#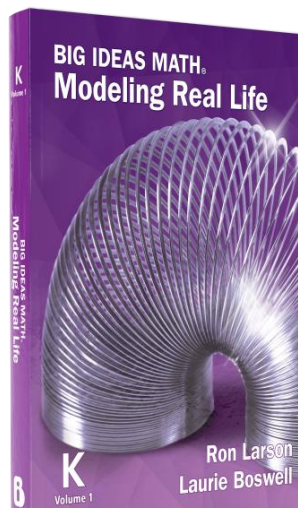 Big Ideas Math®: Modeling Real Life, Grade K, by Ron Larson/ Laurie Boswell, © 2022, ISBN: 9781647278748 Correlated to the Missouri Mathematics Standards

Kindergarten

BIG IDEAS MATH®
Modeling Real Life

K
Volume 1

Ron Larson
Laurie Boswell

BIG IDEAS LEARNING®

Standard		Big Ideas Math®: Modeling Real Life, Grade K
NUMBER SENSE: NS		
K.NS.A	**Know number names and count sequence**	
K.NS.A.1	Count to 100 by ones and tens.	1.1, 1.3, 1.5, 1.8, 3.1, 3.3, 3.5, 3.7, 3.9, 3.11, 8.1, 8.2, 8.4, 8.6, 8.8, 8.10, 9.1, 9.3, 9.4, 9.5, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6
K.NS.A.2	Count forward beginning from a given number between 1 and 20.	3.11, 9.1, 9.4, 9.5, 10.1, 10.2, 10.3, 10.5, 10.6
K.NS.A.3	Count backward from a given number between 10 and 1.	3.11
K.NS.A.4	Read and write numerals and represent a number of objects from 0 to 20.	1.2, 1.4, 1.6, 1.7, 1.8, 3.2, 3.4, 3.6, 3.8, 3.10, 3.11, 8.3, 8.5, 8.7, 8.9, 8.11, 9.2, 9.4
K.NS.B	**Understand the relationship between numbers and quantities; connect counting to cardinality.**	
K.NS.B.5	Say the number names when counting objects, in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	1.1, 1.3, 1.5, 3.1, 3.3, 3.5, 3.7, 3.9, 4.4, 4.5, 8.1, 8.2, 8.4, 8.6, 8.8, 8.10, 9.3, 9.4
K.NS.B.6	Demonstrate that the last number name said tells the number of objects counted and the number of objects is the same regardless of their arrangement or the order in which they were counted.	1.1, 1.3, 1.5, 3.1, 3.3, 3.5, 3.7, 3.9, 4.4, 4.5, 8.1, 8.2, 8.4, 8.6, 8.8, 8.10, 9.3, 9.4
K.NS.B.7	Demonstrate that each successive number name refers to a quantity that is one larger than the previous number.	6.5, 9.3, 9.4
K.NS.B.8	Recognize, without counting, the quantity of groups up to 5 objects arranged in common patterns.	1.2, 1.4, 1.6
K.NS.B.9	Demonstrate that a number can be used to represent "how many" are in a set.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 4.2, 4.3, 4.4, 4.5, 8.1, 8.2, 8.4, 8.6, 8.8, 8.10, 9.3, 9.4

Standard		Big Ideas Math®: Modeling Real Life, Grade K
K.NS.C	**Compare numbers.**	
K.NS.C.10	Compare two or more sets of objects and identify which set is equal to, more than or less than the other.	2.1, 2.2, 2.3, 2.4, 2.5, 4.1, 4.2, 4.3, 4.5, 9.6
K.NS.C.11	Compare two numerals, between 1 and 10, and determine which is more than or less than the other.	2.4, 2.5, 4.2, 4.3, 4.5
NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT		
K.NBT.A	**Work with numbers 11 – 19 to gain foundations for place value.**	
K.NBT.A.1	Compose and decompose numbers from 11 to 19 into sets of tens with additional ones.	8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
RELATIONSHIPS AND ALGEBRAIC THINKING: RA		
K.RA.A	**Understand addition as putting together or adding to, and understand subtraction as taking apart or taking from.**	
K.RA.A.1	Represent addition and subtraction within 10.	5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7
K.RA.A.2	Demonstrate fluency for addition and subtraction within 5.	6.5, 6.6, 7.4, 7.5, 7.7
K.RA.A.3	Decompose numbers less than or equal to 10 in more than one way.	5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8
K.RA.A.4	Make 10 for any number from 1 to 9.	6.8
GEOMETRY AND MEASUREMENT: GM		
K.GM.A	**Reason with shapes and their attributes.**	
K.GM.A.1	Describe several measureable attributes of objects.	13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7
K.GM.A.2	Compare the measurable attributes of two objects.	13.1, 13.2, 13.3, 13.4, 13.5, 13.6

Standard		Big Ideas Math®: Modeling Real Life, Grade K
K.GM.B	**Work with time and money.**	
K.GM.B.3	Demonstrate an understanding of concepts of time and devices that measure time.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 1: 12.1, 12.4
K.GM.B.4	Name the days of the week.	10.1
K.GM.B.5	Identify pennies, nickels, dimes and quarters.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 1: 14.1
K.GM.C	**Analyze squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders and spheres.**	
K.GM.C.6	Identify shapes and describe objects in the environment using names of shapes, recognizing the name stays the same regardless of orientation or size.	11.2, 11.3, 11.4, 11.5, 12.3, 12.4, 12.6
K.GM.C.7	Describe the relative positions of objects in space.	11.2, 11.3, 11.4, 11.5, 12.6
K.GM.C.8	Identify and describe the attribute of shapes, and use the attributes to sort a collection of shapes.	11.1, 11.2, 11.3, 11.4, 12.1, 12.2, 12.3, 12.4
K.GM.C.9	Draw or model simple two-dimensional shapes.	11.2, 11.3, 11.4, 11.5, 11.7
K.GM.C.10	Compose simple shapes to form larger shapes using manipulatives.	11.6, 12.5
DATA AND STATISTICS: DS		
K.DS.A	**Classify objects and count the number of objects in each category.**	
K.DS.A.1	Classify objects into given categories; count the number of objects in each category.	4.4, 4.5, 11.1, 11.2, 11.3, 11.4, 11.5
K.DS.A.2	Compare category counts using appropriate language.	4.4, 4.5, 11.1, 11.2, 11.3, 11.4, 11.5

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Grade 1

BIG IDEAS LEARNING®

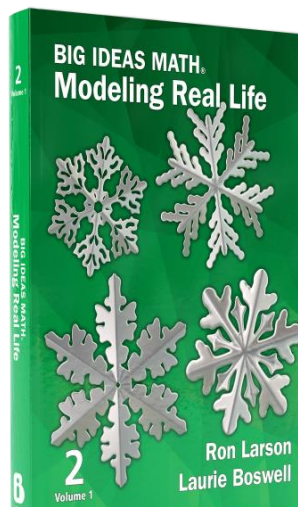| Standard		Big Ideas Math®: Modeling Real Life, Grade 1
NUMBER SENSE: NS		
1.NS.A	**Understand and use numbers up to 120.**	
1.NS.A.1	Count to 120, starting at any number less than 120.	6.1, 6.2, 6.9
1.NS.A.2	Read and write numerals and represent a number of objects with a written numeral.	6.1, 6.2, 6.9
1.NS.A.3	Count backward from a given number between 20 and 1.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade K: 3.11
1.NS.A.4	Count by 5s to 100 starting at any multiple of five.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 2: 8.1
NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT		
1.NBT.A	**Understand place value of two-digit numbers.**	
1.NBT.A.1	Understand that 10 can be thought of as a bundle of 10 ones – called a "ten".	6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 7.3, 8.1, 8.2, 8.8, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6
1.NBT.A.2	Understand two-digit numbers are composed of ten(s) and one(s).	6.3, 6.5, 6.6, 6.7, 6.8, 6.9, 7.3, 8.1, 8.2, 8.8, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6
1.NBT.A.3	Compare two two-digit numbers using the symbols >, = or <.	7.1, 7.2, 7.3, 7.4, 7.5, 7.6
1.NBT.A.4	Count by 10s to 120 starting at any number.	6.2
1.NBT.B	**Use place value understanding to add and subtract.**	
1.NBT.B.5	Add within 100.	8.1, 8.2, 8.3, 8.4, 8.8, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6
1.NBT.B.6	Calculate 10 more or 10 less than a given number mentally without having to count.	8.1, 8.2

Standard		Big Ideas Math®: Modeling Real Life, Grade 1
1.NBT.B.7	Add or subtract a multiple of 10 from another two-digit number, and justify the solution.	8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7
RELATIONSHIPS AND ALGEBRAIC THINKING: RA		
1.RA.A	**Represent and solve problems involving addition and subtraction.**	
1.RA.A.1	Use addition and subtraction within 20 to solve problems.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 3.8, 4.1, 4.2, 4.3, 4.5, 4.6, 4.7, 4.8, 5.1, 5.2, 5.3, 5.4, 5.7, 10.5, 11.1, 11.2, 11.3, 11.5
1.RA.A.2	Solve problems that call for addition of three whole numbers whose sum is within 20.	4.5, 4.8, 11.2, 11.3, 11.5
1.RA.A.3	Develop the meaning of the equal sign and determine if equations involving addition and subtraction are true or false.	2.6, 3.6, 5.5, 5.6
1.RA.A.4	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.	1.1, 1.2, 1.3, 1.5, 1.9, 2.2, 2.7, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.8, 4.1, 4.2, 4.3, 5.2, 5.3, 5.4, 5.6
1.RA.B	**Understand and apply properties of operations and the relationship between addition and subtraction.**	
1.RA.B.5	Use properties as strategies to add and subtract.	2.1, 2.2, 2.3, 2.6, 2.7, 2.8, 2.9, 3.1, 3.3, 3.6, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 5.2, 5.3, 5.4, 5.7
1.RA.B.6	Demonstrate that subtraction can be solved as an unknown-addend problem.	2.9, 5.2
1.RA.C	**Add and subtract within 20.**	
1.RA.C.7	Add and subtract within 20.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7
1.RA.C.8	Demonstrate fluency with addition and subtraction within 10.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8

Standard		Big Ideas Math®: Modeling Real Life, Grade 1
GEOMETRY AND MEASUREMENT: GM		
1.GM.A	**Reason with shapes and their attributes.**	
1.GM.A.1	Distinguish between defining attributes versus non-defining attributes; build and draw shapes that possess defining attributes.	13.1, 13.6
1.GM.A.2	Compose and decompose two- and three-dimensional shapes to build an understanding of part-whole relationships and the properties of the original and composite shapes.	13.2, 13.3, 13.4, 13.5, 13.7, 13.8, 13.9
1.GM.A.3	Recognize two- and three-dimensional shapes from different perspectives and orientations.	13.2
1.GM.A.4	Partition circles and rectangles into two or four equal shares, and describe the shares and the wholes verbally.	14.1, 14.2, 14.3
1.GM.B	**Measure lengths in non-standard units.**	
1.GM.B.5	Order three or more objects by length.	10.1, 10.3, 10.4, 10.5
1.GM.B.6	Compare the lengths of two objects indirectly by using a third object.	10.2
1.GM.B.7	Demonstrate the ability to measure length or distance using objects.	10.3, 10.4, 10.5
1.GM.C	**Work with time and money.**	
1.GM.C.8	Tell and write time in hours and half-hours using analog and digital clocks.	12.1, 12.2, 12.3, 12.4
1.GM.C.9	Know the value of a penny, nickel, dime and quarter.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 2: 14.1

Standard		Big Ideas Math®: Modeling Real Life, Grade 1
DATA AND STATISTICS: DS		
1.DS.A	**Represent and interpret data.**	
1.DS.A.1	Collect, organize and represent data with up to three categories.	11.1, 11.2, 11.3, 11.4, 11.5
1.DS.A.2	Draw conclusions from object graphs, picture graphs, T-charts and tallies.	11.1, 11.2, 11.3, 11.4, 11.5

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Grade 2

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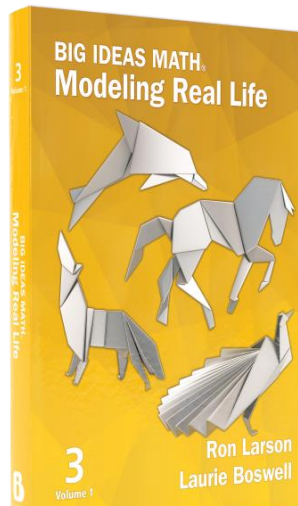| Standard		Big Ideas Math®: Modeling Real Life, Grade 2
NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT		
2.NBT.A	**Understand place value of three digit numbers.**	
2.NBT.A.1	Understand three-digit numbers are composed of hundreds, tens and ones.	7.1
2.NBT.A.2	Understand that 100 can be thought of as 10 tens – called a "hundred".	7.1
2.NBT.A.3	Count within 1000 by 1s, 10s and 100s starting with any number.	8.1, 8.2, 8.3, 8.4, 14.6
2.NBT.A.4	Read and write numbers to 1000 using number names, base-ten numerals and expanded form.	7.2, 7.3, 7.4, 7.5
2.NBT.A.5	Compare two three-digit numbers using the symbols >, = or <.	8.5, 8.6
2.NBT.B	**Use place value understanding and properties of operations to add and subtract.**	
2.NBT.B.6	Demonstrate fluency with addition and subtraction within 100.	2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 9.1, 9.7, 10.1, 10.5, 10.6, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7
2.NBT.B.7	Add up to four two-digit numbers.	2.3, 4.6, 4.7, 9.8
2.NBT.B.8	Add or subtract within 1000, and justify the solution.	9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9
2.NBT.B.9	Use the relationship between addition and subtraction to solve problems.	9.9, 10.8, 10.9
2.NBT.B.10	Add or subtract mentally 10 or 100 to or from a given number within 1000.	8.3, 8.4, 9.1, 9.2, 10.1, 10.2
2.NBT.C	**Represent and solve problems involving addition and subtraction.**	
2.NBT.C.11	Write and solve problems involving addition and subtraction within 100.	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7

Standard		Big Ideas Math®: Modeling Real Life, Grade 2
RELATIONSHIPS AND ALGEBRAIC THINKING: RA		
2.RA.A	**Add and subtract within 20.**	
2.RA.A.1	Demonstrate fluency with addition and subtraction within 20.	1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 15.5
2.RA.B	**Develop foundations for multiplication and division.**	
2.RA.B.2	Determine if a set of objects has an odd or even number of members. a) Count by 2s to 100 starting with any even number. b) Express even numbers as pairings/groups of 2, and write an expression to represent the number using addends of 2. c) Express even numbers as being composed of equal groups and write an expression to represent the number with 2 equal addends.	1.1, 1.2
2.RA.B.3	Find the total number of objects arranged in a rectangular array with up to 5 rows and 5 columns, and write an equation to represent the total as a sum of equal addends.	1.3, 1.4, 1.5, 15.5
GEOMETRY AND MEASUREMENT: GM		
2.GM.A	**Reason with shapes and their attributes.**	
2.GM.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or sides. a) Identify triangles, quadrilaterals, pentagons, hexagons, circles and cubes. b) Identify the faces of three-dimensional objects.	15.1, 15.2, 15.3, 15.4
2.GM.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of squares.	15.5

Standard		Big Ideas Math®: Modeling Real Life, Grade 2
2.GM.A.3	Partition circles and rectangles into two, three or four equal shares, and describe the shares and the whole. a) Demonstrate that equal shares of identical wholes need not have the same shape.	15.6, 15.7, 15.8
2.GM.B	**Measure and estimate lengths in standard units.**	
2.GM.B.4	Measure the length of an object by selecting and using appropriate tools.	11.1, 11.2, 11.4, 11.5, 11.7, 11.8
2.GM.B.5	Analyze the results of measuring the same object with different units.	11.7
2.GM.B.6	Estimate lengths using units of inches, feet, yards, centimeters and meters.	11.3, 11.6
2.GM.B.7	Measure to determine how much longer one object is than another.	11.8
2.GM.C	**Relate addition and subtraction to length.**	
2.GM.C.8	Use addition and subtraction within 100 to solve problems involving lengths that are given in the same units.	12.2, 12.3, 12.4
2.GM.C.9	Represent whole numbers as lengths on a number line, and represent whole-number sums and differences within 100 on a number line.	12.1, 13.6, 13.7
2.GM.D	**Work with time and money.**	
2.GM.D.10	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	14.8, 14.9, 14.10
2.GM.D.11	Describe a time shown on a digital clock as representing hours and minutes, and relate a time shown on a digital clock to the same time on an analog clock.	14.8, 14.9, 14.10
2.GM.D.12	Find the value of combinations of dollar bills, quarters, dimes, nickels and pennies, using $ and ¢ appropriately.	14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7
2.GM.D.13	Find combinations of coins that equal a given amount.	14.1, 14.2, 14.3, 14.4, 14.5, 14.7

Standard		Big Ideas Math®: Modeling Real Life, Grade 2
DATA AND STATISTICS: DS		
2.DS.A	**Represent and interpret data.**	
2.DS.A.1	Create a line plot to represent a set of numeric data, given a horizontal scale marked in whole numbers.	13.6, 13.7
2.DS.A.2	Generate measurement data to the nearest whole unit, and display the data in a line plot.	13.6, 13.7
2.DS.A.3	Draw a picture graph or a bar graph to represent a data set with up to four categories.	13.1, 13.2, 13.3, 13.4, 13.5
2.DS.A.4	Solve problems using information presented in line plots, picture graphs and bar graphs.	13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7
2.DS.A.5	Draw conclusions from line plots, picture graphs and bar graphs.	13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7

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Grade 3

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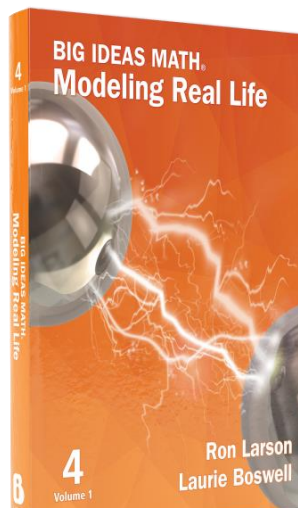| Standard		Big Ideas Math®: Modeling Real Life, Grade 3
NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT		
3.NBT.A	**Use place value understanding and properties of operations to perform multi-digit arithmetic.**	
3.NBT.A.1	Round whole numbers to the nearest 10 or 100.	7.1, 7.2, 7.3, 7.4, 7.5
3.NBT.A.2	Read, write and identify whole numbers within 100,000 using base ten numerals, number names and expanded form.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 4: 1.1, 1.2
3.NBT.A.3	Demonstrate fluency with addition and subtraction within 1000.	7.4, 7.5, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 12.4
3.NBT.A.4	Multiply whole numbers by multiples of 10 in the range 10-90.	9.1, 9.2, 9.3
NUMBER SENSE AND OPERATIONS IN FRACTIONS: NF		
3.NF.A	**Develop understanding of fractions as numbers.**	
3.NF.A.1	Understand a unit fraction as the quantity formed by one part when a whole is partitioned into equal parts.	10.1, 10.2, 10.3, 10.4, 10.5
3.NF.A.2	Understand that when a whole is partitioned equally, a fraction can be used to represent a portion of the whole. a) Describe the numerator as representing the number of pieces being considered. b) Describe the denominator as the number of pieces that make the whole.	10.1, 10.2, 10.3, 10.4, 10.5
3.NF.A.3	Represent fractions on a number line. a) Understand the whole is the interval from 0 to 1. b) Understand the whole is partitioned into equal parts. c) Understand a fraction represents the endpoint of the length a given number of partitions from 0.	10.4, 10.5, 14.5, 14.6, 14.7
3.NF.A.4	Demonstrate that two fractions are equivalent if they are the same size or the same point on a number line.	11.1, 11.2

Standard		Big Ideas Math®: Modeling Real Life, Grade 3
3.NF.A.5	Recognize and generate equivalent fractions using visual models, and justify why the fractions are equivalent.	11.1, 11.2
3.NF.A.6	Compare two fractions with the same numerator or denominator using the symbols >, = or <, and justify the solution.	11.4, 11.5, 11.6, 11.7, 11.8
3.NF.A.7	Explain why fraction comparisons are only valid when the two fractions refer to the same whole.	11.4, 11.5, 11.6, 11.7, 11.8
RELATIONSHIPS AND ALGEBRAIC THINKING: RA		
3.RA.A	**Represent and solve problems involving multiplication and division.**	
3.RA.A.1	Interpret products of whole numbers.	1.1, 1.2, 1.3, 1.4
3.RA.A.2	Interpret quotients of whole numbers.	1.5, 1.6, 4.1, 4.2
3.RA.A.3	Describe in words or drawings a problem that illustrates a multiplication or division situation.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 4.1, 4.2
3.RA.A.4	Use multiplication and division within 100 to solve problems.	1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 14.5
3.RA.A.5	Determine the unknown number in a multiplication or division equation relating three whole numbers.	2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.2, 5.4
3.RA.B	**Understand properties of multiplication and the relationship between multiplication and division.**	
3.RA.B.6	Apply properties of operations as strategies to multiply and divide.	1.4, 2.4, 2.5, 3.7, 3.8, 3.9, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 9.3
3.RA.C	**Multiply and divide within 100.**	
3.RA.C.7	Multiply and divide with numbers and results within 100 using strategies such as the relationship between multiplication and division or properties of operations. Know all products of two one-digit numbers.	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.1, 5.2, 5.3, 5.4
3.RA.C.8	Demonstrate fluency with products within 100.	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.1, 5.2, 5.3, 5.4

Standard		Big Ideas Math®: Modeling Real Life, Grade 3
3.RA.D	**Use the four operations to solve word problems.**	
3.RA.D.9	Write and solve two-step problems involving variables using any of the four operations.	5.4, 8.11, 9.4, 9.5, 14.5, 14.6, 14.7
3.RA.D.10	Interpret the reasonableness of answers using mental computation and estimation strategies including rounding.	5.4, 8.11, 9.4, 9.5, 14.5, 14.6, 14.7
3.RA.E	**Identify and explain arithmetic patterns.**	
3.RA.E.11	Identify arithmetic patterns and explain the patterns using properties of operations.	2.1, 2.2, 2.3, 2.4, 5.1, 5.2
GEOMETRY AND MEASUREMENT: GM		
3.GM.A	**Reason with shapes and their attributes.**	
3.GM.A.1	Understand that shapes in different categories may share attributes and that the shared attributes can define a larger category.	13.1, 13.2, 13.3, 13.4
3.GM.A.2	Distinguish rhombuses and rectangles as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to these subcategories.	13.1, 13.2, 13.3, 13.4
3.GM.A.3	Partition shapes into parts with equal areas, and express the area of each part as a unit fraction of the whole.	10.1, 10.2, 10.3
3.GM.B	**Solve problems involving the measurement of time, liquid volumes and weights of objects.**	
3.GM.B.4	Tell and write time to the nearest minute.	12.1, 12.2, 12.3, 12.4
3.GM.B.5	Estimate time intervals in minutes.	12.1, 12.2, 12.3, 12.4
3.GM.B.6	Solve problems involving addition and subtraction of minutes.	12.1, 12.2, 12.3, 12.4
3.GM.B.7	Measure or estimate length, liquid volume and weight of objects.	12.5, 12.6, 12.7, 12.8
3.GM.B.8	Use the four operations to solve problems involving lengths, liquid volumes or weights given in the same units.	12.5, 12.6, 12.7, 12.8

Standard		Big Ideas Math®: Modeling Real Life, Grade 3
3.GM.C	**Understand concepts of area.**	
3.GM.C.9	Calculate area by using unit squares to cover a plane figure with no gaps or overlaps.	6.1, 6.2, 6.3, 15.4, 15.5
3.GM.C.10	Label area measurements with squared units.	6.1, 6.2, 6.3, 15.4, 15.5
3.GM.C.11	Demonstrate that tiling a rectangle to find the area and multiplying the side lengths result in the same value.	6.3
3.GM.C.12	Multiply whole-number side lengths to solve problems involving the area of rectangles.	6.3, 6.4, 6.5
3.GM.C.13	Find rectangular arrangements that can be formed for a given area.	6.3
3.GM.C.14	Decompose a rectangle into smaller rectangles to find the area of the original rectangle.	6.5
3.GM.D	**Understand concepts of perimeter.**	
3.GM.D.15	Solve problems involving perimeters of polygons.	15.1, 15.2, 15.3, 15.4, 15.5
3.GM.D.16	Understand that rectangles can have equal perimeters but different areas, or rectangles can have equal areas but different perimeters.	15.4, 15.5
DATA AND STATISTICS: DS		
3.DS.A	**Represent and analyze data.**	
3.DS.A.1	Create frequency tables, scaled picture graphs and bar graphs to represent a data set with several categories.	14.1, 14.2, 14.3, 14.4
3.DS.A.2	Solve one- and two-step problems using information presented in bar and/or picture graphs.	14.1, 14.2, 14.3, 14.4
3.DS.A.3	Create a line plot to represent data.	14.5, 14.6, 14.7
3.DS.A.4	Use data shown in a line plot to answer questions.	14.5, 14.6, 14.7

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Grade 4

BIG IDEAS LEARNING®

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Correlated to the Missouri Mathematics Standards
Grade 4

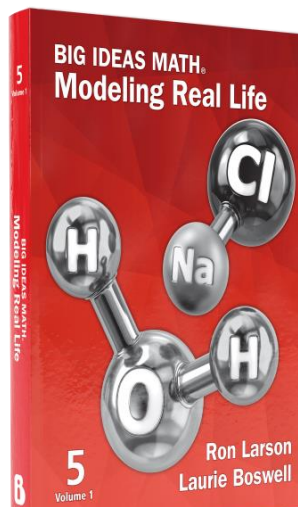| Standard		Big Ideas Math®: Modeling Real Life, Grade 4
NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT		
4.NBT.A	**Use place value understanding and properties of operations to perform multi-digit arithmetic with numbers up to one million.**	
4.NBT.A.1	Round multi-digit whole numbers to any place.	1.4, 3.3, 4.2
4.NBT.A.2	Read, write and identify multi-digit whole numbers up to one million using number names, base ten numerals and expanded form.	1.1, 1.2
4.NBT.A.3	Compare two multi-digit numbers using the symbols >, = or <, and justify the solution.	1.3
4.NBT.A.4	Understand that in a multi-digit whole number, a digit represents 10 times what it would represent in the place to its right.	1.1, 3.2, 5.1
4.NBT.A.5	Demonstrate fluency with addition and subtraction of whole numbers.	2.1, 2.2, 2.3, 2.4, 2.5
4.NBT.A.6	Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, and justify the solution.	3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8
4.NBT.A.7	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, and justify the solution.	5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9
NUMBER SENSE AND OPERATIONS IN FRACTIONS: NF		
4.NF.A	**Extend understanding of fraction equivalence and ordering. (Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12 and 100.)**	
4.NF.A.1	Explain and/or illustrate why two fractions are equivalent.	7.1, 7.2, 7.3
4.NF.A.2	Recognize and generate equivalent fractions.	7.1, 7.2, 7.3
4.NF.A.3	Compare two fractions using the symbols >, = or <, and justify the solution.	7.4, 7.5

Standard		Big Ideas Math®: Modeling Real Life, Grade 4
4.NF.B	**Extend understanding of operations on whole numbers to fraction operations.**	
4.NF.B.4	Understand addition and subtraction of fractions as joining/composing and separating/decomposing parts referring to the same whole.	8.1, 8.4
4.NF.B.5	Decompose a fraction into a sum of fractions with the same denominator and record each decomposition with an equation and justification.	8.2, 8.6
4.NF.B.6	Solve problems involving adding and subtracting fractions and mixed numbers with like denominators.	8.3, 8.5, 8.7, 8.8, 8.9
4.NF.B.7	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	9.1, 9.2, 9.3, 9.4, 9.5
4.NF.B.8	Solve problems involving multiplication of a fraction by a whole number.	9.1, 9.2, 9.3, 9.4, 9.5
4.NF.C	**Understand decimal notation for fractions, and compare decimal fractions. (Denominators of 10 or 100)**	
4.NF.C.9	Use decimal notation for fractions with denominators of 10 or 100.	10.1, 10.2, 10.3, 10.5, 10.6
4.NF.C.10	Understand that fractions and decimals are equivalent representations of the same quantity.	10.1, 10.2, 10.3
4.NF.C.11	Read, write and identify decimals to the hundredths place using number names, base ten numerals and expanded form.	10.1, 10.2
4.NF.C.12	Compare two decimals to the hundredths place using the symbols >, = or <, and justify the solution.	10.4
RELATIONSHIPS AND ALGEBRAIC THINKING: RA		
4.RA.A	**Use the four operations with whole numbers to solve problems.**	
4.RA.A.1	Multiply or divide to solve problems involving a multiplicative comparison.	3.1, 12.1, 12.2, 12.3, 12.4

Standard		Big Ideas Math®: Modeling Real Life, Grade 4
4.RA.A.2	Solve multi-step whole number problems involving the four operations and variables and using estimation to interpret the reasonableness of the answer.	2.5, 3.10, 4.8, 5.9, 12.4
4.RA.A.3	Solve whole number division problems involving variables in which remainders need to be interpreted, and justify the solution.	5.9
4.RA.B	**Work with factors and multiples.**	
4.RA.B.4	Recognize that a whole number is a multiple of each of its factors and find the multiples for a given whole number.	5.2, 6.1, 6.2, 6.3, 6.4
4.RA.B.5	Determine if a whole number within 100 is composite or prime, and find all factor pairs for whole numbers within 100.	6.1, 6.2, 6.4
4.RA.C	**Generate and analyze patterns.**	
4.RA.C.6	Generate a number pattern that follows a given rule.	6.5
4.RA.C.7	Use words or mathematical symbols to express a rule for a given pattern.	6.5
GEOMETRY AND MEASUREMENT: GM		
4.GM.A	**Classify 2-dimensional shapes by properties of their lines and angles.**	
4.GM.A.1	Draw and identify points, lines, line segments, rays, angles, perpendicular lines and parallel lines.	13.1, 13.2, 13.3
4.GM.A.2	Classify two-dimensional shapes by their sides and/or angles.	14.3, 14.4, 14.5
4.GM.A.3	Construct lines of symmetry for a two-dimensional figure.	14.1, 14.2
4.GM.B	**Understand the concepts of angle and measure angles.**	
4.GM.B.4	Identify and estimate angles and their measure.	13.2, 13.4, 13.5, 13.6
4.GM.B.5	Draw and measure angles in whole-number degrees using a protractor.	13.6, 13.7, 13.8

Standard		Big Ideas Math®: Modeling Real Life, Grade 4
4.GM.C	**Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.**	
4.GM.C.6	Know relative sizes of measurement units within one system of units. a) Convert measurements in a larger unit in terms of a smaller unit.	11.1, 11.2, 11.3, 11.4, 11.5, 11.7, 11.9
4.GM.C.7	Use the four operations to solve problems involving distances, intervals of time, liquid volume, weight of objects and money.	10.7, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9
4.GM.C.8	Apply the area and perimeter formulas for rectangles to solve problems.	12.1, 12.2, 12.3, 12.4
DATA AND STATISTICS: DS		
4.DS.A	**Represent and analyze data.**	
4.DS.A.1	Create a frequency table and/or line plot to display measurement data.	11.6
4.DS.A.2	Solve problems involving addition and subtraction by using information presented in a data display.	11.6
4.DS.A.3	Analyze the data in a frequency table, line plot, bar graph or picture graph.	11.6 Also see: Big Ideas Math®: Modeling Real Life, Grade 3: 14.1, 14.2, 14.3, 14.4, 14.5

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Grade 5

BIG IDEAS LEARNING®

Standard		Big Ideas Math®: Modeling Real Life, Grade 5
NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT		
5.NBT.A	**Use place value system understanding to perform operations with multi-digit whole numbers to billions and decimals to thousandths.**	
5.NBT.A.1	Read, write and identify numbers from billions to thousandths using number names, base ten numerals and expanded form.	1.4, 1.5 Also see: See "**Read and Write Multi-Digit Numbers**" in the Additional Topics found online in the State-Specific Resources
5.NBT.A.2	Compare two numbers from billions to thousandths using the symbols >, = or <, and justify the solution.	1.6 Also see: See "**Compare Multi-Digit Numbers**" in the Additional Topics found online in the State-Specific Resources
5.NBT.A.3	Understand that in a multi-digit number, a digit represents 1/10 times what it would represent in the place to its left.	1.1, 1.2, 1.4, 1.5
5.NBT.A.4	Evaluate the value of powers of 10 and understand the relationship to the place value system.	1.3, 4.1, 5.1, 7.1, 7.2
5.NBT.A.5	Round numbers from billions to thousandths place.	1.7, 3.1, 5.2, 7.2 Also see: See "**Round Multi-Digit Numbers**" in the Additional Topics found online in the State-Specific Resources
5.NBT.A.6	Add and subtract multi-digit whole numbers and decimals to the thousandths place, and justify the solution.	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 Also see: See "**Add and Subtract Decimals: Thousandths**" in the Additional Topics found online in the State-Specific Resources

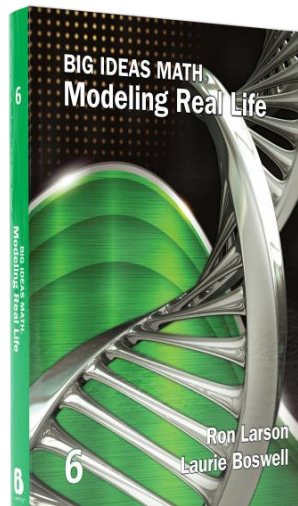| Standard		Big Ideas Math®: Modeling Real Life, Grade 5
5.NBT.A.7	Multiply multi-digit whole numbers and decimals to the hundredths place, and justify the solution.	4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9
5.NBT.A.8	Divide multi-digit whole numbers and decimals to the hundredths place using up to two-digit divisors and four-digit dividends, and justify the solution.	6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9
NUMBER SENSE AND OPERATIONS IN FRACTIONS: NF		
5.NF.A	**Understand the relationship between fractions and decimals (denominators that are factors of 100).**	
5.NF.A.1	Understand that parts of a whole can be expressed as fractions and/or decimals.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 4: 10.3
5.NF.A.2	Convert decimals to fractions and fractions to decimals.	10.1, 10.2 Also see: Big Ideas Math®: Modeling Real Life, Grade 4: 10.1, 10.2, 10.3
5.NF.A.3	Compare and order fractions and/or decimals to the thousandths place using the symbols >, = or <, and justify the solution.	1.6
5.NF.B	**Perform operations and solve problems with fractions and decimals.**	
5.NF.B.4	Estimate results of sums, differences and products with fractions and decimals to the thousandths.	8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 11.3, 11.4, 11.5, 11.6
5.NF.B.5	Justify the reasonableness of a product when multiplying with fractions. a) Estimate the size of the product based on the size of the two factors. b) Explain why multiplying a given number by a fraction greater than 1 results in a product larger than the given number. c) Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number. d) Explain why multiplying the numerator and denominator by the same number is equivalent to multiplying the fraction by 1.	9.8

BIG IDEAS LEARNING®

Standard		Big Ideas Math®: Modeling Real Life, Grade 5
5.NF.B.6	Solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators, and justify the solution.	8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 11.3, 11.4, 11.5, 11.6
5.NF.B.7	Extend the concept of multiplication to multiply a fraction or whole number by a fraction. a) Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths. b) Calculate and interpret the product of a fraction by a whole number and a whole number by a fraction. c) Calculate and interpret the product of two fractions less than one.	9.1, 9.2, 9.3, 9.4, 9.5, 9.6
5.NF.B.8	Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. a) Calculate and interpret the quotient of a unit fraction by a non-zero whole number. b) Calculate and interpret the quotient of a whole number by a unit fraction.	10.3, 10.4, 10.5
RELATIONSHIPS AND ALGEBRAIC THINKING: RA		
5.RA.A	**Represent and analyze patterns and relationships.**	
5.RA.A.1	Investigate the relationship between two numeric patterns. a) Generate two numeric patterns given two rules. b) Translate two numeric patterns into two sets of ordered pairs. c) Graph numeric patterns on the Cartesian coordinate plane. d) Identify the relationship between two numeric patterns.	12.5, 12.6, 12.7
5.RA.A.2	Write a rule to describe or explain a given numeric pattern.	12.5, 12.6, 12.7
5.RA.B	**Write and interpret numerical expressions.**	
5.RA.B.3	Write, evaluate and interpret numeric expressions using the order of operations.	2.1, 2.2, 2.3, 2.4

Standard		Big Ideas Math®: Modeling Real Life, Grade 5
5.RA.B.4	Translate written expressions into algebraic expressions.	2.3, 2.4
5.RA.C	**Use the four operations to represent and solve problems.**	
5.RA.C.5	Solve and justify multi-step problems involving variables, whole numbers, fractions and decimals.	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9
GEOMETRY AND MEASUREMENT: GM		
5.GM.A	**Classify two- and three-dimensional geometric shapes.**	
5.GM.A.1	Understand that attributes belonging to a category of figures also belong to all subcategories.	14.1, 14.2, 14.3
5.GM.A.2	Classify figures in a hierarchy based on properties.	14.1, 14.2, 14.3
5.GM.A.3	Analyze and describe the properties of prisms and pyramids.	The opportunity to address this standard exists. For example, see: Big Ideas Math®: Modeling Real Life, Grade 6: 7.4
5.GM.B	**Understand and compute volume.**	
5.GM.B.4	Understand the concept of volume and recognize that volume is measured in cubic units. a) Describe a cube with edge length 1 unit as a "unit cube" and is said to have "one cubic unit" of volume and can be used to measure volume. b) Understand that the volume of a right rectangular prism can be found by stacking multiple layers of the base.	13.1, 13.2, 13.5
5.GM.B.5	Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for volume of right rectangular prisms with whole-number edge lengths.	13.3, 13.4, 13.5

Standard		Big Ideas Math®: Modeling Real Life, Grade 5
5.GM.C	**Graph points on the Cartesian coordinate plane within the first quadrant to solve problems.**	
5.GM.C.6	Define a first quadrant Cartesian coordinate system. a) Represent the axes as scaled perpendicular number lines that both intersect at 0, the origin. b) Identify any point on the Cartesian coordinate plane by its ordered pair coordinates. c) Define the first number in an ordered pair as the horizontal distance from the origin. d) Define the second number in an ordered pair as the vertical distance from the origin.	12.1, 12.2
5.GM.C.7	Plot and interpret points in the first quadrant of the Cartesian coordinate plane.	12.3, 12.4, 12.5, 12.6, 12.7
5.GM.D	**Solve problems involving measurement and conversions within a measurement system.**	
5.GM.D.8	Convert measurements of capacity, length and weight within a given measurement system.	11.1, 11.2, 11.3, 11.4, 11.5, 11.7
5.GM.D.9	Solve multi-step problems that require measurement conversions.	11.1, 11.2, 11.3, 11.4, 11.5, 11.7
DATA AND STATISTICS: DS		
5.DS.A	**Represent and analyze data.**	
5.DS.A.1	Create a line graph to represent a data set, and analyze the data to answer questions and solve problems.	12.3, 12.4
5.DS.A.2	Create a line plot to represent a given or generated data set, and analyze the data to answer questions and solve problems, recognizing the outliers and generating the median.	11.6, 11.7

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Grade 6

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Standard		Big Ideas Math®: Modeling Real Life, Grade 6
RATIOS AND PROPORTIONAL RELATIONSHIPS: RP		
6.RP.A	**Understand and use ratios to solve problems.**	
6.RP.A.1	Understand a ratio as a comparison of two quantities and represent these comparisons.	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.4
6.RP.A.2	Understand the concept of a unit rate associated with a ratio, and describe the meaning of unit rate.	3.5, 3.6
6.RP.A.3	Solve problems involving ratios and rates. a) Create tables of equivalent ratios, find missing values in the tables and plot the pairs of values on the Cartesian coordinate plane. b) Solve unit rate problems. c) Solve percent problems. d) Convert measurement units within and between two systems of measurement.	1.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.4, 6.4, 7.1, 7.7
NUMBER SENSE AND OPERATIONS: NS		
6.NS.A	**Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**	
6.NS.A.1	Compute and interpret quotients of positive fractions. a) Solve problems involving division of fractions by fractions.	2.2, 2.3
6.NS.B	**Compute with non-negative multi-digit numbers, and find common factors and multiples.**	
6.NS.B.2	Demonstrate fluency with division of multi-digit whole numbers.	2.6, 2.7
6.NS.B.3	Demonstrate fluency with addition, subtraction, multiplication and division of decimals.	2.4, 2.5, 2.7

Standard		Big Ideas Math®: Modeling Real Life, Grade 6
6.NS.B.4	Find common factors and multiples. a) Find the greatest common factor (GCF) and the least common multiple (LCM). b) Use the distributive property to express a sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers.	1.3, 1.4, 1.5, 5.5
6.NS.C	**Apply and extend previous understandings of numbers to the system of rational numbers.**	
6.NS.C.5	Use positive and negative numbers to represent quantities.	8.1, 8.2, 8.3, 8.4, 8.5, 8.7, 8.8
6.NS.C.6	Locate a rational number as a point on the number line. a) Locate rational numbers on a horizontal or vertical number line. b) Write, interpret and explain problems of ordering of rational numbers. c) Understand that a number and its opposite (additive inverse) are located on opposite sides of zero on the number line.	8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8
6.NS.C.7	Understand that the absolute value of a rational number is its distance from 0 on the number line.	8.4
6.NS.C.8	Extend prior knowledge to generate equivalent representations of rational numbers between fractions, decimals and percentages (limited to terminating decimals and/or benchmark fractions of 1/3 and 2/3).	4.1, 4.2, 4.3
EXPRESSIONS, EQUATIONS AND INEQUALITIES: EEI		
6.EEI.A	**Apply and extend previous understandings of arithmetic to algebraic expressions.**	
6.EEI.A.1	Describe the difference between an expression and an equation.	5.1, 6.1

Standard		Big Ideas Math®: Modeling Real Life, Grade 6
6.EEI.A.2	Create and evaluate expressions involving variables and whole number exponents. a) Identify parts of an expression using mathematical terminology. b) Evaluate expressions at specific values of the variables. c) Evaluate non-negative rational number expressions. d) Write and evaluate algebraic expressions. e) Understand the meaning of the variable in the context of the situation.	1.1, 1.2, 5.1, 5.2, 5.3, 5.4, 5.5, 7.1, 7.2, 7.3
6.EEI.A.3	Identify and generate equivalent algebraic expressions using mathematical properties.	5.3, 5.4, 5.5
6.EEI.B	**Reason about and solve one-variable equations and inequalities.**	
6.EEI.B.4	Use substitution to determine whether a given number in a specified set makes a one-variable equation or inequality true.	6.1, 6.2, 6.3, 8.7, 8.8
6.EEI.B.5	Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.	6.1, 6.2, 6.3, 6.4, 8.7, 8.8
6.EEI.B.6	Write and solve equations using variables to represent quantities, and understand the meaning of the variable in the context of the situation.	6.1, 6.2, 6.3, 6.4, 8.7, 8.8
6.EEI.B.7	Solve one-step linear equations in one variable involving non-negative rational numbers.	6.1, 6.2, 6.3
6.EEI.B.8	Recognize that inequalities may have infinitely many solutions. a) Write an inequality of the form $x > c$, $x < c$, $x \geq c$ or $x \leq c$ to represent a constraint or condition. b) Graph the solution set of an inequality.	8.7, 8.8

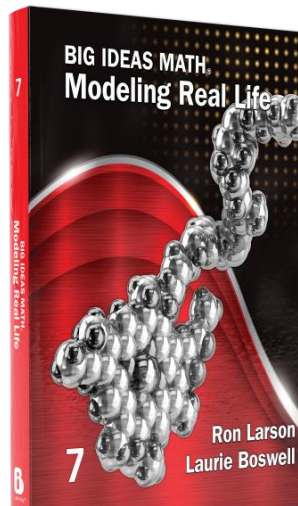| Standard		Big Ideas Math®: Modeling Real Life, Grade 6
6.EEI.C	**Represent and analyze quantitative relationships between dependent and independent variables.**	
6.EEI.C.9	Identify and describe relationships between two variables that change in relationship to one another. a) Write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. b) Analyze the relationship between the dependent and independent variables using graphs, tables and equations and relate these representations to each other.	6.4
GEOMETRY AND MEASUREMENT: GM		
6.GM.A	**Solve problems involving area, surface area and volume.**	
6.GM.A.1	Find the area of polygons by composing or decomposing the shapes into rectangles or triangles.	7.1, 7.2, 7.3, 7.5, 7.6, 8.6
6.GM.A.2	Find the volume of right rectangular prisms. a) Understand that the volume of a right rectangular prism can be found by filling the prism with multiple layers of the base. b) Apply $V = l\,x\,w\,x\,h$ and $V = Bh$ to find the volume of right rectangular prisms.	7.7
6.GM.A.3	Solve problems by graphing points in all four quadrants of the Cartesian coordinate plane. a) Understand signs of numbers in ordered pairs as indicating locations in quadrants of the Cartesian coordinate plane b) Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. c) Find distances between points with the same first coordinate or the same second coordinate. d) Construct polygons in the Cartesian coordinate plane.	8.1, 8.3, 8.5, 8.6

Standard		Big Ideas Math®: Modeling Real Life, Grade 6
6.GM.A.4	Solve problems using nets. a) Represent three-dimensional figures using nets made up of rectangles and triangles. b) Use nets to find the surface area of three-dimensional figures whose sides are made up of rectangles and triangles.	7.4, 7.5, 7.6
DATA ANALYSIS, STATISTICS AND PROBABILITY: DSP		
6.DSP.A	**Develop understanding of statistical variability.**	
6.DSP.A.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.	9.1
6.DSP.A.2	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread and overall shape.	9.1, 9.2, 9.3, 9.4, 9.5, 10.1, 10.3, 10.4, 10.5
6.DSP.A.3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary from a single number.	9.2, 9.3, 9.4, 9.5
6.DSP.B	**Summarize and describe distributions.**	
6.DSP.B.4	Display and interpret data. a) Use dot plots, histograms and box plots to display and interpret numerical data. b) Create and interpret circle graphs.	9.1, 10.2, 10.3, 10.4, 10.5

Standard		Big Ideas Math®: Modeling Real Life, Grade 6
6.DSP.B.5	Summarize numerical data sets in relation to the context. a) Report the number of observations. b) Describe the nature of the attribute under investigation, including how it was measured and its units of measurement. c) Give quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context of the data. d) Analyze the choice of measures of center and variability based on the shape of the data distribution and/or the context of the data.	9.1, 9.2, 9.3, 9.4, 9.5, 10.4, 10.5

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Grade 7

Standard		Big Ideas Math®: Modeling Real Life, Grade 7
RATIOS AND PROPORTIONAL RELATIONSHIPS: RP		
7.RP.A	**Analyze proportional relationships and use them to solve problems.**	
7.RP.A.1	Compute unit rates, including those that involve complex fractions, with like or different units.	5.1, 5.2
7.RP.A.2	Recognize and represent proportional relationships between quantities. a) Determine when two quantities are in a proportional relationship. b) Identify and/or compute the constant of proportionality (unit rate). c) Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation. d) Recognize that the graph of any proportional relationship will pass through the origin.	5.2, 5.3, 5.5
7.RP.A.3	Solve problems involving ratios, rates, percentages and proportional relationships.	5.1, 5.2, 5.4, 6.2, 6.3, 6.4, 6.5, 6.6
NUMBER SENSE AND OPERATIONS: NS		
7.NS.A	**Apply and extend previous understandings of operations to add, subtract, multiply and divide rational numbers.**	
7.NS.A.1	Apply and extend previous understandings of numbers to add and subtract rational numbers. a) Add and subtract rational numbers. b) Represent addition and subtraction on a horizontal or vertical number line. c) Describe situations and show that a number and its opposite have a sum of 0 (additive inverses). d) Understand subtraction of rational numbers as adding the additive inverse. e) Determine the distance between two rational numbers on the number line is the absolute value of their difference. f) Interpret sums and differences of rational numbers.	1.1, 1.2, 1.3, 1.4, 1.5

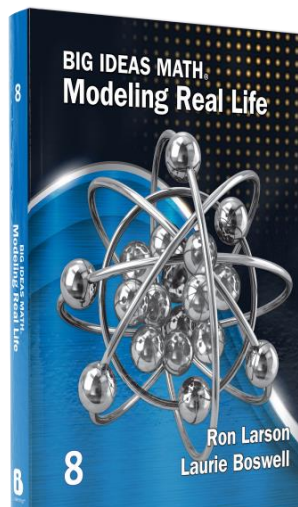|	Standard	Big Ideas Math®: Modeling Real Life, Grade 7
7.NS.A.2	Apply and extend previous understandings of numbers to multiply and divide rational numbers. a) Multiply and divide rational numbers. b) Determine that a number and its reciprocal have a product of 1 (multiplicative inverse). c) Understand that every quotient of integers (with non-zero divisor) is a rational number. d) Convert a rational number to a decimal. e) Understand that all rational numbers can be written as fractions or decimal numbers that terminate or repeat. f) Interpret products and quotients of rational numbers by describing real-world contexts.	2.1, 2.2, 2.3, 2.4, 2.5
7.NS.A.3	Solve problems involving the four arithmetic operations with rational numbers.	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.4, 2.5
EXPRESSIONS, EQUATIONS AND INEQUALITIES: EEI		
7.EEI.A	**Use properties of operations to generate equivalent expressions.**	
7.EEI.A.1	Apply properties of operations to simplify and to factor linear algebraic expressions with rational coefficients.	3.1, 3.2, 3.3, 3.4
7.EEI.A.2	Understand how to use equivalent expressions to clarify quantities in a problem.	3.1, 3.2, 3.3, 3.4
7.EEI.B	**Solve problems using numerical and algebraic expressions and equations.**	
7.EEI.B.3	Solve multi-step problems posed with rational numbers. a) Convert between equivalent forms of the same number. b) Assess the reasonableness of answers using mental computation and estimation strategies.	6.1, 6.2, 6.3, 6.4, 6.5, 6.6

Standard		Big Ideas Math®: Modeling Real Life, Grade 7
7.EEI.B.4	Write and/or solve linear equations and inequalities in one variable. a) Write and/or solve equations of the form $x + p = q$ and $px = q$ in which p and q are rational numbers. b) Write and/or solve two-step equations of the form $px + q = r$ and $p(x + q) = r$, where p, q and r are rational numbers, and interpret the meaning of the solution in the context of the problem. c) Write, solve and/or graph inequalities of the form $px + q > r$ or $px + q < r$, where p, q and r are rational numbers.	4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7
GEOMETRY AND MEASUREMENT: GM		
7.GM.A	**Draw and describe geometrical figures and describe the relationships between them.**	
7.GM.A.1	Solve problems involving scale drawings of real objects and geometric figures, including computing actual lengths and areas from a scale drawing and reproducing the drawing at a different scale.	5.6
7.GM.A.2	Use a variety of tools to construct geometric shapes. a) Determine if provided constraints will create a unique triangle through construction. b) Construct special quadrilaterals given specific parameters.	9.4
7.GM.A.3	Describe two-dimensional cross sections of pyramids, prisms, cones and cylinders.	10.6
7.GM.A.4	Understand concepts of circles. a) Analyze the relationships among the circumference, the radius, the diameter, the area and Pi in a circle. b) Know and apply the formulas for circumference and area of circles to solve problems.	9.1, 9.2, 9.3, 10.2

3

Standard		Big Ideas Math®: Modeling Real Life, Grade 7
7.GM.B	**Apply and extend previous understanding of angle measure, area and volume.**	
7.GM.B.5	Use angle properties to write and solve equations for an unknown angle.	9.5
7.GM.B.6	Understand the relationship between area, surface area and volume. a) Find the area of triangles, quadrilaterals and other polygons composed of triangles and rectangles. b) Find the volume and surface area of prisms, pyramids and cylinders.	9.3, 10.1, 10.3, 10.4, 10.5
DATA ANALYSIS, STATISTICS AND PROBABILITY: DSP		
7.DSP.A	**Use random sampling to draw inferences about a population.**	
7.DSP.A.1	Understand that statistics can be used to gain information about a population by examining a sample of the population. a) Understand that a sample is a subset of a population. b) Understand that generalizations from a sample are valid only if the sample is representative of the population. c) Understand that random sampling is used to produce representative samples and support valid inferences.	8.1
7.DSP.A.2	Use data from multiple samples to draw inferences about a population and investigate variability in estimates of the characteristic of interest.	8.1, 8.2, 8.4
7.DSP.B	**Draw informal comparative inferences about two populations.**	
7.DSP.B.3	Analyze different data distributions using statistical measures.	8.3
7.DSP.B.4	Compare the numerical measures of center, measures of frequency and measures of variability from two random samples to draw inferences about the population.	8.4

Standard		Big Ideas Math®: Modeling Real Life, Grade 7
7.DSP.C	**Develop, use and evaluate probability models.**	
7.DSP.C.5	Investigate the probability of chance events. a) Determine probabilities of simple events. b) Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.	7.1
7.DSP.C.6	Investigate the relationship between theoretical and experimental probabilities for simple events. a) Predict outcomes using theoretical probability. b) Perform experiments that model theoretical probability. c) Compare theoretical and experimental probabilities.	7.1, 7.2
7.DSP.C.7	Explain possible discrepancies between a developed probability model and observed frequencies. a) Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. b) Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	7.1, 7.2
7.DSP.C.8	Find probabilities of compound events using organized lists, tables, tree diagrams and simulations. a) Represent the sample space of a compound event. b) Design and use a simulation to generate frequencies for compound events.	7.3, 7.4

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Grade 8

BIG IDEAS LEARNING®

Standard		Big Ideas Math®: Modeling Real Life, Grade 8
NUMBER SENSE AND OPERATIONS: NS		
8.NS.A	**Know that there are numbers that are not rational, and approximate them by rational numbers.**	
8.NS.A.1	Explore the real number system. 1. Know the differences between rational and irrational numbers. 2. Understand that all rational numbers have a decimal expansion that terminates or repeats. 3. Convert decimals which repeat into fractions and fractions into repeating decimals. 4. Generate equivalent representations of rational numbers.	9.4, 9.5
8.NS.A.2	Estimate the value and compare the size of irrational numbers and approximate their locations on a number line.	9.5
EXPRESSIONS, EQUATIONS AND INEQUALITIES: EEI		
8.EEI.A	**Work with radicals and integer exponents.**	
8.EEI.A.1	Know and apply the properties of integer exponents to generate equivalent expressions.	8.1, 8.2, 8.3, 8.4
8.EEI.A.2	Investigate concepts of square and cube roots. a) Solve equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. b) Evaluate square roots of perfect squares less than or equal to 625 and cube roots of perfect cubes less than or equal to 1000. c) Recognize that square roots of non-perfect squares are irrational.	9.1, 9.2, 9.3
8.EEI.A.3	Express very large and very small quantities in scientific notation and approximate how many times larger one is than the other.	8.5, 8.6

Standard		Big Ideas Math®: Modeling Real Life, Grade 8
8.EEI.A.4	Use scientific notation to solve problems. a) Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. b) Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.	8.6, 8.7
8.EEI.B	**Understand the connections between proportional relationships, lines and linear equations.**	
8.EEI.B.5	Graph proportional relationships. a) Interpret the unit rate as the slope of the graph. b) Compare two different proportional relationships.	4.1, 4.3
8.EEI.B.6	Apply concepts of slope and y-intercept to graphs, equations and proportional relationships. a) Explain why the slope (m) is the same between any two distinct points on a non-vertical line in the Cartesian coordinate plane. b) 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.	4.2, 4.3, 4.4, 4.5
8.EEI.C	**Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations.**	
8.EEI.C.7	Solve linear equations and inequalities in one variable. a) Create and identify linear equations with one solution, infinitely many solutions or no solutions. b) Solve linear equations and inequalities with rational number coefficients, including equations and inequalities whose solutions require expanding expressions using the distributive property and combining like terms.	1.1, 1.2, 1.3, 1.4

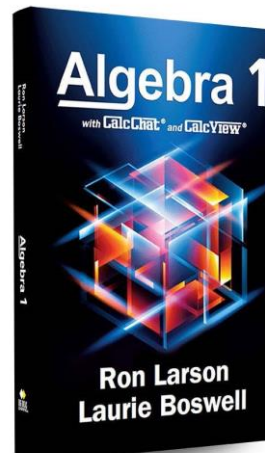| Standard		Big Ideas Math®: Modeling Real Life, Grade 8
8.EEI.C.8	Analyze and solve systems of linear equations. a) Graph systems of linear equations and recognize the intersection as the solution to the system. b) Explain why solution(s) to a system of two linear equations in two variables correspond to point(s) of intersection of the graphs. c) Explain why systems of linear equations can have one solution, no solution or infinitely many solutions. d) Solve systems of two linear equations.	5.1, 5.2, 5.3, 5.4
GEOMETRY AND MEASUREMENT: GM		
8.GM.A	**Understand congruence and similarity using physical models, transparencies or geometry software.**	
8.GM.A.1	Verify experimentally the congruence properties of rigid transformations. a) Verify that angle measure, betweenness, collinearity and distance are preserved under rigid transformations. b) Investigate if orientation is preserved under rigid transformations.	2.1, 2.2, 2.3
8.GM.A.2	Understand that two-dimensional figures are congruent if a series of rigid transformations can be performed to map the pre-image to the image. a) Describe a possible sequence of rigid transformations between two congruent figures.	2.4
8.GM.A.3	Describe the effect of dilations, translations, rotations and reflections on two-dimensional figures using coordinates.	2.1, 2.2, 2.3, 2.5
8.GM.A.4	Understand that two-dimensional figures are similar if a series of transformations (rotations, reflections, translations and dilations) can be performed to map the pre-image to the image. a) Describe a possible sequence of transformations between two similar figures.	2.6, 2.7

Standard		Big Ideas Math®: Modeling Real Life, Grade 8
8.GM.A.5	Explore angle relationships and establish informal arguments. a) Derive the sum of the interior angles of a triangle. b) Explore the relationship between the interior and exterior angles of a triangle. c) Construct and explore the angles created when parallel lines are cut by a transversal. d) Use the properties of similar figures to solve problems.	3.1, 3.2, 3.3, 3.4
8.GM.B	**Understand and apply the Pythagorean Theorem.**	
8.GM.B.6	Use models to demonstrate a proof of the Pythagorean Theorem and its converse.	9.2, 9.6
8.GM.B.7	Use the Pythagorean Theorem to determine unknown side lengths in right triangles in problems in two- and three-dimensional contexts.	9.2
8.GM.B.8	Use the Pythagorean Theorem to find the distance between points in a Cartesian coordinate system.	9.2
8.GM.C	**Solve problems involving volume of cones, pyramids and spheres.**	
8.GM.C.9	Solve problems involving surface area and volume. a) Understand the concept of surface area and find surface area of pyramids. b) Understand the concepts of volume and find the volume of pyramids, cones and spheres.	10.2, 10.3, 10.4 Also see: Big Ideas Math®: Modeling Real Life, Grade 7: 10.3, 10.5
DATA ANALYSIS, STATISTICS AND PROBABILITY: DSP		
8.DSP.A	**Investigate patterns of association in bivariate data.**	
8.DSP.A.1	Construct and interpret scatter plots of bivariate measurement data to investigate patterns of association between two quantities.	6.1, 6.2, 6.4
8.DSP.A.2	Generate and use a trend line for bivariate data, and informally assess the fit of the line.	6.2

Standard		Big Ideas Math®: Modeling Real Life, Grade 8
8.DSP.A.3	Interpret the parameters of a linear model of bivariate measurement data to solve problems.	6.2
8.DSP.A.4	Understand the patterns of association in bivariate categorical data displayed in a two-way table. a) Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. b) Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	6.3
FUNCTIONS: F		
8.F.A	**Define, evaluate and compare functions.**	
8.F.A.1	Explore the concept of functions. (The use of function notation is not required.) a) Understand that a function assigns to each input exactly one output. b) Determine if a relation is a function. c) Graph a function.	7.1, 7.2
8.F.A.2	Compare characteristics of two functions each represented in a different way.	7.3
8.F.A.3	Investigate the differences between linear and nonlinear functions. a) Interpret the equation $y = mx + b$ as defining a linear function, whose parameters are the slope (m) and the y-intercept (b). b) Recognize that the graph of a linear function has a constant rate of change c) Give examples of nonlinear functions.	7.3, 7.4

Standard		Big Ideas Math®: Modeling Real Life, Grade 8
8.F.B	**Use functions to model relationships between quantities.**	
8.F.B.4	Use functions to model linear relationships between quantities. a) Explain the parameters of a linear function based on the context of a problem. b) Determine the parameters of a linear function. c) Determine the x-intercept of a linear function.	4.6, 4.7, 7.2, 7.3
8.F.B.5	Describe the functional relationship between two quantities from a graph or a verbal description.	7.5

Algebra 1 with CalcChat® and CalcView®, by Ron Larson/ Laurie Boswell, ©2022, ISBN: 9781644328644 Correlated to the Missouri Learning Standards for Mathematics, Algebra 1

Grades 9-12

Standard		Algebra 1 with CalcChat® and CalcView®
ALGEBRA 1		
NUMBER AND QUANTITY: NQ		
A1.NQ.A	**Extend and use properties of rational exponents.**	
A1.NQ.A.1	Explain how the meaning of rational exponents extends from the properties of integer exponents.	Section 6.1 (pp. 299-306)
A1.NQ.A.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents. Limit to rational exponents with a numerator of 1.	Section 6.1 (pp. 299-306), Section 6.2 (pp. 307-312)
A1.NQ.B	**Use units to solve problems.**	
A1.NQ.B.3	Use units of measure as a way to understand and solve problems involving quantities. a)Identify, label and use appropriate units of measure within a problem. b)Convert units and rates. c)Use units within problems. d)Choose and interpret the scale and the origin in graphs and data displays.	The opportunity to address this standard occurs in Section 1.1 (pp. 3, 6), Section 1.2 (p. 14), Section 1.3 (pp. 19-24), Section 1.4 (p. 28), Section 1.5 (p. 34), Section 2.2 (p. 74), Section 2.3 (p. 80), Section 2.4 (p. 86), Section 2.5 (p. 92), Section 2.6 (p. 98), Section 3.2 (p. 122), Section 3.4 (p. 138), Section 3.5 (p. 144), Section 3.6 (p. 152), Section 4.1 (p. 190), Section 4.2 (p. 196), Section 4.4 (pp. 205-210), Section 4.5 (pp. 211-218), Section 5.1 (p. 248), Section 5.2 (p. 254), Section 5.3 (p. 260), Section 5.4 (p. 266), Section 5.5 (p. 272), Section 5.6 (p. 278), Section 5.7 (p. 285), Section 6.1 (p. 303), Section 6.2 (p. 310), Section 6.3 (p. 316), Section 7.1 (p. 367), Section 7.3 (p. 382), Section 7.5 (p. 394), Section 7.6 (p. 400), Section 7.7 (p. 406), Section 7.8 (p. 412), Section 8.2 (p. 434), Section 9.4 (p. 514), Section 10.2 (p. 558), Section 10.3 (p. 565), Section 11.2 (pp. 595-602), Section 11.3 (pp. 603-610), Section 11.4 (pp. 611-618), Section 11.5 (pp. 619-624)
A1.NQ.B.4	Define and use appropriate quantities for representing a given context or problem.	Section 1.3 (pp. 19-24)
A1.NQ.B.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Section 1.4 (pp. 25-30)

BIG IDEAS LEARNING®

Standard		Algebra 1 with CalcChat® and CalcView®
SEEING STRUCTURE IN EXPRESSIONS: SSE		
A1.SSE.A	**Interpret and use structure.**	
A1.SSE.A.1	Interpret the contextual meaning of individual terms or factors from a given problem that utilizes formulas or expressions.	Section 2.1 (pp. 64, 67, 68), Section 3.6 (pp. 147-156), Section 4.6 (pp. 219-226), Section 6.1 (pp. 299-306), Section 6.2 (pp. 307-312), Section 6.4 (pp. 321-330), Section 6.7 (pp. 345-352), Section 7.1 (pp. 364-365), Section 7.3 (p. 382), Section 7.4 (pp. 385-390), Section 8.5 (pp. 453-462), Section 9.4 (pp. 509-518)
A1.SSE.A.2	Analyze the structure of polynomials to create equivalent expressions or equations.	Section 7.5 (pp. 391-396), Section 7.6 (pp. 397-402), Section 7.7 (pp. 403-408), Section 7.8 (pp. 409-414)
A1.SSE.A.3	Choose and produce equivalent forms of a quadratic expression or equations to reveal and explain properties. a) Find the zeros of a quadratic function by rewriting it in factored form. b) Find the maximum or minimum value of a quadratic function by completing the square.	Section 7.4 (pp. 384-390), Section 7.5 (pp. 391-396), Section 7.6 (pp. 397-402), Section 7.7 (pp. 403-408), Section 7.8 (pp. 409-414), Section 8.5 (pp. 453-462), Section 9.4 (pp. 509-518)
CREATING EQUATIONS: CED		
A1.CED.A	**Create equations that describe linear, quadratic and exponential relationships.**	
A1.CED.A.1	Create equations and inequalities in one variable and use them to model and/or solve problems.	Section 1.1 (pp. 3-10), Section 1.2 (pp. 11-18), Section 1.3 (pp. 19-24 Section 1.5 (pp. 31-36), Section 1.6 (pp. 37-44), Section 1.7 (pp. 45-52), Section 2.1 (pp. 63-70), Section 2.2 (pp. 71-76), Section 2.3 (pp. 77-82), Section 2.4 (pp. 83-88), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 6.5 (pp. 331-336), Section 9.2 (pp. 493-502), Section 9.3 (pp. 503-508), Section 9.4 (pp. 509-518), Section 9.5 (pp. 519-528)

Standard		Algebra 1 with CalcChat® and CalcView®
A1.CED.A.2	Create and graph linear, quadratic and exponential equations in two variables.	Section 4.1 (pp. 187-192), Section 4.2 (pp. 193-198), Section 4.4 (pp. 205-210), Section 4.5 (pp. 211-218), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 6.5 (pp. 331-336),
A1.CED.A.3	Represent constraints by equations or inequalities and by systems of equations or inequalities, and interpret the data points as a solution or non-solution in a modeling context.	Section 5.1 (pp. 245-250), Section 5.2 (pp. 251-256), Section 5.3 (pp. 257-262), Section 5.4 (pp. 263-269), Section 5.5 (pp. 275-280), Section 5.6 (pp. 281-288)
A1.CED.A.4	Solve literal equations and formulas for a specified variable that highlights a quantity of interest.	Section 1.7 (pp. 45-52)
REASONING WITH EQUATIONS AND INEQUALITIES: REI		
A1.REI.A	**Understand solving equations as a process, and solve equations and inequalities in one variable.**	
A1.REI.A.1	Explain how each step taken when solving an equation or inequality in one variable creates an equivalent equation or inequality that has the same solution(s) as the original.	Section 1.1 (pp. 3-10), Section 1.2 (pp. 11-18), Section 1.5 (pp. 31-36), Section 1.6 (pp. 37-44)
A1.REI.A.2	Solve problems involving quadratic equations. a) Use the method of completing the square to create an equivalent quadratic equation. b) Derive the quadratic formula. c) Analyze different methods of solving quadratic equations.	Section 9.2 (pp. 493-502), Section 9.3 (pp. 503-508), Section 9.4 (pp. 509-518), Section 9.5 (pp. 519-528)
A1.REI.B	**Solve systems of equations.**	
A1.REI.B.3	Solve a system of linear equations algebraically and/or graphically.	Section 5.1 (pp. 245-250), Section 5.2 (pp. 251-256), Section 5.3 (pp. 257-262), Section 5.4 (pp. 263-269)
A1.REI.B.4	Solve a system consisting of a linear equation and a quadratic equation algebraically and/or graphically.	Section 9.6 (pp. 529-536)
A1.REI.B.5	Justify that the technique of linear combination produces an equivalent system of equations.	Section 5.3 (pp. 257-262)

Standard		Algebra 1 with CalcChat® and CalcView®
A1.REI.C	**Represent and solve linear and exponential equations and inequalities graphically.**	
A1.REI.C.6	Explain that the graph of an equation in two variables is the set of all its solutions plotted in the Cartesian coordinate plane.	Section 3.5 (pp. 141-146), Section 3.6 (pp. 147-156)
A1.REI.C.7	Graph the solution to a linear inequality in two variables.	Section 5.6 (pp. 275-280)
A1.REI.C.8	Solve problems involving a system of linear inequalities.	Section 5.7 (pp. 281-288)
ARITHMETIC WITH POLYNOMIALS AND RATIONAL EXPRESSIONS: APR		
A1.APR.A	**Perform operations on polynomials.**	
A1.APR.A.1	Add, subtract and multiply polynomials, and understand that polynomials follow the same general rules of arithmetic and are closed under these operations.	Section 7.1 (pp. 363-370), Section 7.2 (pp. 371-378), Section 7.3 (pp. 379-384)
A1.APR.A.2	Divide polynomials by monomials.	Section 7.2 (pp. 372, 376-378)
INTERPRETING FUNCTIONS: IF		
A1.IF.A	**Understand the concept of a function and use function notation.**	
A1.IF.A.1	Understand that a function from one set (domain) to another set (range) assigns to each element of the domain exactly one element of the range. a) Represent a function using function notation. b) Understand that the graph of a function labeled f is the set of all ordered pairs (x, y) that satisfy the equation $y=f(x)$.	Section 3.1 (pp. 111-118), Section 3.2 (pp. 119-124), Section 3.3 (pp. 125-134), Section 3.4 (pp. 135-140)
A1.IF.A.2	Use function notation to evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	Section 3.4 (pp. 135-140)

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Correlated to the Missouri Learning Standards for Mathematics, Algebra 1
Grades 9-12

Standard		Algebra 1 with CalcChat® and CalcView®
A1.IF.B	**Interpret linear, quadratic and exponential functions in terms of the context.**	
A1.IF.B.3	Using tables, graphs and verbal descriptions, interpret key characteristics of a function that models the relationship between two quantities.	Section 3.1 (pp. 111-118), Section 3.2 (pp. 119-124), Section 3.3 (pp. 125-134), Section 3.5 (pp. 141-146), Section 3.6 (pp. 147-156), Section 3.7 (pp. 157-166), Section 3.8 (pp. 167-174), Section 4.7 (pp. 227-234), Section 6.3 (pp. 315-320), Section 6.4 (pp. 321-330), Section 8.1 (pp. 425-430), Section 8.2 (pp. 431-436), Section 8.3 (pp. 437-444), Section 8.4 (pp. 445-452), Section 8.5 (pp. 453-462), Section 8.6 (pp. 463-472)
A1.IF.B.4	Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.	Section 3.1 (pp. 111-118), Section 3.3 (pp. 125-134), Section 3.6 (pp. 152, 154 #38), Section 3.7 (pp. 165 #46, 166 #70, #75), Section 3.8 (pp. 167-174), Section 4.7 (pp. 227-234), Section 6.3 (pp. 315-320), Section 6.4 (pp. 328 #51-52, 330 #67), Section 6.6 (p. 341), Section 8.1 (pp. 426-430), Section 8.3 (pp. 439, 444 #60, #61), Section 8.4 (pp. 446, 451 #48), Section 8.5 (pp. 454-462), Section 10.1 (pp. 547-554), Section 10.2 (pp. 555-560)
A1.IF.B.5	Determine the average rate of change of a function over a specified interval and interpret the meaning.	Section 8.6 (pp. 464-472)
A1.IF.B.6	Interpret the parameters of a linear or exponential function in terms of the context.	Section 3.3 (pp. 125-134), Section 3.6 (pp. 147-156), Section 4.4 (pp. 205-210), Section 4.5 (pp. 211-218), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 8.6 (pp. 463-472)

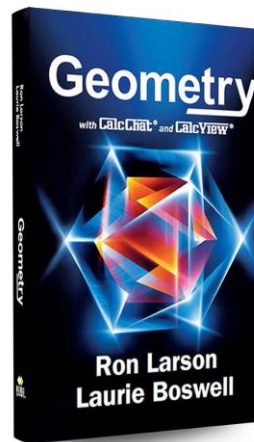|	Standard	Algebra 1 with CalcChat® and CalcView®
A1.IF.C	**Analyze linear, quadratic and exponential functions using different representations.**	
A1.IF.C.7	Graph functions expressed symbolically and identify and interpret key features of the graph.	Section 3.5 (pp. 141-146), Section 3.6 (pp. 147-156), Section 3.7 (pp. 157-166), Section 3.8 (pp. 167-174), Section 4.7 (pp. 227-234), Section 5.1 (pp. 245-250), Section 5.5 (pp. 269-274), Section 5.6 (pp. 275-280), Section 5.7 (pp. 281-288), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 8.1 (pp. 425-430), Section 8.2 (pp. 431-436), Section 8.3 (pp. 437-444), Section 8.4 (pp. 445-452), Section 8.5 (pp. 453-462), Section 8.6 (pp. 463-472) Section 9.2 (pp. 493-502)
A1.IF.C.8	Translate between different but equivalent forms of a function to reveal and explain properties of the function and interpret these in terms of a context.	Section 4.1 (pp. 187-192), Section 4.2 (pp. 193-198), Section 4.3 (pp. 199-204), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 8.5 (pp. 453-462), Section 9.4 (pp. 509-518)
A1.IF.C.9	Compare the properties of two functions given different representations.	Section 8.6 (pp. 463-472)
BUILDING FUNCTIONS: BF		
A1.BF.A	**Build new functions from existing functions (linear, quadratic and exponential).**	
A1.BF.A.1	Analyze the effect of translations and scale changes on functions.	Section 3.7 (pp. 157-166), Section 3.8 (pp. 167-174), Section 6.3 (pp. 313-320), Section 8.1 (pp. 425-430), Section 8.2 (pp. 431-436), Section 8.3 (pp. 437-444), Section 8.4 (pp. 445-452), Section 8.5 (pp. 453-462)

Standard		Algebra 1 with CalcChat® and CalcView®
LINEAR, QUADRATIC AND EXPONENTIAL MODELS: LQE		
A1.LQE.A	**Construct and compare linear, quadratic and exponential models and solve problems.**	
A1.LQE.A.1	Distinguish between situations that can be modeled with linear or exponential functions. a) Determine that linear functions change by equal differences over equal intervals. b) Recognize exponential situations in which a quantity grows or decays by a constant percent rate per unit interval.	Section 3.3 (pp. 125-134), Section 3.6 (pp. 147-156), Section 4.1 (pp. 187-192), Section 4.2 (pp. 193-198), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 8.6 (pp. 463-472)
A1.LQE.A.2	Describe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.	Section 8.6 (pp. 463-472)
A1.LQE.A.3	Construct linear, quadratic and exponential equations given graphs, verbal descriptions or tables.	Section 4.1 (pp. 187-192), Section 4.2 (pp. 193-198), Section 4.3 (pp. 199-204), Section 4.6 (pp. 219-226), Section 6.3 (pp. 313-320), Section 6.4 (pp. 321-330), Section 6.6 (pp. 337-344), Section 6.7 (pp. 345-352), Section 8.1 (pp. 425-430), Section 8.2 (pp. 431-436), Section 8.3 (pp. 437-444), Section 8.4 (pp. 445-452), Section 8.5 (pp. 453-462), Section 8.6 (pp. 463-472)
A1.LQE.B	**Use arithmetic and geometric sequences.**	
A1.LQE.B.4	Write arithmetic and geometric sequences in recursive and explicit forms, and use them to model situations and translate between the two forms.	Section 4.6 (pp. 219-226), Section 6.6 (pp. 337-344)
A1.LQE.B.5	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the set of integers.	Section 4.6 (pp. 219-226), Section 6.6 (pp. 337-344), Section 6.7 (pp. 345-352)
A1.LQE.B.6	Find the terms of sequences given an explicit or recursive formula.	Section 4.6 (pp. 219-226), Section 6.6 (pp. 337-344), Section 6.7 (pp. 345-352)

Standard		Algebra 1 with CalcChat® and CalcView®
DATA AND STATISTICAL ANALYSIS: DS		
A1.DS.A	**Summarize, represent and interpret data.**	
A1.DS.A.1	Analyze and interpret graphical displays of data.	Section 11.2 (pp. 595-602), Section 11.3 (pp. 603-610), Section 11.4 (pp. 611-618), Section 11.5 (pp. 619-624)
A1.DS.A.2	Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets.	Section 11.3 (pp. 603-610)
A1.DS.A.3	Interpret differences in shape, center and spreads in the context of the data sets, accounting for possible effects of outliers.	Section 11.1 (pp. 587-594), Section 11.2 (pp. 595-602), Section 11.3 (pp. 603-610), Section 11.4 (pp. 611)
A1.DS.A.4	Summarize data in two-way frequency tables. Interpret relative frequencies in the context of the data, and recognize possible associations and trends in the data.	Section 11.4 (pp. 611-618)
A1.DS.A.5	Construct a scatter plot of bivariate quantitative data describing how the variables are related; determine and use a function that models the relationship. a) Construct a linear function to model bivariate data represented on a scatter plot that minimizes residuals. b) Construct an exponential function to model bivariate data represented on a scatter plot that minimizes residuals.	Section 4.4 (pp. 205-210), Section 4.5 (pp. 211-218)
A1.DS.A.6	Interpret the slope (rate of change) and the y-intercept (constant term) of a linear model in the context of the data.	Section 4.1 (pp. 187-192), Section 4.2 (pp. 193-198), Section 4.3 (pp. 199-204), Section 4.4 (pp. 205-210), Section 4.5 (pp. 211-218)
A1.DS.A.7	Determine and interpret the correlation coefficient for a linear association.	Section 4.5 (pp. 211-218)
A1.DS.A.8	Distinguish between correlation and causation.	Section 4.5 (pp. 211-218)

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Grades 9-12

Standard		Geometry with CalcChat® and CalcView®
GEOMETRY		
CONGRUENCE: CO		
G.CO.A	**Experiment with transformations in the plane.**	
G.CO.A.1	Define angle, circle, perpendicular line, parallel line, line segment and ray based on the undefined notions of point, line, distance along a line and distance around a circular arc.	Section 1.1 (pp. 3-10), Section 1.2 (pp. 11-18), Section 1.5 (pp. 35-37, 41), Section 3.1 (pp. 121-123), Section 3.2 (pp. 127-132), Section 3.4 (p. 142), Section 10.1 (p. 512), Section 10.2 (pp. 519-520), Section 11.1 (p. 583)
G.CO.A.2	Represent transformations in the plane, and describe them as functions that take points in the plane as inputs and give other points as outputs.	Section 4.1 (pp. 167-174), Section 4.2 (pp. 175-182), Section 4.3 (pp. 183-190), Section 4.4 (pp. 191-198), Section 4.5 (pp. 199-206), Section 4.6 (pp. 207-211)
G.CO.A.3	Describe the rotational symmetry and lines of symmetry of two-dimensional figures.	Section 4.3 (pp. 187-190)
G.CO.A.4	Develop definitions of rotations, reflections and translations in terms of angles, circles, perpendicular lines, parallel lines and line segments.	Section 4.1 (pp. 167-174), Section 4.2 (pp. 175-182), Section 4.3 (pp. 183-190)
G.CO.A.5	Demonstrate the ability to rotate, reflect or translate a figure, and determine a possible sequence of transformations between two congruent figures.	Section 4.1 (pp. 167-174), Section 4.2 (pp. 175-182), Section 4.3 (pp. 183-190), Section 4.4 (pp. 191-198)
G.CO.B	**Understand congruence in terms of rigid motions.**	
G.CO.B.6	Develop the definition of congruence in terms of rigid motions.	Section 4.4 (pp. 191-198)
G.CO.B.7	Develop the criteria for triangle congruence from the definition of congruence in terms of rigid motions.	Section 5.2 (pp. 231-236)
G.CO.C	**Prove geometric theorems.**	
G.CO.C.8	Prove theorems about lines and angles.	Section 2.5 (pp. 95-100), Section 2.6 (pp. 101-110), Section 3.2 (pp. 130), Section 3.3 (pp. 133-140), Section 3.4 (pp. 141-148), Section 6.1 (pp. 291-298)

	Standard	Geometry with CalcChat® and CalcView®
G.CO.C.9	Prove theorems about triangles.	Section 5.3 (pp. 237-242), Section 5.4 (pp. 243-250), Section 5.5 (pp. 251-258), Section 5.6 (pp. 259-266), Section 5.7 (pp. 267-272), Section 5.8 (pp. 273-278), Section 6.1 (pp. 291-298), Section 6.2 (pp. 299-308), Section 6.3 (pp. 309-316), Section 6.4 (pp. 317-322), Section 6.5 (pp. 323-330), Section 6.6 (pp. 331-336), Section 9.1 (pp. 447-454)
G.CO.C.10	Prove theorems about polygons.	Section 6.1 (pp. 291-298), Section 6.2 (pp. 299-308), Section 6.3 (pp. 309-316), Section 6.4 (pp. 317-322), Section 6.5 (pp. 323-330), Section 6.6 (pp. 331-336), Section 7.2 (pp. 355-362), Section 7.3 (pp. 363-372), Section 7.4 (pp. 373-382), Section 7.5 (pp. 383-392), Section 9.1 (pp. 447-454)
G.CO.D	**Make geometric constructions.**	
G.CO.D.11	Construct geometric figures using various tools and methods.	Section 1.2 (p. 13), Section 1.2 (p. 16 #5-6), Section 1.3 (p. 21), Section 1.3 (p. 24 #9-12), Section 1.5 (p. 35), Section 1.5 (p. 40), Section 1.2 (p. 42 #29-30), Section 3.3 (p. 135), Section 3.3 (p. 138 #7-8), Section 4.3 (p. 141, 143), Section 4.3 (p. 146 #3-6), Section 4.4 (p. 197 #29-30), Section 4.5 (p. 202), Section 4.5 (p. 204 #5-8), Section 5.3 (p. 240), Section 5.4 (p. 246), Section 5.4 (p. 248 #9-10), Section 5.5 (p. 254), Section 5.5 (p. 257 #15-16), Section 5.6 (p. 262), Section 5.6 (p. 264 #9-10), Section 5.7 (p. 270), Section 6.2 (pp. 299, 302, 304), Section 6.2 (p. 306 #17-20), Section 6.3 (p. 309, 310), Section 6.3 (p. 314 #21-24), Section 8.4 (p. 431), Section 8.4 (p. 434 #7-10), Section 10.1 (p. 515), Section 10.1 (p. 516 #21-22), Section 10.4 (p. 537), Section 10.4 (p. 539 #19-20)

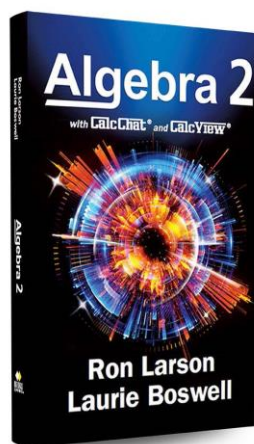| Standard		Geometry with CalcChat® and CalcView®
SIMILARITY, RIGHT TRIANGLES AND TRIGONOMETRY: SRT		
G.SRT.A	**Understand similarity in terms of similarity transformations.**	
G.SRT.A.1	Construct and analyze scale changes of geometric figures.	Section 4.5 (pp 199-206), Section 8.1 (p. 403 Explore It), Section 8.1 (p. 408 Example 1)
G.SRT.A.2	Use the definition of similarity to decide if figures are similar and to solve problems involving similar figures.	Section 4.6 (pp. 207-212), Section 8.1 (pp. 403-412)
G.SRT.A.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	Section 8.2 (pp. 413-418)
G.SRT.B	**Prove theorems involving similarity.**	
G.SRT.B.4	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Section 5.7 (pp. 267-272), Section 6.1 (pp. 291-298), Section 6.2 (pp. 299-308), Section 6.3 (pp. 309-316), Section 7.2 (pp. 355-362), Section 7.3 (pp. 363-372), Section 7.4 (pp. 373-382), Section 7.5 (pp. 383-392), Section 8.2 (pp. 413-418), Section 8.3 (pp. 419-428), Section 8.4 (pp. 429-436), Section 9.3 (pp. 461-468)
G.SRT.C	**Define trigonometric ratios, and solve problems involving right triangles.**	
G.SRT.C.5	Understand that side ratios in right triangles define the trigonometric ratios for acute angles.	Section 9.4 (pp. 469-474), Section 9.5 (pp. 475-482)
G.SRT.C.6	Explain and use the relationship between the sine and cosine of complementary angles.	Section 9.5 (pp. 475-482)
G.SRT.C.7	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.	Section 9.6 (pp. 483-488), Section 9.7 (pp. 489-498)
G.SRT.C.8	Derive the formula $A = 1/2\ ab\ \sin(C)$ for the area of a triangle.	Section 9.5 (p. 482 #37), Section 9.7 (pp. 490, 495 #7-12)

Standard		Geometry with CalcChat® and CalcView®
CIRCLES: C		
G.C.A	**Understand and apply theorems about circles.**	
G.C.A.1	Prove that all circles are similar using similarity transformations.	Section 10.2 (p. 523)
G.C.A.2	Identify and describe relationships among inscribed angles, radii and chords of circles.	Section 10.1 (pp. 511-518), Section 10.2 (pp. 519-526), Section 10.3 (pp. 527-532), Section 10.4 (pp. 533-540), Section 10.5 (pp. 541-548), Section 10.6 (pp. 549-554)
G.C.A.3	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	Section 6.2 (p. 302), Section 6.2 (p. 304), Section 6.2 (p. 306 #17-24)
G.C.B	**Find arc lengths and areas of sectors of circles.**	
G.C.B.4	Derive the formula for the length of an arc of a circle.	Section 11.1 (pp. 581-588)
G.C.B.5	Derive the formula for the area of a sector of a circle.	Section 11.2 (pp. 589-594)
EXPRESSING GEOMETRY PROPERTIES WITH EQUATIONS: GPE		
G.GPE.A	**Translate between the geometric description and the equation for a conic section.**	
G.GPE.A.1	Derive the equation of a circle.	Section 10.7 (pp. 555-560)
G.GPE.A.2	Derive the equation of a parabola given a focus and directrix.	Section 10.8 (pp. 561-568)
G.GPE.B	**Use coordinates to prove geometric theorems algebraically.**	
G.GPE.B.3	Use coordinates to prove geometric theorems algebraically.	Section 5.8 (pp. 273-278), Section 6.2 (p. 307 #37), Section 6.4, (p. 319 Example 2), Section 10.7 (pp. 555-560)
G.GPE.B.4	Prove the slope criteria for parallel and perpendicular lines and use them to solve problems.	Section 3.5 (pp. 149-156), Section 8.3 (pp. 423-424)
G.GPE.B.5	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	Section 3.5 (pp. 149-156), Section 8.,3 (p. 431)

Standard		Geometry with CalcChat® and CalcView®
G.GPE.B.6	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.	Section 1.4 (pp. 27-34)
GEOMETRIC MEASUREMENT AND DIMENSION: GMD		
G.GMD.A	**Explain volume formulas and use them to solve problems.**	
G.GMD.A.1	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid and cone.	Section 11.1 (pp. 581-582), Section 11.3 (pp. 589-590), Section 12.2 (pp. 627-629), Section 12.3 (pp. 635-636), Section 12.4 (p. 641)
G.GMD.A.2	Use volume formulas for cylinders, pyramids, cones, spheres and composite figures to solve problems.	Section 12.2 (pp. 627-634), Section 12.3 (pp. 635-640), Section 12.4 (pp. 643-645), Section 12.5 (pp. 650-654)
G.GMD.B	**Visualize relationships between two-dimensional and three-dimensional objects.**	
G.GMD.B.3	Identify the shapes of two-dimensional cross-sections of three-dimensional objects.	Section 12.1 (pp. 619-626)
G.GMD.B.4	Identify three-dimensional objects generated by transformations of two-dimensional objects.	Section 12.7 (pp. 661-666)
MODELING WITH GEOMETRY: MG		
G.MG.A	**Apply geometric concepts in modeling situations.**	
G.MG.A.1	Use geometric shapes, their measures and their properties to describe objects.	Section 11.4 (pp. 603-608), Section 12.6 (pp. 655-660)
G.MG.A.2	Apply concepts of density based on area and volume in modeling situations.	Section 11.4 (pp. 603-608)
G.MG.A.3	Apply geometric methods to solve design mathematical modeling problems.	Section 11.4 (pp. 603-608), Section 12.6 (pp. 655-660)

Standard		Geometry with CalcChat® and CalcView®
CONDITIONAL PROBABILITY AND RULES THE RULES OF PROBABILITY: CP		
G.CP.A	**Understand independence and conditional probability and use them to interpret data.**	
G.CP.A.1	Describe events as subsets of a sample space using characteristics of the outcomes, or as unions, intersections or complements of other events.	Section 13.1 (pp. 679-686)
G.CP.A.2	Understand the definition of independent events and use it to solve problems.	Section 13.4 (pp. 701-708)
G.CP.A.3	Calculate conditional probabilities of events.	Section 13.3 (pp. 693-700)
G.CP.A.4	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.	Section 13.2 (pp. 687-692)
G.CP.A.5	Recognize and explain the concepts of conditional probability and independence in a context.	Section 13.3 (pp. 693-700), Section 13.4 (pp. 701-708)
G.CP.A.6	Apply and interpret the Addition Rule for calculating probabilities.	Section 13.5 (pp. 709-714)
G.CP.A.7	Apply and Interpret the general Multiplication Rule in a uniform probability model.	Section 13.5 (pp. 709-714)
G.CP.A.8	Use permutations and combinations to solve problems.	Section 13.6 (pp. 715-722)

BIG IDEAS LEARNING®

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Grades 9-12

Standard		Algebra 2 with CalcChat® and CalcView®
ALGEBRA 2		
NUMBER AND QUANTITY: NQ		
A2.NQ.A	**Extend and use the relationship between rational exponents and radicals.**	
A2.NQ.A.1	Extend the system of powers and roots to include rational exponents.	Section 5.1 (pp. 231-236)
A2.NQ.A.2	Create and recognize equivalent expressions involving radical and exponential forms of expressions.	Section 5.1 (pp. 231-236), Section 5.2 (pp. 237-244), Section 5.4 (pp. 253-260), Section 6.1 (pp. 293-300), Section 6.2 (pp. 301-306), Section 6.4 (pp. 315-322)
A2.NQ.A.3	Add, subtract, multiply and divide radical expressions.	Section 5.2 (pp. 237-244)
A2.NQ.A.4	Solve equations involving rational exponents and/or radicals and identify situations where extraneous solutions may result.	Section 5.4 (pp. 253-260), Section 7.5 (pp. 385-392)
A2.NQ.B	**Use complex numbers.**	
A2.NQ.B.5	Represent complex numbers.	Section 3.2 (pp. 99-100, 105)
A2.NQ.B.6	Add, subtract, multiply and divide complex numbers.	Section 3.2 (pp. 101-103, 105-108)
A2.NQ.B.7	Know and apply the Fundamental Theorem of Algebra.	Section 3.2 (pp. 104, 106-108), Section 4.6 (pp. 191-198)
SEEING STRUCTURE IN EXPRESSIONS: SSE		
A2.SSE.A	**Define and use logarithms.**	
A2.SSE.A.1	Develop the definition of logarithms based on properties of exponents.	Section 6.3 (pp. 307-314)
A2.SSE.A.2	Use the inverse relationship between exponents and logarithms to solve exponential and logarithmic equations.	Section 6.6 (pp. 329-336)
A2.SSE.A.3	Use properties of logarithms to solve equations or find equivalent expressions.	Section 6.5 (pp. 323-328), Section 6.6 (pp. 329-336)
A2.SSE.A.4	Understand why logarithmic scales are used, and use them to solve problems.	Section 6.7 (pp. 337-344)

Standard		Algebra 2 with CalcChat® and CalcView®
REASONING WITH EQUATIONS AND INEQUALITIES: REI		
A2.REI.A	**Solve equations and inequalities.**	
A2.REI.A.1	Create and solve equations and inequalities, including those that involve absolute value.	Section 3.1 (pp. 89-98), Section 3.3 (pp. 111-116), Section 3.4 (pp. 117-126), Section 3.6 (pp. 135-142), Section 4.5 (pp. 183-190), Section 5.4 (pp. 253-260), Section 6.6 (pp. 329-336), Section 7.5 (pp. 385-392)
A2.REI.A.2	Solve rational equations where numerators and denominators are polynomials and where extraneous solutions may result.	Section 7.5 (pp. 385-392)
A2.REI.B	**Solve general systems of equations and inequalities.**	
A2.REI.B.3	Create and solve systems of equations that may include non-linear equations and inequalities.	Section 1.4 (pp. 27-34), Section 3.5 (pp. 127-134),
ARITHMETIC WITH POLYNOMIALS AND RATIONALS: APR		
A2.APR.A	**Perform operations on polynomials and rational expressions.**	
A2.APR.A.1	Extend the knowledge of factoring to include factors with complex coefficients.	This standard is not directly addressed in this edition of *Algebra 2 with CalcChat® and CalcView®*.
A2.APR.A.2	Understand the Remainder Theorem and use it to solve problems.	Section 4.4 (pp. 172-174)
A2.APR.A.3	Find the least common multiple of two or more polynomials.	Section 7.4 (pp. 378-384)
A2.APR.A.4	Add, subtract, multiply and divide rational expressions.	Section 7.3 (pp. 369-376), Section 7.4 (pp. 377-384)
A2.APR.A.5	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to sketch the function defined by the polynomial.	Section 4.1 (pp. 153-160), Section 4.5 (pp. 183-190), Section 4.6 (pp. 191-198), Section 4.7 (pp. 199-204), Section 4.8 (pp. 205-212), Section 4.9 (pp. 213-218)

Standard		Algebra 2 with CalcChat® and CalcView®
INTERPRETING FUNCTIONS: IF		
A2.IF.A	**Use and interpret functions.**	
A2.IF.A.1	Identify and interpret key characteristics of functions represented graphically, with tables and with algebraic symbolism to solve problems.	Section 1.1 (pp. 3-10), Section 1.2 (pp. 11-18), Section 1.3 (pp. 19-26), Section 2.1 (pp. 45-52), Section 2.2 (pp. 53-62), Section 2.4 (pp. 71-78), Section 4.1 (pp. 153-160), Section 4.8 (pp. 205-212), Section 4.9 (pp. 213-218), Section 5.3 (pp. 245-252), Section 6.1 (pp. 293-300), Section 6.3 (pp. 307-314), Section 6.4 (pp. 315-322), Section 6.7 (pp. 337-344), Section 7.2 (pp. 361-368), Section 10.4 (pp. 545-554), Section 10.5 (pp. 555-562), Section 10.6 (pp. 563-570)
A2.IF.A.2	Translate between equivalent forms of functions.	Section 5.5 (pp. 261-266), Section 5.6 (pp. 267-272), Section 6.1 (pp. 293-300), Section 6.2 (pp. 301-306), Section 6.7 (pp. 337-344)
BUILDING FUNCTIONS: BF		
A2.BF.A	**Create new functions from existing functions.**	
A2.BF.A.1	Create new functions by applying the four arithmetic operations and composition of functions (modifying the domain and range as necessary).	Section 5.5 (pp. 261-266), Section 5.6 (pp. 267-272)
A2.BF.A.2	Derive inverses of functions, and compose the inverse with the original function to show that the functions are inverses.	Section 5.7 (pp. 273-282)
A2.BF.A.3	Describe the effects of transformations algebraically and graphically, creating vertical and horizontal translations, vertical and horizontal reflections and dilations (expansions/compressions) for linear, quadratic, cubic, square and cube root, absolute value, exponential and logarithmic functions.	Section 1.1 (pp. 3-10), Section 1.2 (pp. 11-18), Section 2.1 (pp. 45-52), Section 4.7 (pp. 199-204), Section 4.8 (pp. 205-212), Section 5.3 (pp. 247-252), Section 6.4 (pp. 315-322), Section 7.2 (pp. 363, 366), Section 10.4 (pp. 547-554)

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FUNCTION MODELING: FM		
A2.FM.A	**Use functions to model real-world problems.**	
A2.FM.A.1	Create functions and use them to solve applications of quadratic and exponential function modeling problems.	Section 2.4 (pp. 71-78), Section 6.7 (pp. 337-344)
DATA AND STATISTICAL ANALYSIS: DS		
A2.DS.A	**Make inferences and justify conclusions.**	
A2.DS.A.1	Analyze how random sampling could be used to make inferences about population parameters.	Section 9.2 (pp. 473-480), Section 9.5 (pp. 495-504), Section 9.6 (pp. 505-510)
A2.DS.A.2	Determine whether a specified model is consistent with a given data set.	Section 9.3 (pp. 481-488), Section 9.4 (pp. 489-494), Section 9.5 (pp. 495-504), Section 9.6 (pp. 505-510)
A2.DS.A.3	Describe and explain the purposes, relationship to randomization and differences, among sample surveys, experiments and observational studies.	Section 9.3 (pp. 481-488), Section 9.4 (pp. 489-494)
A2.DS.A.4	Use data from a sample to estimate characteristics of the population and recognize the meaning of the margin of error in these estimates.	Section 9.5 (pp. 495-504)
A2.DS.A.5	Describe and explain how the relative sizes of a sample and the population affect the margin of error of predictions.	Section 9.5 (pp. 499-504)
A2.DS.A.6	Analyze decisions and strategies using probability concepts.	Section 8.1 (pp. 403-410), Section 8.2 (pp. 411-416), Section 8.3 (pp. 417-424), Section 8.4 (pp. 425-432), Section 8.5 (pp. 433-438)
A2.DS.A.7	Evaluate reports based on data.	Section 9.1 (pp. 465-472), Section 9.2 (pp. 473-480), Section 9.3 (pp. 481-488), Section 9.4 (pp. 489-494), Section 9.5 (pp. 495-504), Section 9.6 (pp. 505-510)

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A2.DS.B	**Fit a data set to a normal distribution.**	
A2.DS.B.8	Know and use the characteristics of normally distributed data sets; predict what percentage of the data will be above or below a given value that is a multiple of standard deviations above or below the mean.	Section 9.1 (pp. 465-472)
A2.DS.B.9	Fit a data set to a distribution using its mean and standard deviation to determine whether the data is approximately normally distributed.	Section 9.1 (pp. 469, 471 #23-24)