

EIGHTH GRADE	
September State Goals For Math	
6.8.02	Read, write, recognize, model, and interpret integers, including translating numerical expressions.
6.8.03	Recognize, translate between, and apply multiple representations of rational numbers (decimals, fractions, mixed numbers, percents, and roots).
6.8.05	Represent repeated factors using exponents.
6.8.06	Order and compare rational numbers.
6.8.07	Identify and locate rational and irrational numbers (e.g., π , $\sqrt{2}$, $\sqrt{5}$) on a number line.
6.8.08	Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., exponents, roots, prime/composite, prime factorization, greatest common factor, least common multiple).
6.8.09	Solve problems and number sentences involving addition, subtraction, multiplication, and division using rational numbers, exponents, and roots.
6.8.10	Identify and apply order of operations to simplify numeric expressions involving integers (including exponents and roots), fractions, and decimals.
6.8.11	Identify and apply the following properties of operations with rational numbers: the commutative and associative properties for addition and multiplication; the distributive property; the additive and multiplicative identity properties; the additive and multiplicative inverse properties; and the multiplicative property of zero.
6.8.12	Describe the effect of multiplying and dividing by numbers, including the effect of multiplying or dividing a rational number by \cdot a number less than zero; \cdot zero; \cdot a number between zero and one; and \cdot a number greater than one.
6.8.16	Use proportional reasoning to model and solve problems.
8.8.02	Write an expression using variables to represent unknown quantities.
8.8.03	Simplify algebraic expressions.
8.8.04	Recognize and generate equivalent forms of algebraic expressions.
8.8.05	Evaluate or simplify algebraic expressions with one or more rational variable values (e.g., $3a^2 - b$ for $a = 3$ and $b = 7$).
8.8.13	Solve word problems involving unknown quantities.
9.8.12	Relate absolute value to distance on the number line.
10.8.01	Read, interpret (including possible misleading characteristics), and make predictions from data represented in a bar graph, line (dot) plot, Venn diagram (with two or three circles), chart/table, line graph, scatterplot, circle graph, stem-and-leaf plot, or histogram.

EIGHTH GRADE	
October State Goals For Math	
6.8.01	Read, write, and recognize equivalent representations of integer powers of 10.
6.8.01	Read, write, and recognize equivalent representations of integer powers of 10.
6.8.04	Use scientific notation to represent numbers and solve problems.
6.8.05	Represent repeated factors using exponents.
6.8.08	Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., exponents, roots, prime/composite, prime factorization, greatest
6.8.14	Estimate the square or cube root of a number less than 1,000 between two whole numbers (e.g., $\sqrt[3]{200}$ is between 5 and 6).
8.8.04	Recognize and generate equivalent forms of algebraic expressions.
8.8.11	Represent and analyze problems with linear equations and inequalities.
8.8.12	Solve linear equations and inequalities in one variable over the rational numbers (e.g., $5x+7=-13$, $4x-3=-7x+8$, $-2x+3>-5$).

EIGHTH GRADE	
November State Goals For Math	
8.8.04	Recognize and generate equivalent forms of algebraic expressions.
8.8.08	Translate between different representations (table, written, graphical, or pictorial) of whole number relationships and linear expressions.
8.8.05	Evaluate or simplify algebraic expressions with one or more rational variable values (e.g., $3a^2 - b$ for $a = 3$ and $b = 7$).
8.8.06	Recognize, describe, and extend patterns using rate of change.
8.8.07	Represent linear equations and quantitative relationships on a rectangular coordinate system, and interpret the meaning of a specific part of a graph.
8.8.09	Interpret the meaning of slope and intercepts in linear situations.
8.8.10	Identify, graph, and interpret up to two inequalities with a single variable (including the intersection or union of these inequalities) on a number line.
8.8.11	Represent and analyze problems with linear equations and inequalities.
8.8.12	Solve linear equations and inequalities in one variable over the rational numbers (e.g., $5x+7 = -13$, $4x-3 = -7x+8$, $-2x+3 > -5$).

EIGHTH GRADE	
December State Goals For Math	
6.8.15	Use ratios to describe problem situations.
6.8.16	Use proportional reasoning to model and solve problems.
7.8.05	Solve problems involving unit conversions within the same measurement system for length, weight/mass, capacity, square units, and measures expressed as rates (e.g., converting feet/second to yards/minute).
7.8.06	Solve problems involving scale drawings, maps, and indirect measurement (e.g., determining the height of a building by comparing its known shadow length to the known height and shadow length of another object).
8.8.01	Analyze, extend, and create sequences or linear functions, and determine algebraic expressions to describe the n th term of a sequence.
8.8.06	Recognize, describe, and extend patterns using rate of change.
9.8.11	Solve problems involving congruent and similar figures.

EIGHTH GRADE	
January State Goals For Math	
7.8.01	Select and use appropriate standard units and tools to solve measurement problems, including measurements of polygons and circles.
7.8.02	Solve problems involving perimeter/circumference and area of polygons, circles, and composite figures using diagrams, models, and grids or by measuring or using given formulas (may include sketching a figure from its description).
7.8.03	Compare and estimate length (including perimeter/circumference), area, volume, weight/mass, and angles (0° to 360°) using referents.
7.8.05	Solve problems involving unit conversions within the same measurement system for length, weight/mass, capacity, square units, and measures expressed as rates (e.g., converting feet/second to yards/minute).
9.8.01	Solve problems involving two- and three-dimensional shapes.
9.8.02	Solve problems that require knowledge of triangle and quadrilateral properties (e.g., triangle inequality).
9.8.03	Find the length of any side of a right triangle using the Pythagorean theorem (whole number solutions).
9.8.04	Identify, describe, and determine the radius, diameter, and circumference of a circle and their relationship to each other and to pi.
9.8.08	Identify or analyze relationships of angles formed by intersecting lines (including parallel lines cut by a transversal) and angles formed by radii of a circle.
9.8.09	Solve problems involving vertical, complementary, and supplementary angles.
9.8.11	Solve problems involving congruent and similar figures.

EIGHTH GRADE	
February State Goals For Math	
6.8.16	Use proportional reasoning to model and solve problems.
7.8.01	Select and use appropriate standard units and tools to solve measurement problems, including measurements of polygons and circles.
7.8.03	Compare and estimate length (including perimeter/circumference), area, volume, weight/mass, and angles (0° to 360°) using referents.
7.8.04	Solve problems involving the volume or surface area of a right rectangular prism, right circular cylinder, or composite shape using an appropriate formula or strategy.
9.8.01	Solve problems involving two- and three-dimensional shapes.
9.8.02	Solve problems that require knowledge of triangle and quadrilateral properties (e.g., triangle inequality).
9.8.03	Find the length of any side of a right triangle using the Pythagorean theorem (whole number solutions).
9.8.05	Graph points, and identify coordinates of points on the Cartesian coordinate plane (all four quadrants).
9.8.06	Represent and identify geometric figures using coordinate geometry, including those resulting from transformations.
9.8.06	Represent and identify geometric figures using coordinate geometry, including those resulting from transformations.
9.8.07	Analyze the results of a combination of transformations, and determine a different transformation that could produce the same result.
9.8.08	Identify or analyze relationships of angles formed by intersecting lines (including parallel lines cut by a transversal) and angles formed by radii of a circle.
9.8.10	Identify front, side, and top views of a three-dimensional solid built with cubes.

EIGHTH GRADE	
March State Goals For Math	
6.8.15	Use ratios to describe problem situations.
6.8.16	Use proportional reasoning to model and solve problems.
10.8.06	Solve problems involving the probability of an event composed of repeated trials, compound events (including independent events), or future events with or without
10.8.07	Represent all possible outcomes (sample space) for simple or compound events (e.g., tables, grids, tree diagrams).
10.8.08.	Solve simple problems involving the number of ways objects can be arranged (permutations and combinations).

EIGHTH GRADE	
April State Goals For Math	
8.8.06	Recognize, describe, and extend patterns using rate of change.
8.8.08	Translate between different representations (table, written, graphical, or pictorial) of whole number relationships and linear expressions.
10.8.01	Read, interpret (including possible misleading characteristics), and make predictions from data represented in a bar graph, line (dot) plot, Venn diagram (with two or three circles), chart/table, line graph, scatterplot, circle graph, stem-and-leaf plot, or histogram.
10.8.02	Compare and contrast the effectiveness of different representations of the same data.
10.8.03	Create a bar graph, chart/table, line graph, or circle graph and solve a problem using the data in the graph for a given set of data.
10.8.04	Identify or draw a reasonable approximation of the line of best fit from a set of data or a scatter plot, and use the line to make predictions.
10.8.05	Analyze and apply measures of central tendency (mode, range, median, and mean) in problem-solving situations.

EIGHTH GRADE	
May State Goals For Math	
6.8.17	Read, write, recognize, model, and interpret percents, including those less than 1% and greater than 100%.
6.8.18	Solve number sentences and problems involving fractions, decimals, and percents (e.g., percent increase and decrease, interest rates, tax, discounts, tips).
7.8.05	Solve problems involving unit conversions within the same measurement system for length, weight/mass, capacity, square units, and measures expressed as rates (e.g., converting feet/second to yards/minute).