

# South Carolina Alternate Assessments

## Prioritized Standards

# Mathematics

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## Document Summary

The Prioritized Standards for the SC-Alt Online Assessment in mathematics were developed to provide guidance to teachers for including students with significant cognitive disabilities in challenging academic instruction. This document is intended to make the general education indicators and the range performance level indicators useful for classroom instruction and assessment test development. In 2015, the South Carolina College- and Career-Ready Standards were published. That document, which sets forth the state's academic standards for general education in mathematics, served as the basis for the state's alternate assessment prioritized standards in mathematics. All of the prioritized academic standards that appear in this document have been selected from the March 2015 standards document.

The prioritized standards and performance level indicators preserve the essence of the grade-level expectations but may be restricted in scope or complexity or may take the form of introductory or prerequisite skills to the grade-level standards. The intended purpose of this document is to guide special education teachers in linking their classroom instruction to the state academic standards and to provide specific content to developers of the SC-Alt Online Assessment.

Teachers should be familiar with the South Carolina College- and Career-Ready Standards for mathematics, which set forth the state's academic standards, if further definition or content information is needed.

# Grade 3

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Number Sense and Base Ten	Round whole numbers up to 100 to the nearest 10.	3.NSBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
	Add and subtract single-digit numbers.	3.NSBT.2	Add and subtract whole numbers fluently to 1,000 using knowledge of place value and properties of operations.
	Multiply one-digit whole numbers by 10.	3.NSBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90, using knowledge of place value and properties of operations.
	Read numbers up to 999.	3.NSBT.4	Read and write numbers through 999,999 in standard form and equations in expanded form.
	Compare and order numbers up to 999 using the symbols $>$ , $=$ , or $<$ .	3.NSBT.5	Compare and order numbers through 999,999 and represent the comparison using the symbols $>$ , $=$ , or $<$ .
Number Sense – Fractions	Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers.	3.NSF.1	Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers.
	Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that two fractions are equal if they are the same size, based on the same whole, or at the same point on a number line.	3.NSF.2	Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that: <ol style="list-style-type: none"> <li>a. Two fractions are equal if they are the same size, based on the same whole, or at the same point on a number line.</li> </ol>

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Algebraic Thinking and Operations	Use concrete objects, drawings, and symbols to represent multiplication facts of two single-digit whole numbers (i.e., 0–5).	3.ATO.1	Use concrete objects, drawings and symbols to represent multiplication facts of two single-digit whole numbers and explain the relationship between the factors (i.e., 0–10) and the product.
	Solve real-world problems involving equal groups, area/array, and number line models using basic multiplication (i.e., 0–5).	3.ATO.3	Solve real-world problems involving equal groups, area/array, and number line models using basic multiplication and related division facts. Represent the problem situation using an equation with a symbol for the unknown.
	Determine the unknown whole number in a multiplication equation relating three whole numbers when the unknown is a missing factor or product.	3.ATO.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is a missing factor, product, dividend, divisor, or quotient.
	Apply the Commutative Property of Multiplication.	3.ATO.5	Apply properties of operations (i.e., Commutative Property of Multiplication, Associative Property of Multiplication, Distributive Property) as strategies to multiply and divide and explain the reasoning.
	Demonstrate basic multiplication facts of products through 25.	3.ATO.7	Demonstrate fluency with basic multiplication and related division facts of products and dividends through 100.
	Solve one-step, real-world problems using addition and subtraction of whole numbers and having whole number answers.	3.ATO.8	Solve two-step real-world problems using addition, subtraction, multiplication and division of whole numbers and having whole number answers. Represent these problems using equations with a letter for the unknown quantity.
	Identify a rule for an arithmetic pattern limited to multiples of 1, 2, 5, 10, and 25 up to 100.	3.ATO.9	Identify a rule for an arithmetic pattern (e.g., patterns in the addition table or multiplication table).

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Geometry	Recognize rhombuses, rectangles, and squares as quadrilaterals.	3.G.1	Understand that shapes in different categories (e.g., rhombus, rectangle, square, and other 4-sided shapes) may share attributes (e.g., 4-sided figures) and the shared attributes can define a larger category (e.g., quadrilateral). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
	Partition two-dimensional shapes into two parts with equal areas.	3.G.2	Partition two-dimensional shapes into 2, 3, 4, 6, or 8 parts with equal areas and express the area of each part using the same unit fraction. Recognize that equal parts of identical wholes need not have the same shape.
Measurement and Data Analysis	Use analog and digital clocks to record time to the nearest hour and half hour, using <i>a.m.</i> and <i>p.m.</i>	3.MDA.1	Use analog and digital clocks to determine and record time to the nearest minute, using <i>a.m.</i> and <i>p.m.</i> ; measure time intervals in minutes; and solve problems involving addition and subtraction of time intervals within 60 minutes.
	Measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (i.e., mL, L) to the nearest whole unit.	3.MDA.2	Estimate and measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (i.e., mL, L) to the nearest whole unit.
	Interpret data from a picture graph and a bar graph.	3.MDA.3	Collect, organize, classify, and interpret data with multiple categories and draw a scaled picture graph and a scaled bar graph to represent the data.
	Measure length to the nearest inch.	3.MDA.4	Generate data by measuring length to the nearest inch, half-inch and quarter-inch and organize the data in a line plot using a horizontal scale marked off in appropriate units.

# Grade 4

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Number Sense and Base Ten	Recognize mathematical periods through 999,999.	4.NSBT.2	Recognize math periods and number patterns within each period to read and write in standard form large numbers through 999,999,999.
	Round whole numbers up to 1,000 to the nearest 10 or 100.	4.NSBT.3	Use rounding as one form of estimation and round whole numbers to any given place value.
	Add and subtract two-digit whole numbers.	4.NSBT.4	Fluently add and subtract multi-digit whole numbers using strategies to include a standard algorithm.
	Demonstrate basic multiplication facts of products through 100.	4.NSBT.5	Multiply up to a four-digit number by a one-digit number and multiply a two-digit number by a two-digit number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using rectangular arrays, area models, and/or equations.
	Divide up to a two-digit dividend by a one-digit divisor without remainders using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division (exclude long division).	4.NSBT.6	Divide up to a four-digit dividend by a one-digit divisor using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Number Sense and Operations – Fractions	Using visual fraction models, recognize equivalent fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100).	4.NSF.1	Explain why a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100), $a/b$ , is equivalent to a fraction, $n \times a/n \times b$ , by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
	Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) with common denominators using the symbols $>$ , $=$ , or $<$ .	4.NSF.2	Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$ and represent the comparison using the symbols $>$ , $=$ , or $<$ .
	Develop an understanding of addition and subtraction of fractions with common denominators (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions. a. Develop an understanding of mixed numbers.	4.NSF.3	Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions. a. Compose and decompose a fraction in more than one way, recording each composition and decomposition as an addition or subtraction equation. b. Add and subtract mixed numbers with like denominators. c. Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having like denominators.
	Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use this technique to add two fractions with respective denominators of 10 and 100.	4.NSF.5	Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use this technique to add two fractions with respective denominators of 10 and 100.
	Write a fraction with a denominator of 10 or 100 using decimal notation.	4.NSF.6	Write a fraction with a denominator of 10 or 100 using decimal notation, and read and write a decimal number as a fraction.
	Compare decimal numbers to hundredths using visual models.	4.NSF.7	Compare and order decimal numbers to hundredths, and justify using concrete and visual models.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Algebraic Thinking and Operations	Solve one-step, real-world problems using basic multiplication (0–10) or division (with no remainders).	4.ATO.2	Solve real-world problems using multiplication (product unknown) and division (group size unknown, number of groups unknown).
	Find all factor pairs for whole numbers 1–24.	4.ATO.4	Recognize that a whole number is a multiple of each of its factors. Find all factors for a whole number in the range 1–100 and determine whether the whole number is prime or composite.
	Given the rule for a pattern, determine the next term in the sequence/pattern.	4.ATO.5	Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.
Geometry	Identify points, line segments, and angles in two-dimensional figures.	4.G.1	Draw points, lines, line segments, rays, angles (i.e., right, acute, obtuse), and parallel and perpendicular lines. Identify these in two-dimensional figures.
	Identify parallel and perpendicular lines.	4.G.2	Classify quadrilaterals based on the presence or absence of parallel or perpendicular lines.
Measurement and Data Analysis	Distinguish measurements within a single system of measurement—customary (i.e., in., ft., yd., min., hr.) or metric (i.e., cm, m, km, g, kg, mL, L)—as larger or smaller.	4.MDA.1	Convert measurements within a single system of measurement, customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.
	Find the area and perimeter for rectangles when given the side lengths.	4.MDA.3	Apply the area and perimeter formulas for rectangles.
	Determine the value of a collection of coins and bills greater than \$1.	4.MDA.8	Determine the value of a collection of coins and bills greater than \$1.00.



# Grade 5

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Number Sense and Base Ten	Use whole number exponents to explain patterns in the number of zeroes of the product when multiplying a number by powers of 10.	5.NSBT.2	Use whole number exponents to explain: a. patterns in the number of zeroes of the product when multiplying a number by powers of 10; b. patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.
	Read and write decimals in standard form. Compare two decimal numbers to the hundredths using the symbols $>$ , $=$ , or $<$ .	5.NSBT.3	Read and write decimals in standard and expanded form. Compare two decimal numbers to the thousandths using the symbols $>$ , $=$ , or $<$ .
	Round decimals to the nearest whole number.	5.NSBT.4	Round decimals to any given place value within thousandths.
	Multiply a multi-digit whole number by a one-digit whole number using strategies to include a standard algorithm.	5.NSBT.5	Fluently multiply multi-digit whole numbers using strategies to include a standard algorithm.
	Divide up to a four-digit dividend by a one-digit divisor, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.	5.NSBT.6	Divide up to a four-digit dividend by a two-digit divisor, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.
	Add and subtract decimal numbers to hundredths using concrete area models and drawings.	5.NSBT.7	Add, subtract, multiply, and divide decimal numbers to hundredths using concrete area models and drawings.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Number Sense and Operations – Fractions	Add and subtract fractions with unlike denominators using a variety of models, including an area model and number line.	5.NSF.1	Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including an area model and number line.
	Multiply a whole number by a fraction.	5.NSF.4	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. Interpret multiplication of a fraction by a whole number and a whole number by a fraction and compute the product; c. Interpret multiplication in which both factors are fractions less than one and compute the product.
Algebraic Thinking and Operations	Evaluate two-step numerical expressions involving grouping symbols (i.e., parentheses, brackets, braces).	5.ATO.1	Evaluate numerical expressions involving grouping symbols (i.e., parentheses, brackets, braces).
	Translate verbal phrases into simple numerical expressions.	5.ATO.2	Translate verbal phrases into numerical expressions and interpret numerical expressions as verbal phrases.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Geometry	<p>Define a coordinate system.</p> <p>a. The x- and y-axes are perpendicular number lines that intersect at 0 (the origin).</p> <p>b. Any point on the coordinate plane can be represented by its coordinates.</p> <p>c. The first number in an ordered pair is the x-coordinate and represents the horizontal distance from the origin.</p> <p>d. The second number in an ordered pair is the y-coordinate and represents the vertical distance from the origin.</p>	5.G.1	<p>Define a coordinate system.</p> <p>a. The x- and y-axes are perpendicular number lines that intersect at 0 (the origin).</p> <p>b. Any point on the coordinate plane can be represented by its coordinates.</p> <p>c. The first number in an ordered pair is the x-coordinate and represents the horizontal distance from the origin.</p> <p>d. The second number in an ordered pair is the y-coordinate and represents the vertical distance from the origin.</p>
	Plot points in the first quadrant.	5.G.2	Plot and interpret points in the first quadrant of the coordinate plane to represent real-world and mathematical situations.
Measurement and Data Analysis	Convert measurements within a single system of measurement—customary (i.e., in., ft., yd., min., hr.) or metric (i.e., cm, m, km, mL, L)—from a larger to a smaller unit.	5.MDA.1	Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.
	Differentiate among perimeter, area, and volume and identify which application is appropriate for a given situation.	5.MDA.4	Differentiate among perimeter, area, and volume and identify which application is appropriate for a given situation.

# Grade 6

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
The Number System	Fluently divide multi-digit whole numbers limited to four-digit dividends and two-digit divisors using a standard algorithmic approach.	6.NS.2	Fluently divide multi-digit whole numbers using a standard algorithmic approach.
	Fluently add and subtract multi-digit decimal numbers to the hundredths place using a standard algorithmic approach.	6.NS.3	Fluently add, subtract, multiply, and divide multi-digit decimal numbers using a standard algorithmic approach.
	Find common factors and multiples using two whole numbers up to 50 for factors and less than or equal to 10 for multiples.	6.NS.4	Find common factors and multiples using two whole numbers. a. Compute the greatest common factor (GCF) of two numbers both less than or equal to 100. b. Compute the least common multiple (LCM) of two numbers both less than or equal to 12. c. Express sums of two whole numbers, each less than or equal to 100, using the distributive property to factor out a common factor of the original addends.
	Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations.	6.NS.5	Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations and explain the meaning of zero in each situation.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
<b>The Number System</b>	Plot integers on number lines and ordered pairs on the coordinate plane.	6.NS.6	<p>Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane.</p> <p>a. Understand the concept of opposite numbers, including zero, and their relative locations on the number line.</p> <p>b. Understand that the signs of the coordinates in ordered pairs indicate their location on an axis or in a quadrant on the coordinate plane.</p> <p>c. Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, either axes, or the origin.</p> <p>d. Plot rational numbers on number lines and ordered pairs on coordinate planes.</p>
	<p>a. Interpret statements using equal to (=) and not equal to (<math>\neq</math>).</p> <p>b. Interpret statements using less than (&lt;), greater than (&gt;), and equal to (=) as relative locations on the number line.</p> <p>c. Use concepts of equality and inequality to write and to explain real-world and mathematical situations.</p> <p>d. Understand that absolute value represents a number's distance from zero on the number line and use the absolute value of an integer number to represent real-world situations.</p>	6.NS.7	<p>Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers.</p> <p>a. Interpret statements using equal to (=) and not equal to (<math>\neq</math>).</p> <p>b. Interpret statements using less than (&lt;), greater than (&gt;), and equal to (=) as relative locations on the number line.</p> <p>c. Use concepts of equality and inequality to write and to explain real-world and mathematical situations.</p> <p>d. Understand that absolute value represents a number's distance from zero on the number line and use the absolute value of a rational number to represent real-world situations.</p> <p>e. Recognize the difference between comparing absolute values and ordering rational numbers. For negative rational numbers, understand that as the absolute value increases, the value of the negative number decreases.</p>
	Explore and translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Fractions should be limited to those with denominators of 2, 3, 4, 5, 8, 10, and 100.	6.NS.9	Investigate and translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Fractions should be limited to those with denominators of 2, 3, 4, 5, 8, 10, and 100.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Ratios and Proportional Relationships	Understand the concept of a ratio as the relationship between two quantities, including part to part and part to whole.	6.RP.1	Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole.
Expressions, Equations, and Inequalities	Write numerical expressions involving whole numbers using the Order of Operations.	6.EE.1	Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.
	Identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and variables.	6.EE.2	Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers. a. Translate between algebraic expressions and verbal phrases that include variables. b. Investigate and identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and factor. c. Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole numbers.
	Identify linear equations for real-world situations.	6.EE.7	Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Geometry and Measurement	Find the area of right triangles and rectangles.	6.GM.1	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
Data Analysis and Statistics	Find the mean, median, mode, and range.	6.DS.1	Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.

# Grade 7

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
The Number System	Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line.	7.NS.1	<p>Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line.</p> <p>a. Understand that the additive inverse of a number is its opposite and their sum is equal to zero.</p> <p>b. Understand that the sum of two rational numbers (<math>p + q</math>) represents a distance from <math>p</math> on the number line equal to <math> q </math> where the direction is indicated by the sign of <math>q</math>.</p> <p>c. Translate between the subtraction of rational numbers and addition using the additive inverse: <math>p - q = p + (-q)</math>.</p> <p>d. Demonstrate that the distance between two rational numbers on the number line is the absolute value of their difference.</p> <p>e. Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to add and subtract rational numbers.</p>
	Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers.	7.NS.2	<p>Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers.</p> <p>a. Understand that the multiplicative inverse of a number is its reciprocal and their product is equal to one.</p> <p>b. Understand sign rules for multiplying rational numbers.</p> <p>c. Understand sign rules for dividing rational numbers and that a quotient of integers (with a non-zero divisor) is a rational number.</p> <p>d. Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to multiply and divide rational numbers.</p>



Key Concept	Prioritized Standard	Indicator	SCCCR Standard
			e. Understand that some rational numbers can be written as integers and all rational numbers can be written as fractions or decimal numbers that terminate or repeat.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
The Number System	Apply the concepts of all four operations with positive rational numbers to solve one-step, real-world and mathematical problems.	7.NS.3	Apply the concepts of all four operations with rational numbers to solve real-world and mathematical problems.
	Understand and apply the concepts of comparing and ordering rational numbers on a number line. Interpret statements using less than ( $<$ ), greater than ( $>$ ), less than or equal to ( $\leq$ ), greater than or equal to ( $\geq$ ), and equal to ( $=$ ) as relative locations on the number line.	7.NS.4	Understand and apply the concepts of comparing and ordering rational numbers. a. Interpret statements using less than ( $<$ ), greater than ( $>$ ), less than or equal to ( $\leq$ ), greater than or equal to ( $\geq$ ), and equal to ( $=$ ) as relative locations on the number line. b. Use concepts of equality and inequality to write and explain real-world and mathematical situations.
	Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers). Exclude the conversion of repeating decimal numbers to fractions.	7.NS.5	Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Exclude the conversion of repeating decimal numbers to fractions.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Ratios and Proportional Relationships	Identify proportional relationships given multiple representations, including tables, graphs, and real-world situations. a. Determine when two quantities are in a proportional relationship. e. Identify the graph of a proportional relationship in a real-world situation.	7.RP.2	Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations.  a. Determine when two quantities are in a proportional relationship. b. Recognize or compute the constant of proportionality. c. Understand that the constant of proportionality is the unit rate. d. Use equations to model proportional relationships. e. Investigate the graph of a proportional relationship and explain the meaning of specific points (e.g., origin, unit rate) in the context of the situation.
	Solve real-world and mathematical problems involving ratios and percentages.	7.RP.3	Solve real-world and mathematical problems involving ratios and percentages using proportional reasoning (e.g., multi-step dimensional analysis, percent increase/decrease, tax).
Expressions, Equations, and Inequalities	Apply mathematical properties (e.g., commutative, associative) to simplify linear algebraic expressions with whole number coefficients.	7.EE.1	Apply mathematical properties (e.g., commutative, associative, distributive) to simplify and to factor linear algebraic expressions with rational coefficients.
	Extend previous understanding of Order of Operations to solve multi-step, real-world and mathematical problems involving whole numbers. Exclude exponents and fraction bars as a grouping symbol.	7.EE.3	Extend previous understanding of Order of Operations to solve multi-step, real-world and mathematical problems involving rational numbers. Include fraction bars as a grouping symbol.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
<b>Geometry and Measurement</b>	Understand that the concept of area applies to two-dimensional figures. Understand that the concept of volume applies to three-dimensional figures.	7.GM.6	Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations. <ol style="list-style-type: none"> <li>a. Understand that the concept of area is applied to two-dimensional figures such as triangles, quadrilaterals, and polygons.</li> <li>b. Understand that the concepts of volume and surface area are applied to three-dimensional figures such as cubes, right rectangular prisms, and right triangular prisms.</li> <li>c. Decompose cubes, right rectangular prisms, and right triangular prisms into rectangles and triangles to derive the formulas for volume and surface area.</li> <li>d. Use the formulas for area, volume, and surface area appropriately.</li> </ol>
<b>Data Analysis and Statistics</b>	Understand that a sample is a subset of a population. Distinguish between populations and samples. Distinguish between random and nonrandom samples.	7.DS.1	Investigate concepts of random sampling. <ol style="list-style-type: none"> <li>a. Understand that a sample is a subset of a population and both possess the same characteristics.</li> <li>b. Differentiate between random and non-random sampling.</li> <li>c. Understand that generalizations from a sample are valid only if the sample is representative of the population.</li> <li>d. Understand that random sampling is used to gather a representative sample and supports valid inferences about the population.</li> </ol>
	Draw inferences about a population by collecting random samples.	7.DS.2	Draw inferences about a population by collecting multiple random samples of the same size to investigate variability in estimates of the characteristic of interest.
	Use the numerical measures of center (mean, median, mode, and range).	7.DS.4	Compare the numerical measures of center (mean, median, and mode) and variability (range, interquartile range, mean absolute deviation) from two random samples to draw inferences about the populations.



Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Data Analysis and Statistics	Understand that probability measures likelihood of a chance event occurring.	7.DS.5	<p>Investigate the concept of probability of chance events.</p> <ul style="list-style-type: none"> <li>a. Determine probabilities of simple events.</li> <li>b. Understand that probability measures likelihood of a chance event occurring.</li> <li>c. Understand that the probability of a chance event is a number between 0 and 1.</li> <li>d. Understand that a probability closer to 1 indicates a likely chance event.</li> <li>e. Understand that a probability close to 1/2 indicates that a chance event is neither likely nor unlikely.</li> <li>f. Understand that a probability closer to 0 indicates an unlikely chance event.</li> </ul>
Geometry and Measurement	Understand that the concept of area applies to two-dimensional figures. Understand that the concept of volume applies to three-dimensional figures.	7.GM.6	<p>Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations.</p> <ul style="list-style-type: none"> <li>a. Understand that the concept of area is applied to two-dimensional figures such as triangles, quadrilaterals, and polygons.</li> <li>b. Understand that the concepts of volume and surface area are applied to three-dimensional figures such as cubes, right rectangular prisms, and right triangular prisms.</li> <li>c. Decompose cubes, right rectangular prisms, and right triangular prisms into rectangles and triangles to derive the formulas for volume and surface area.</li> <li>d. Use the formulas for area, volume, and surface area appropriately.</li> </ul>

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Data Analysis and Statistics	Understand that a sample is a subset of a population. Distinguish between populations and samples. Distinguish between random and nonrandom samples.	7.DS.1	<p>Investigate concepts of random sampling.</p> <p>a. Understand that a sample is a subset of a population and both possess the same characteristics.</p> <p>b. Differentiate between random and non-random sampling.</p> <p>c. Understand that generalizations from a sample are valid only if the sample is representative of the population.</p> <p>d. Understand that random sampling is used to gather a representative sample and supports valid inferences about the population.</p>
	Draw inferences about a population by collecting random samples.	7.DS.2	Draw inferences about a population by collecting multiple random samples of the same size to investigate variability in estimates of the characteristic of interest.
	Use the numerical measures of center (mean, median, mode, and range).	7.DS.4	Compare the numerical measures of center (mean, median, and mode) and variability (range, interquartile range, mean absolute deviation) from two random samples to draw inferences about the populations.
	Understand that probability measures likelihood of a chance event occurring.	7.DS.5	<p>Investigate the concept of probability of chance events.</p> <p>a. Determine probabilities of simple events.</p> <p>b. Understand that probability measures likelihood of a chance event occurring.</p> <p>c. Understand that the probability of a chance event is a number between 0 and 1.</p> <p>d. Understand that a probability closer to 1 indicates a likely chance event.</p> <p>e. Understand that a probability close to 1/2 indicates that a chance event is neither likely nor unlikely.</p> <p>f. Understand that a probability closer to 0 indicates an unlikely chance event.</p>

# Grade 8

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
The Number System	Recognize the differences between rational and irrational numbers. Understand that all real numbers have a decimal expansion.	8.NS.1	Explore the real number system and its appropriate usage in real-world situations. a. Recognize the differences between rational and irrational numbers. b. Understand that all real numbers have a decimal expansion. c. Model the hierarchy of the real number system, including natural, whole, integer, rational, and irrational numbers.
	Estimate the value of irrational and rational numbers by plotting them on a number line.	8.NS.2	Estimate and compare the value of irrational numbers by plotting them on a number line.
	Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Exclude the conversion of repeating decimal numbers to fractions.	8.NS.3	Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Include the conversion of repeating decimal numbers to fractions.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
<b>Functions</b>	Understand that a function assigns to each input exactly one output. Determine if a relation is a function using multiple representations, including tables, graphs, and equations. Graph a function from a table of $x$ and $y$ values. Extend the knowledge of the coordinate plane to use the set of ordered pairs of that function.	8.F.1	<p>Explore the concept of functions.</p> <p>a. Understand that a function assigns to each input exactly one output.</p> <p>b. Relate inputs (<math>x</math>-values or domain) and outputs (<math>y</math>-values or range) to independent and dependent variables.</p> <p>c. Translate among the multiple representations of a function, including mappings, tables, graphs, equations, and verbal descriptions.</p> <p>d. Determine if a relation is a function using multiple representations, including mappings, tables, graphs, equations, and verbal descriptions.</p> <p>e. Graph a function from a table of values. Understand that the graph and table both represent a set of ordered pairs of that function.</p>
	Compare two functions, including tables, graphs, and equations in order to draw conclusions.	8.F.2	Compare multiple representations of two functions, including mappings, tables, graphs, equations, and verbal descriptions, in order to draw conclusions.
	Understand that the slope is the constant rate of change and the $y$ -intercept is the point where $x = 0$ . Interpret the meaning of the slope and the $y$ -intercept of a linear function in the context of the situation.	8.F.4	<p>Apply the concepts of linear functions to real-world and mathematical situations.</p> <p>a. Understand that the slope is the constant rate of change and the <math>y</math>-intercept is the point where <math>x = 0</math>.</p> <p>b. Determine the slope and the <math>y</math>-intercept of a linear function given multiple representations, including two points, tables, graphs, equations, and verbal descriptions.</p> <p>c. Construct a function in slope-intercept form that models a linear relationship between two quantities.</p> <p>d. Interpret the meaning of the slope and the <math>y</math>-intercept of a linear function in the context of the situation.</p>



Key Concept	Prioritized Standard	Indicator	SCCCR Standard
			e. Explore the relationship between linear functions and arithmetic sequences.
Expressions, Equations, and Inequalities	Understand exponents to simplify numerical expressions that include integer exponents.	8.EE.1	Understand and apply the laws of exponents (i.e., product rule, quotient rule, power to a power, product to a power, quotient to a power, zero power property, negative exponents) to simplify numerical expressions that include integer exponents.
	Investigate concepts of square roots.	8.EE.2	Investigate concepts of square and cube roots. a. Find the exact and approximate solutions to 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. c. Evaluate cube roots of perfect cubes. d. Recognize that square roots of non-perfect squares are irrational.
	Compare two different proportional relationships using tables and graphs.	8.EE.5	Apply concepts of proportional relationships to real-world and mathematical situations. a. Graph proportional relationships. b. Interpret unit rate as the slope of the graph. c. Compare two different proportional relationships given multiple representations, including tables, graphs, equations, diagrams, and verbal descriptions.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
<p style="text-align: center;">Geometry and Measurement</p>	<p>Investigate the properties of rigid transformations (rotations, reflections, translations) using a variety of tools to recognize congruence.</p>	<p>8.GM.1</p>	<p>Investigate the properties of rigid transformations (rotations, reflections, translations) using a variety of tools (e.g., grid paper, reflective devices, graphing paper, technology).</p> <p>a. Verify that lines are mapped to lines, including parallel lines.</p> <p>b. Verify that corresponding angles are congruent.</p> <p>c. Verify that corresponding line segments are congruent.</p>
<p style="text-align: center;">Data Analysis, Statistics, and Probability</p>	<p>Recognize patterns observed on a scatter plot, including clustering, outliers, and association (positive, negative, or no correlation).</p>	<p>8.DS.1</p>	<p>Investigate bivariate data.</p> <p>a. Collect bivariate data.</p> <p>b. Graph the bivariate data on a scatter plot.</p> <p>c. Describe patterns observed on a scatter plot, including clustering, outliers, and association (positive, negative, no correlation, linear, nonlinear).</p>

# Grade 11

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
Arithmetic with Polynomials and Rational Expressions	Add and subtract polynomials (limit to linear).	A1.AAPR.1	Add, subtract, and multiply polynomials and understand that polynomials are closed under these operations. (Limit to linear; quadratic.)
Creating Equations	Solve linear equations with one variable.	A1.ACE.1	Create and solve equations and inequalities in one variable that model real-world problems involving linear, quadratic, simple rational, and exponential relationships. Interpret the solutions and determine whether they are reasonable. (Limit to linear; quadratic; exponential with integer exponents.)
Reasoning with Equations and Inequalities	Understand that the steps taken when solving simple equations in one variable create new equations that have the same solution as the original.	A1.AREI.1	Understand and justify that the steps taken when solving simple equations in one variable create new equations that have the same solution as the original.
	Solve systems of linear equations graphically focusing on pairs of linear equations in two variables.	A1.AREI.6	(Note: A1.AREI.6a and 6b are not Graduation Standards.) a. Solve systems of linear equations using the substitution method. b. Solve systems of linear equations using linear combination.
	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane.	A1.AREI.10	Explain that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane.

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
	Graph the solutions to a simple inequality with one variable on a number line.	A1.AREI.12	Graph the solutions to a linear inequality in two variables.
Structure and Expressions	Determine the meanings of coefficients, variables, terms, and expressions based on their real-world contexts.	A1.ASE.1	Interpret the meanings of coefficients, factors, terms, and expressions based on their real-world contexts. Interpret complicated expressions as being composed of simpler expressions. (Limit to linear; quadratic; exponential.)
Interpreting Functions	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.	A1.FIF.1	Extend previous knowledge of a function to apply to general behavior and features of a function. a. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. b. Represent a function using function notation and explain that $f(x)$ denotes the output of function $f$ that corresponds to the input $x$ . c. Understand that the graph of a function labeled as $f$ is the set of all ordered pairs $(x, y)$ that satisfy the equation $y = f(x)$ .
	Recognize features of a linear function in graphical form (e.g., slope, intercepts; if the function is increasing, decreasing, constant, positive, or negative).	A1.FIF.4	Interpret key features of a function that models the relationship between two quantities when given in graphical or tabular form. Sketch the graph of a function from a verbal description showing key features. Key features include intercepts; intervals where the function is increasing, decreasing, constant, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. (Limit to linear; quadratic; exponential.)

Key Concept	Prioritized Standard	Indicator	SCCCR Standard
	Graph linear functions using their key features.	A1.FIF.7	Graph functions from their symbolic representations. Indicate key features including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. Graph simple cases by hand and use technology for complicated cases. (Limit to linear; quadratic; exponential only in the form $y = a^x + k$ .)
Quantities	Choose the appropriate labels, units, and scales when constructing graphs.	A1.NQ.1	Use units of measurement to guide the solution of multi-step tasks. Choose and interpret appropriate labels, units, and scales when constructing graphs and other data displays.
Real Number System	Evaluate square roots of perfect squares.	A1.NRNS.1	Rewrite expressions involving simple radicals and rational exponents in different forms.
Interpreting Data	Identify the general form of a given data set as linear or non-linear.	A1.SPID.6	Using technology, create scatterplots and analyze those plots to compare the fit of linear, quadratic, or exponential models to a given data set. Select the appropriate model, fit a function to the data set, and use the function to solve problems in the context of the data.