	Ready Instruction Book p.68 - 73 Practice and Problem Solving p. 83 - 88 Teacher Resource Book hands-on activity p. 81 Lesson 3 Quiz	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s3	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1002.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1000.10

	https://www.teacher-toolbox.com/dam/jcr:0b01411b-0c12-4c03-8df3-55f8066eaa8e/CC8M_LQ_L08.pdf		
Week 4	Students will: <ul style="list-style-type: none"> • Understand that the rate of change of a linear function is the slope of a line. • Find the slope of a line given two points from a table or a graph. • Find the slope of a line from an equation. • Understand that the initial value of a function is the y-intercept. • Find the y-intercept given a table, graph, or equation. • Make a table of values, write an equation, or construct a graph to represent a linear function in a real-world context. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 9:</u> Analyze Linear Functions	Ready Instruction Book p.74 - 85 Practice and Problem Solving p. 91 - 100 Teacher Resource Book hands-on activity p. 93 Lesson 4 Quiz https://www.teacher-toolbox.com/dam/jcr:b3b45666-752b-461a-a698-211a1c59c2ed/CC8M_LQ_L9.pdf	Common Core worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s3	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1003.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1002.10
Week 5/6	Students will: <ul style="list-style-type: none"> • Analyze a graph to qualitatively describe a relationship between two quantities. • Sketch the graph of a function from a verbal description. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 10:</u> Graphs of Functional Relationships	Ready Instruction Book p. 86 - 95 Practice and Problem Solving p. 103 - 110 Teacher Resource Book hands-on activity p. 103 Lesson 5 Quiz https://www.teacher-toolbox.com/dam/jcr:444ccb73-0594-49bb-9f9f-f6f677aa6124/CC8M_LQ_L10.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s3	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1012.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1003.10
Week 7	Students will: <ul style="list-style-type: none"> • Demonstrate mastery of unit objectives 		

Summative Assessment	Performance Task
RCC Unit 2 Interim Assessment -Student p. 96-97 -Scoring Guide (p. 105-106)	RCC Unit 2 Performance Task -Student p. 98 -Rubric (p. 107)

Grade: 8 Unit: 3	Expressions and Equations (Linear Equations)	9 Weeks
Progression		
7th Grade	<p>Students learned to...</p> <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. ● Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. ● Represent proportional relationships by equations. ● 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. ● Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. ● 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. ● 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. 	
8th Grade	<p>Students will learn to...</p> <ul style="list-style-type: none"> ● Graph proportional relationships. ● Compare two different proportional relationships. ● Identify the slope of a proportional relationship. ● Solve linear equations in one variable. ● Give an example of a linear equation that has no solution or many solutions. ● Solve systems of linear equations. 	
High School	<p>Students will extend their work...</p> <ul style="list-style-type: none"> ● Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. ● Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. ● Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. ● Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. 	

Mathematics Standards (Appendices A & B)

CCSS.MATH.CONTENT.8.EE.B.5

Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

CCSS.MATH.CONTENT.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 .

CCSS.MATH.CONTENT.8.EE.C.7.A

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.

CCSS.MATH.CONTENT.8.EE.C.7.B

Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

CCSS.MATH.CONTENT.8.EE.C.8.A

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.

CCSS.MATH.CONTENT.8.EE.C.8.B

Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*

CCSS.MATH.CONTENT.8.EE.C.8.C

Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Interdisciplinary Standards		Key Vocabulary	
Technology Integration <i>(Appendix C)</i>	21st Century Skills <i>(Appendix D)</i>	(include vocab from RCC)	System of Linear equations Slope-Intercept Form Slope Y-intercept Proportional Relationship Unit rate Constant of proportionality Similar Triangle
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving		
Enduring Understandings <ul style="list-style-type: none"> I can compare and graph proportional relationships. I can determine the slope of a proportional relationship. I can solve an equation and determine how many solutions it will have. 		Essential Questions <ul style="list-style-type: none"> How do you compare and graph proportional relationships? What is the slope of a given proportional relationship? When does an equation have no solutions? Infinitely many solutions? 	
Assessment Plan			
Summative Assessment(s)/Performance Based Assessments including 21st Century Learning RCC Interim Assessment, Student p.156 - 157 RCC Performance Task, Student p.158		Formative and Diagnostic Assessment(s) Quarterly Assessment STAR Math Assessment (Winter) RCC Lesson Quizzes	
Text	Ready Common Core Mathematics Instruction 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8643-1 Ready Common Core Mathematics Practice & Problem Solving 8 , 2014, Curriculum Associates, ISBN: 978-1-4957-0485-7		
Print	Ready Common Core Mathematics Teacher Resource Book 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8650-9		
Electronic	www.teacher-toolbox.com		
Week 1	Students will: <ul style="list-style-type: none"> Graph proportional relationships Interpret the unit rate of a proportional relationship as the slope of its graph. Understand the the y-intercept is always 0 for proportional relationships. Compare two different proportional relationships represented in different ways. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 11:</u> Represent Proportional Relationships	Ready Instruction Book p. 100 - 109 Practice and Problem Solving p.123 - 130	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1005.10

	<p>Teacher Resource Book hands-on activity p. 120</p> <p>Lesson 11 Quiz https://www.teacher-toolbox.com/dam/jcr:0be50aed-dc0b-4fe9-b92f-5429990a3cc6/CC8M_LQ_L11.pdf</p>		https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1012.10
Week 2	<p>Students will:</p> <ul style="list-style-type: none"> Understand that similar triangles have proportional side lengths. Use the slope and y-intercept to derive an equation for a linear function. 		
Lessons	Tasks / Activities	Worksheets	Technology
<p><u>RCC Lesson 12:</u></p> <p>Understand the Slope-Intercept Equation for a Line</p>	<p>Ready Instruction Book p. 110 - 115</p> <p>Practice and Problem Solving p.133 - 138</p> <p>Teacher Resource Book hands-on activity p. 128</p> <p>Lesson 12 Quiz https://www.teacher-toolbox.com/dam/jcr:9445e21f-4d56-4cfe-aebe-ac5754b9bd0c/CC8M_LQ_L12.pdf</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2</p>	<p>Lesson Videos</p> <p>https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1004.10</p> <p>https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1002.10</p>
Week 3	<p>Students will:</p> <ul style="list-style-type: none"> Solve multi-step linear equations with rational coefficients on both sides. 		
Lessons	Tasks / Activities	Worksheets	Technology
<p><u>RCC Lesson 13:</u></p> <p>Solve Linear Equations with Rational Coefficients</p>	<p>Ready Instruction Book p. 116 - 123</p> <p>Practice and Problem Solving p.141 - 146</p> <p>Teacher Resource Book hands-on activity p. 136</p> <p>Lesson 13 Quiz https://www.teacher-toolbox.com/dam/jcr:04092b0b-3c36-4d51-af9c-97fcf72a96f5/CC8M_LQ_L13.pdf</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2</p>	<p>Lesson Videos</p> <p>https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1007.10</p>
Week 4	<p>Students will:</p> <ul style="list-style-type: none"> Identify and provide examples of equations that have one solution, no solution, or infinitely many solutions. 		

Lessons	Tasks / Activities	Worksheets	Technology
<p><u>RCC Lesson 14:</u></p> <p>Solutions of Linear Equations</p>	<p>Ready Instruction Book p. 124 - 131</p> <p>Practice and Problem Solving p. 149 - 154</p> <p>Teacher Resource Book hands-on activity p. 144</p> <p>Lesson 14 Quiz https://www.teacher-toolbox.com/dam/jcr:7ae51b9a-098f-4840-9438-bf8807c8b2c8/CC8M_LQ_L14.pdf</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2</p>	<p>Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1006.10</p>
<p>Week 5</p>	<p>Students will:</p> <ul style="list-style-type: none"> Determine whether systems of linear equations share one solution, no solution, or infinitely many solutions by graphing and analyzing the equation. Describe solution sets of systems of linear equations. 		
	<p><u>RCC Lesson 15:</u></p> <p>Understand systems of Equations</p>	<p>Ready Instruction Book p. 132 - 137</p> <p>Practice and Problem Solving p.157 - 162</p> <p>Teacher Resource Book hands-on activity p. 152</p> <p>Lesson 15 Quiz https://www.teacher-toolbox.com/dam/jcr:3d10c7f8-9951-443c-848b-67c29b4de1cf/CC8M_LQ_L15.pdf</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2</p>
<p>Week 6</p>	<p>Students will:</p> <ul style="list-style-type: none"> Solve systems of two linear equations algebraically by substitution or elimination. Estimate solutions of systems of two linear equations by graphing the equations. 		
	<p><u>RCC Lesson 16:</u></p> <p>Solve Systems of Equations Algebraically</p>	<p>Ready Instruction Book p. 138 - 147</p> <p>Practice and Problem Solving p.165 - 172</p> <p>Teacher Resource Book hands-on activity p. 162</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2</p>

	Lesson 16 Quiz https://www.teacher-toolbox.com/dam/jcr:45dfdbe4-a2de-4d47-af79-37ff93b4850e/CC8M_LQ_L16.pdf		https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1009.10
Week 7	Students will: <ul style="list-style-type: none"> • Write systems of linear equations to represent mathematical and real-world problems. • Understand that variables in related equations must represent the same quantities and have the same values. • Graph systems to estimate solutions and describe how the graph represents the situation modeled. • Solve systems algebraically and explain what the solution means in the context of the problem. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 17:</u> Solve Problems using Systems of Equations	Ready Instruction Book p. 148 - 155 Practice and Problem Solving p.175 - 180 Teacher Resource Book hands-on activity p. 170 Lesson 17 Quiz https://www.teacher-toolbox.com/dam/jcr:309034aa-bfbc-403f-9b66-d2995da89d8c/CC8M_LQ_L17.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s2	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1008.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.AL.8.1009.10
Week 8	Buffer Week: Each lesson will take around 6 days		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson X:</u>			
Week 9	Students will: <ul style="list-style-type: none"> • Demonstrate mastery of unit objectives 		
Summative Assessment		Performance Task	
RCC Unit 3 Interim Assessment -Student p. 156 - 157 -Scoring Guide (p. 171 - 172)		RCC Unit 3 Performance Task -Student p. 158 -Rubric (p. 173)	

Grade: 8 Unit: 4	Geometry	13 Weeks
Progression		
7th Grade	<p>Students learned to...</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. ● 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. 	
8th Grade	<p>Students will learn to...</p> <ul style="list-style-type: none"> ● Demonstrate the properties of translations, rotations, and reflections. ● Give the new coordinates of a figure in the coordinate plane after a translation, rotation, or reflection. ● Identify pairs of congruent angles when a transversal intersects parallel lines. ● Identify similar triangles based on angle measurements. ● Demonstrate why the sum of the angle measures in any triangle add up to 180 °. ● Explain a proof of the Pythagorean Theorem. ● Apply the Pythagorean Theorem to solve problems. 	
High School	<p>Students will extend their work...</p> <ul style="list-style-type: none"> ● Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. ● Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. ● Verify experimentally the properties of dilations given by a center and a scale factor. ● Prove theorems about lines and angles. <i>Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.</i> ● Prove theorems about triangles. <i>Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.</i> 	

- Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
- Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

Mathematics Standards (*Appendices A & B*)

[CCSS.MATH.CONTENT.8.G.A.1](#)

Verify experimentally the properties of rotations, reflections, and translations.

CCSS.MATH.CONTENT.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.

CCSS.MATH.CONTENT.8.G.A.3

Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

CCSS.MATH.CONTENT.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.

CCSS.MATH.CONTENT.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. *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.*

CCSS.MATH.CONTENT.8.G.B.6

Explain a proof of the Pythagorean Theorem and its converse.

CCSS.MATH.CONTENT.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.

CCSS.MATH.CONTENT.8.G.B.8

Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Interdisciplinary Standards		Key Vocabulary	
Technology Integration <i>(Appendix C)</i>	21st Century Skills <i>(Appendix D)</i>	(include vocab from RCC)	Transversal Corresponding Angles Alternate Interior Angles Linear Pair Same-Side Interior Angles Exterior Angles Theorem Pythagorean Theorem Leg Hypotenuse Ordered Pair Right Triangle Square (noun)
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving	Transformation Translation Reflection Line of Reflection Rotation Center of Rotation Congruent Dilation Scale Factor Center	
Enduring Understandings		Essential Questions	
<ul style="list-style-type: none"> I can explain a proof of the Pythagorean Theorem I can translate, rotate, and reflect given geometric figures. I can find a missing angle in a triangle when given the other two angles. I can identify similar triangles I can identify angle pairs when two parallel lines are cut by a transversal. 		<ul style="list-style-type: none"> How do you explain a proof of the Pythagorean Theorem? How do you translate, rotate, and reflect given geometric figures? Why do the angles in a triangle add up to 180 degrees? How can you determine whether two triangles are similar? What type of angle pairs are created when two parallel lines are cut by a transversal? 	
Assessment Plan			
Summative Assessment(s)/Performance Based		Formative and Diagnostic Assessment(s)	

Assessments including 21st Century Learning		Quarterly Assessment STAR Math Assessment (Winter) RCC Lesson Quizzes	
RCC Interim Assessment, Student p. 236 - 237 RCC Performance Task, Student p.238			
Text	Ready Common Core Mathematics Instruction 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8643-1 Ready Common Core Mathematics Practice & Problem Solving 8 , 2014, Curriculum Associates, ISBN: 978-1-4957-0485-7		
Print	Ready Common Core Mathematics Teacher Resource Book 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8650-9		
Electronic	www.teacher-toolbox.com		
Week 1	Students will: <ul style="list-style-type: none"> Give a general description of rotation, reflection, or translation Describe the effects of translations, rotations, and reflections on the properties of two-dimensional figures 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 18:</u> Understand Properties of Transformations	Ready Instruction Book p. 160 - 165 Practice and Problem Solving p.193 - 198 Teacher Resource Book hands-on activity p. 185 Lesson 18 Quiz https://www.teacher-toolbox.com/dam/jcr:f0b805d8-9d7b-4c95-8de1-a62eae8b2cf1/CC8M_LQ_L18.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1000.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1001.10
Week 2	Students will: <ul style="list-style-type: none"> Understand the congruency of two-dimensional figures is maintained while undergoing rigid transformations. Describe translations, rotations, and reflections individually in a sequence. Understand how to dilate, translate, rotate, and reflect two-dimensional figures on the coordinate plane. Describe the effect of translations, rotations, and reflections on two-dimensional figures using coordinates. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 19:</u> Transformations and Congruence	Ready Instruction Book p. 166 - 175	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1000.10

	<p>Practice and Problem Solving p.219 - 224</p> <p>Teacher Resource Book hands-on activity p. 211</p> <p>Color me Parallel and Tic Tac Math Activity- http://mshelgesen.pbworks.com/w/file/attach/88078825/Transversal%20wks.pdf</p> <p>Lesson 21 Quiz https://www.teacher-toolbox.com/dam/jcr:12661e71-0a1b-48c9-83cb-49c36e0837c8/CC8M_LQ_L21.pdf</p>		tld=DI.MATH.GEO.8.1003.10
--	---	--	---------------------------

Week 5	<p>Students will:</p> <ul style="list-style-type: none"> • Understand that the measure of an exterior angle of a triangle is equal to the sum of the measures of the non-adjacent angles. • Know that the sum of the angles in a triangle adds up to 180 degrees. • Find the measures of interior and exterior angles of a triangle. • Recognize that if two triangles have two congruent angles, then they are similar triangles.
---------------	--

Lessons	Tasks / Activities	Worksheets	Technology
<p><u>RCC Lesson 22:</u></p> <p>Understand Angle Relationships in Triangles</p>	<p>Ready Instruction Book p. 190 - 195</p> <p>Practice and Problem Solving p.227 - 232</p> <p>Teacher Resource Book hands-on activity p. 219</p> <p>Lesson 22 Quiz https://www.teacher-toolbox.com/dam/jcr:11e8c51f-ffe4-4067-ad2f-45260499107f/CC8M_LQ_L22.pdf</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4</p>	<p>Lesson Videos</p> <p>https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1004.10</p> <p>https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1003.10</p>

Week 6	<p>Students will:</p> <ul style="list-style-type: none"> • Explore the relationships of the areas of squares built on all sides of a triangle. • Understand and explain a proof of the Pythagorean Theorem. • Understand and explain a proof of the converse of the Pythagorean Theorem.
---------------	---

Lessons	Tasks / Activities	Worksheets	Technology
<p><u>RCC Lesson 23:</u></p>	<p>Ready Instruction Book p. 196 - 201</p>	<p>Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4</p>	<p>Lesson Videos</p> <p>https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1003.10</p>

Understand Pythagorean Theorem	Practice and Problem Solving p.235 - 240 Teacher Resource Book hands-on activity p. 227 Lesson 23 Quiz https://www.teacher-toolbox.com/dam/jcr:cdbc5c02-b756-44f5-b9ab-9b8f4932de1c/CC8M_LQ_L23.pdf		tld=DI.MATH.GEO.8.1005.10
Week 7	Students will: <ul style="list-style-type: none"> • Use the Pythagorean Theorem to solve for the missing side of a right triangle given the other two sides. • Use the Pythagorean Theorem to solve problems in real-world contexts. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 24:</u> Solve Problems Using the Pythagorean Theorem	Ready Instruction Book p. 202 - 211 Practice and Problem Solving p.243 - 250 Teacher Resource Book hands-on activity p. 237 Lesson 24 Quiz https://www.teacher-toolbox.com/dam/jcr:58d41a1f-4360-406d-8320-3f3eba6d05ee/CC8M_LQ_L24.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1007.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1005.10
Week 8	Students will: <ul style="list-style-type: none"> • Use the Pythagorean Theorem to solve for the distance between any two points in the coordinate plane. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 25:</u> Distance in the Coordinate Plane	Ready Instruction Book p. 238 - 245 Practice and Problem Solving p.253 - 258 Teacher Resource Book hands-on activity p. 245 Lesson 25 Quiz https://www.teacher-toolbox.com/dam/jcr:db51b64c-682a-4bfd-91e4-7fc92ae3b771/CC8M_LQ_L25.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1007.10 https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1005.10

Week 9	Students will: <ul style="list-style-type: none"> • Understand the relationship between the volume of a cylinder and the volume of a cone. • Understand the relationship between the volume of a cylinder and the volume of a sphere. • Compare the volume of different size cylinders, cones, and spheres, and explain how different sized figures can have the same volume. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 26:</u> Understand Volume of Cylinders, Cones, and Spheres	Ready Instruction Book p. 220 - 225 Practice and Problem Solving p.261 - 266 Teacher Resource Book hands-on activity p. 253 Lesson 26 Quiz https://www.teacher-toolbox.com/dam/jcr:ab763efc-64d1-4525-a25a-d86b44be1473/CC8M_LQ_L26.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1005.10
Week 10	Students will: <ul style="list-style-type: none"> • Use formulas to find the volume of cylinders, cones, and spheres. • Solve real-world math problems involving cylinders, cones, and spheres. • Compare the volume of cylinders, cones, and spheres. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 27:</u> Solve Problems with Cylinders, Cones, and Spheres	Ready Instruction Book p. 226 - 235 Practice and Problem Solving p.269 - 276 Teacher Resource Book hands-on activity p. 264 Lesson 27 Quiz https://www.teacher-toolbox.com/dam/jcr:39054367-d2cf-4b54-988a-49900075d04c/CC8M_LQ_L27.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s4	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.GEO.8.1008.10
Week 11/12	2 Buffer Weeks: Each lesson will take 6 days so 2 buffer weeks will be added		
Lessons	Tasks / Activities	Worksheets	Technology

RCC Lesson X:			
Week 13	Students will: <ul style="list-style-type: none"> • Demonstrate mastery of unit objectives 		
Summative Assessment		Performance Task	
RCC Unit 4 Interim Assessment -Student p. 236 - 237 -Scoring Guide (p. 238)		RCC Unit 4 Performance Task -Student p. 265 - 266 -Rubric (p. 267)	

Grade: 8 Unit: 5	Statistics and Probability	6 Weeks
Progression		
7th Grade	<p>Students learned to...</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. ● 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. 	
8th Grade	<p>Students will learn to...</p> <ul style="list-style-type: none"> ● Construct a scatterplot of bivariate data ● Fit a trendline to a scatterplot ● Interpret the slope and intercept of trend lines to solve problems ● Display data in a two-way frequency table ● Interpret a two-way frequency table to identify possible associations between two categorical variables. 	
High School	<p>Students will extend their work...</p> <ul style="list-style-type: none"> ● Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ● Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ● Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. 	
Mathematics Standards (Appendices A & B)		
<p>CCSS.MATH.CONTENT.8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.</p> <p>CCSS.MATH.CONTENT.8.SP.A.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>CCSS.MATH.CONTENT.8.EE.C.7.B</p>		

Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

See Appendix B for Standards of Mathematical Practice

Interdisciplinary Standards		Key Vocabulary	
Technology Integration <i>(Appendix C)</i>	21st Century Skills <i>(Appendix D)</i>	(include vocab from RCC)	
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving		Scatterplot Bivariate Outlier Association Positive Association Negative Association Linear Nonlinear Residual Best fit line Categorical Data
Enduring Understandings		Essential Questions	
<ul style="list-style-type: none"> I can construct a scatterplot using bivariate data and create a trend line. I can interpret the slope and intercept of trend lines to solve problems. I can display data in two way frequency tables and identify associations between categorical variables. 		<ul style="list-style-type: none"> How do you construct a scatterplot and create a line of best fit using bivariate data? What is the slope and intercept of given trend lines and how do you use this information to solve problems? How do you display data in a two way frequency table using categorical data? 	
Assessment Plan			
Summative Assessment(s)/Performance Based Assessments including 21st Century Learning		Formative and Diagnostic Assessment(s)	
RCC Interim Assessment, Student p.272-273 RCC Performance Task, Student p.274		STAR Math Assessment (Spring) RCC Lesson Quizzes	
Text	Ready Common Core Mathematics Instruction 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8643-1 Ready Common Core Mathematics Practice & Problem Solving 8 , 2014, Curriculum Associates, ISBN: 978-1-4957-0485-7		
Print	Ready Common Core Mathematics Teacher Resource Book 8 , 2014, Curriculum Associates, ISBN: 978-0-7609-8650-9		
Electronic	www.teacher-toolbox.com		
Week 1	Students will: <ul style="list-style-type: none"> Construct a scatterplot using two sets of quantitative data Identify clusters and outliers in a scatterplot Identify whether there is a linear or nonlinear association in a scatterplot Determine if a linear association in a scatterplot is positive or negative 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 28:</u>	Ready Instruction Book p. 240 - 247	Common Core Worksheets	Lesson Videos

Scatter Plots	Practice and Problem Solving p.295 - 300 Teacher Resource Book hands-on activity p. 278 Lesson 28 Quiz https://www.teacher-toolbox.com/dam/jcr:e9fce4a9-3e7d-487a-99ee-21da16a781db/CC8M_LQ_L28.pdf	http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s5	https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.MS.8.1000.10
Week 2	Students will: <ul style="list-style-type: none"> Recognize that a straight line can be used on a scatterplot to model the relationship between two quantitative variables. Draw a straight line on a scatterplot that closely fits the data points. Informally evaluate the fit of the line by judging the closeness of data points to the line. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 29:</u> Scatter Plots and Linear Models	Ready Instruction Book p. 248 - 255 Practice and Problem Solving p.303 - 308 Teacher Resource Book hands-on activity p. 286 Lesson 29 quiz https://www.teacher-toolbox.com/dam/jcr:5f273ebe-7d72-4cb1-8182-c7f19b984c29/CC8M_LQ_L29.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s5	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.MS.8.1001.10
Week 3	Students will: <ul style="list-style-type: none"> Use the equation of a linear model to solve problems. Interpret the meaning of slope as the rate of change and the meaning of the y-intercept in context given quantitative data. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 30:</u> Solve Problems with Linear Models	Ready Instruction Book p. 256 - 263 Practice and Problem Solving p.311 - 316 Teacher Resource Book hands-on activity p. 294 Lesson 30 Quiz https://www.teacher-toolbox.com/dam/jcr:cab807e3-d	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s5	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.MS.8.1002.10

	730-4130-b328-ab24518a7 fe6/CC8M_LQ_L30.pdf		
Week 4	Students will: <ul style="list-style-type: none"> • Construct a two-way frequency table of categorical data. • Interpret and describe relative frequencies for possible associations from a two-way table. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 31:</u> Categorical Data in Frequency Tables	Ready Instruction Book p. 264 - 271 Practice and Problem Solving p.319 - 324 Teacher Resource Book hands-on activity p. 302 Lesson 31 Quiz https://www.teacher-toolbox.com/dam/jcr:09eef378-82bb-4f75-97ae-29fc8baba038/CC8M_LQ_L31.pdf	Common Core Worksheets http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8th#s5	Lesson Videos https://cainc.i-ready.com/lessonPreview.jsf?componentId=DI.MATH.MS.8.1004.10
Week 5	Buffer Week: Each lesson will take around 6 days		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Unit 5:</u>			
Week 6	Students will: <ul style="list-style-type: none"> • Demonstrate mastery of the unit objectives 		
Summative Assessment		Performance Task	
RCC Unit 5 Interim Assessment -Student p. 272-273 -Scoring Guide (p. 303-304)		RCC Unit 5 Performance Task -Student p. 274 -Rubric (p. 305)	