

Standard 2: Algebra Benchmark 1: Patterns

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Patterns	classifies and/or sorts...	K.5...concrete objects by similar attributes									
	uses, identifies, states, and/or continues...	K.1...concrete objects, drawings, and other representations to work with types of patterns for repeating patterns and growing patterns	K.1...concrete objects, drawings, and other representations to work with types of patterns for repeating patterns and growing patterns	K.1...concrete objects, drawings, and other representations to work with types of patterns for repeating patterns and growing patterns	K.1...concrete objects, drawings, and other representations to work with types of patterns for repeating patterns and growing patterns	K.1...concrete objects, drawings, and other representations to work with types of patterns for repeating patterns and growing patterns	K.1...a pattern presented in various formats including numeric, visual, verbal, kinesthetic, and written for repeating and growing patterns				
	generates...	K.2...patterns for whole numbers, geometric shapes with one attribute change, and things related to daily life	K.2...patterns for counting numbers related to number theory, whole numbers that increase, geometric shapes, measurements, the calendar. money and time, things related to daily life, and things related to size, shape, color, texture, or movement	K.2...patterns for counting numbers related to number theory, whole numbers that increase, geometric shapes, measurements, the calendar. money and time, things related to daily life, and things related to size, shape, color, texture, or movement	K.2...patterns for counting numbers related to number theory, whole numbers that increase or decrease, geometric shapes including one attribute change, measurements, money and time, things related to daily life, and things related to size, shape, color, texture, or movement	K.2...patterns for counting numbers related to number theory, whole numbers that increase or decrease, geometric shapes including one attribute change, measurements, money and time, things related to daily life, and things related to size, shape, color, texture, or movement	K.2...patterns for counting numbers related to number theory, whole numbers that increase or decrease, geometric shapes including one attribute change, measurements, money and time, things related to daily life, and things related to size, shape, color, texture, or movement	K.2...patterns for counting numbers related to number theory, whole numbers, geometric shapes through two attributes changes, measurements, things related to daily life, things related to size, shape, color, texture, or movement			

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Patterns	identifies, states, and/or continues...	K.3...a pattern presented in various formats including numeric, visual, verbal, and kinesthetic	K.3...a pattern presented in various formats including numeric, visual, verbal, kinesthetic, and written	K.3...a pattern presented in various formats including numeric, visual, verbal, kinesthetic, and written	K.3...a pattern presented in various formats including numeric, visual, verbal, kinesthetic, and written	K.3...a pattern presented in various formats including numeric, visual, verbal, kinesthetic, and written	K.3...a pattern presented in various formats including numeric, visual, verbal, kinesthetic, and written	K.1... add: for counting numbers including perfect squares, factors and multiples (number theory), positive rational numbers limited to two operations, arithmetic sequences, geometric figures through two attribute changes, measurements, and things related to daily life	▲K.1...add: for counting numbers including perfect squares, cubes, factors and multiples (number theory), positive rational numbers with arithmetic and geometric sequences, geometric figures, measurements, and things related to daily life	K.1...add: for counting numbers including perfect squares, cubes, and factors with multiples with positive rational numbers (number theory), rational numbers including arithmetic and geometric sequences, geometric figures, measurements, things related to daily life, and variables and simple expressions	K.1...add: for arithmetic and geometric sequences using real numbers and/or exponents, patterns using geometric figures, algebraic patterns including consecutive number patterns or equations of functions, and special patterns
	generalizes, and/or recognizes...	A.1...generalizes the following patterns using pictorial, and/or oral descriptions including the use of concrete objects for repeating patterns for the AB pattern, the ABC pattern, and the AAB pattern, patterns using geometric shapes with one attribute change	A.1...the following patterns using pictorial, oral, and/or written descriptions including the use of concrete objects for whole number patterns, patterns using geometric shapes, calendar patterns, and patterns using size, shape, color, texture, or movement	A.1...these patterns using a written description for whole number, geometric shapes, calendar patterns, money and time, and using size, shape, color, texture, or movement	A.1...the following patterns using a written description for counting numbers related to number theory, whole number, geometric shapes, measurement, money and time, and size, shape, color, texture, or movement	A.1...the following patterns using a written description for counting numbers related to number theory, whole number patterns, geometric shapes, measurement, money and time, and size, shape, color, texture, or movement	A.1...patterns using a written description for numerical patterns, geometric shapes through two attribute changes, measurement, and related to daily life	A.1...the same general pattern presented in different representations for numeric, visual, and written	A.1...a pattern by giving the nth term using symbolic notation	A.1...numerical patterns using algebra and then translates between the equation, graph, and table of values resulting from the generalization	A.1...the same general pattern presented in different representations for numeric, visual, and written

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Patterns	recognizes...	A.2...multiple representations of the AB pattern	A.2...multiple representations of the same pattern	A.2...multiple representations of the same pattern	▲ A.2...multiple representations of the same pattern	A.2...multiple representations of the same pattern	A.2...multiple representations of the same pattern	A.2...multiple representations of the same pattern	A.2...the same general pattern presented in different representations for numeric, visual, and written	A.2...the same general pattern presented in different representations for numeric, visual, and written		
	generates and/or explains...	K.4...repeating patterns for the AB pattern, ABC pattern, and AAB pattern and growing patterns that add 1, 2, or 10 to continue the pattern	K.4...repeating patterns for the AB pattern, ABC pattern, and AAB pattern and growing patterns that add 1, 2, 5, or 10.	K.4.a. generates: repeating patternsK.4.b. generates: growing patterns	K. 4...repeating patterns, growing patterns, and patterns using function tables	K. 4...repeating patterns, growing patterns, and patterns using function tables	K. 4...repeating patterns, growing patterns, and patterns using function tables	K.2...a pattern (repeating, growing)	K.2...a pattern	K.2 & K.3...a pattern limited to two operations (addition, subtraction, multiplication, division, exponents) when given the rule for the nth term	K.2 & K.3...a pattern and classify as arithmetic, geometric, or neither	
	uses...	A.3...concrete objects to model a whole number pattern for counting by ones, twos, and tens	A.3...add: fives	A.3...add: twenty-fives								
	extends, describes and/or plots...								K.3...a pattern when given a rule of one or two simultaneous operational changes between consecutive terms	K.3...a pattern when given a rule of one or two simultaneous operational changes between consecutive terms	K.5...pattern when given a table of linear values and plots the ordered pairs on a coordinate plane	
	states...								▲ K.4...the rule to find the next number of a pattern with one operational change to move between consecutive terms	▲ K.4...the rule to find the nth term of a pattern with one operational change for addition or subtraction between consecutive terms	K.4...the rule to find the nth term of a pattern using explicit symbolic notation	

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Patterns	defines and/or finds...										K.4...a recursive or explicit formula for arithmetic or geometric sequences and finds any particular term
	solves...										A.2...real-world problems with arithmetic or geometric sequences by using the explicit equation of the sequence

Standard 2: Algebra Benchmark 2: Variables, Equations, and Inequalities

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Variables, Equations, and Inequalities	finds...	K.1...the unknown sum using the basic facts with sums through 10 using concrete objects and pictures	K.2...the unknown sum or difference of the basic facts using concrete objects	K.2...the sum or difference in one-step equations with whole numbers from 0 through 99 and up to two different coins	K.2...finds the sum or difference in one-step equations with whole numbers from 0 through 99 and monetary values through a dollar						
	shows and explains...								K.3...how changes in one variable affects other variables		
	knows, explains, uses, and/or identifies...		K.1...symbols to represent unknown whole number quantities from 0 through 20	K.1...symbols to represent unknown whole number quantities from 0 through 100	K.1...symbols to represent unknown whole number quantities from 0 through 1,000	K.1...variables and symbols to represent unknown whole number quantities from 0 through 1,000	▲K.1...variables and symbols to represent unknown whole number quantities from 0 through 1,000 and variable relationships	K.1...variables and/or symbols to represent unknown quantities and variable relationships	K.1...that a variable can represent a single quantity that changes	K.1...independent and dependent variables within a given situation	K.1...the use of variables as parameters for a specific variable situation
	explains...								K.4...the difference between an equation and an expression		
	describes, compares, explains, and/or uses...		K.3...two whole numbers from 0 through 100 using the terms: is equal to, is less than, is greater than	K.4...two whole numbers from 0 through 1,000 using the terms: is equal to, is less than, is greater than	K.4...two whole numbers from 0 through 1,000 using the equality and inequality symbols and their corresponding meanings	K.3...two whole numbers from 0 through 10,000 using the equality and inequality symbols and their corresponding meanings	K.3...equality and inequality symbols and corresponding meanings with whole numbers from 0 to 100,000	K.4...equality and inequality symbols and corresponding meanings to represent mathematical relationships with positive rational numbers	K.6...the equality and inequality symbols and corresponding meanings to represent mathematical relationships with rational numbers		

Standard 2: Algebra Benchmark 2: Variables, Equations, and Inequalities

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Variables, Equations, and Inequalities	finds or solves...			K.3...unknown addend or subtrahend using basic addition and subtraction facts (fact family)	K.3...the unknown in the multiplication and division fact families through the 5s and the 10s	▲K.2...one-step equations using whole numbers with one variable and a whole number solution that find the unknown in a multiplication or division equation based on the multiplication facts from 1 x 1 through 12 x 12 and corresponding division facts, find the unknown in a money equation using multiplication and division based upon the facts and addition and subtraction with values through \$10 and find the unknown in a time equation involving whole minutes, hours, days, and weeks with values through 200	▲K.2...one-step linear equations with one variable with a whole number solution using addition and subtraction with whole numbers from 0 through 100 and multiplication with the basic facts	K.3...one-step linear equations for addition, subtraction, multiplication, and division and one-step linear inequalities for addition and subtraction in one variable with whole numbers solutions	K.5... one-step linear equations in one variable with positive rational coefficients and solutions, two-step linear equations in one variable with counting number coefficients and constants and positive rational solutions, and one-step linear inequalities with counting numbers and one variable	▲K.3...one and two-step linear equations in one variable with rational number coefficients and constants intuitively and/or analytically, one--step linear inequalities in one variable with rational number coefficients and constants intuitively, analytically, and graphically, and systems of given linear equations with whole number coefficients and constants graphically	▲K.3...linear equations and inequalities, quadratic equations with integer solutions, systems of linear equations with two unknowns using integer coefficients and constants, radical equations with no more than one inverse operation around the radical expression, equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator, equations and inequalities with absolute value quantities containing one variable with a special emphasis on using a number line and the concept of absolute value, and exponential equations with the same base

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Variables, Equations, and Inequalities	describes or represents...	A.1...real-world problems using concrete objects and pictures and the basic facts with sums through 10	A.1...real-world problems using concrete objects, pictures, oral descriptions, and symbols and the basic addition and subtraction facts with one operation and one unknown	A.1...real-world problems using symbols and whole numbers from 0 through 30 with one operation for addition and subtraction for one unknown	A.1...real-world problems using symbols with one operation and one unknown that adds or subtracts using whole numbers from 0 through 99, multiplies or divides using the basic facts through the 5s and the basic facts of the 10s	A.1...real-world problems using variables and symbols with unknown whole number quantities from 0 through 1,000	A.1...real-world problems using variables, symbols, and one-step equations with unknown whole number quantities from 0 through 1,000	▲A.1...real-world problems using variables and symbols to write algebraic or numerical expressions or one-step equations with whole number solutions and write and/or solve one-step equations	▲A.1...real-world problems using variables and symbols to write linear expressions, one- or two-step equations	▲A.1...real-world problems using variables, symbols, expressions, one- or two-step equations with rational number coefficients and constants, one-step inequalities with rational number coefficients and constants, and systems of linear equations with whole number coefficients and constant	A.1...real-world problems using variables, symbols, expressions, inequalities, and simple systems of linear equations
	reads, writes, recognizes, knows, and/or describes...					K.4...whole number equations and inequalities using mathematical vocabulary and notation	K.4...a ratio as a comparison of part-to-part and part-to-whole relationships	K.5...the relationship between ratios, proportions, and percents and finds the missing term in simple proportions where the missing term is a whole number	▲K.7...the mathematical relationship between ratios, proportions, and percents and how to solve for a missing term in a proportion with positive rational number solutions and monomials	K.4...the mathematical relationship between ratios, proportions, and percents and how to solve for a missing monomial or binomial term in a proportion	
	represents and solves...										K.5...algebraically the number when a percent and a number are given, what percent one number is of another number, and percent of increase or decrease

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Variables, Equations, and Inequalities	uses, knows, explains, simplifies, and/or manipulates...							K.2...equivalent representations for the same simple algebraic expression with understood coefficients of 1	K.2...equivalent representations for the same simple algebraic expressions	K.2...algebraic expressions in one variable by combining like terms or using the distributive property	K.2...variable quantities within an equation or inequality
	finds or evaluates...							K.6...the value of algebraic expressions using whole numbers	▲K.8...simple algebraic expressions using positive rational numbers	K.6...formulas using substitution	
	generates, represents, and/or solves...		A.2...problem situations using the basic facts to find the unknown sum or difference with concrete objects	A.2...addition or subtraction equations to match a given real-world problem with one operation and one unknown using whole numbers from 0 through 99 and match a given addition or subtraction equation with one operation using the basic facts	A.2...one-step equations to solve real-world problems with one unknown and a whole number solution that: adds or subtracts using the basic fact families and multiplies or divides using the basic facts through the 5s and the basic facts of the 10s	A.2...one-step equations to solve real-world problems with one unknown represented by a variable or symbol and a whole number solution that add or subtract whole numbers from 0 through 1,000 and multiply or divide using the basic facts	A.2...one-step linear equations to solve real-world problems with whole numbers from 0 through 1,000 with one unknown and a whole number solution using addition, subtraction, multiplication, and division	A.2...real-world problems that represent simple expressions or one-step linear equations with whole number solutions	A.3...real-world problems that represent one- or two-step linear equations	A.3...real-world problems that represent one- or two-step linear equations and one-step linear inequalities	▲A.2...real-world problems with linear equations and inequalities, quadratic equations with integer solutions, systems of linear equations with two unknowns, radical equations with no more than one inverse operation around the radical expression, and rational equation where the solution can be simplified as a linear equation with a nonzero denominator

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Variables, Equations, and Inequalities	generates, or solves...				A.3...a real-world problem with one operation that matches a given addition equation or subtraction equation using whole numbers from 0 through 99, that matches a given multiplication equation or division equation using basic facts through the 5s and the basic facts of the 10s, and number comparison statements using equality and inequality symbols for whole numbers from 0 through 100, measurement, and money	A.3...real-world problems with one operation to match a given equation using whole numbers through 99 and number comparison statements using equality and inequality symbols with whole numbers, measurement, and money	A.3...a real-world problem with one operation to match a given equation using whole numbers from 0 through 1,000 and number comparison statements using equality and inequality symbols with whole numbers, measurement, and money		A.2...real-world problems with one- or two-step linear equations in one variable with whole number coefficients and constants and positive rational solutions intuitively and analytically	A.2...real-world problems with two-step linear equations in one variable with rational number coefficients and constants and rational solutions intuitively, analytically, and graphically	
	explains...							A.3...the mathematical reasoning that was used to solve a real-world problem using a one-step equation	A.4...the mathematical reasoning that was used to solve a real-world problem using a one- or two-step linear equation	A.4...the mathematical reasoning that was used to solve a real-world problem using one- or two-step linear equations and inequalities and discusses the advantages and disadvantages to various strategies that may have been used to solve the problem	A.3...the mathematical reasoning that was used to solve a real-world problem using equations and inequalities and analyzes the advantages and disadvantages of various strategies that may have been used to solve the problem

Standard 2: Algebra Benchmark 3: Functions

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Points	locates or plots...	K.1...whole numbers from 0 through 20 on a number line	K.1...whole numbers from 0 through 100 on segments of a number line								
	uses, plots, locates, and/or demonstrates...				K.4...a function table to identify and plot ordered pairs in the first quadrant of a coordinate plane	K.4...a function table to identify, plot, and label the ordered pairs in the first quadrant of a coordinate plane	▲K.4 & K.5...a function table to identify, plot, and label whole number ordered pairs in the first quadrant of a coordinate plane and points for integers on a horizontal number line and vertical number line	K.4...a given function table to identify, plot, and label the ordered pairs using the four quadrants of a coordinate plane	K.3...mathematical relationships using ordered pairs in all four quadrants of a coordinate plane		
Relations and Functions	states, recognizes, examines, evaluates, and/or analyzes...		K.2&K.3...mathematical relationships between whole numbers from 0 through 50 using various methods including mental math, paper and pencil, concrete objects and in a horizontal or vertical function table	K.1...mathematical relationships between whole numbers from 0 through 100 using various methods including mental math, paper and pencil, and concrete objects	K.1...mathematical relationships between whole numbers from 0 through 200 using various methods including mental math, paper and pencil, concrete objects, and appropriate technology	K.1...mathematical relationships between whole numbers from 0 through 1,000 using various methods including mental math, paper and pencil, concrete materials, and appropriate technology	K.1...mathematical relationships between whole numbers from 0 through 10,000 using various methods including mental math, paper and pencil, concrete objects, and appropriate technology	K.1...linear relationships using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or appropriate technology	K.1...constant and linear relationships using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or appropriate technology	K.1...constant, linear, and nonlinear relationships using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or appropriate technology	K.1...functions using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology
	represents, describes, and/or translates...	A.1... mathematical relationships for whole numbers from 0 through 10 using concrete objects, pictures, and oral descriptions	A.1... mathematical relationships for whole numbers from 0 through 50 using concrete objects, pictures, oral descriptions, and symbols	A.1... mathematical relationships between whole numbers from 0 through 100 using concrete objects, pictures, oral descriptions, and symbols	A.1... mathematical relationships between whole numbers from 0 through 100 using concrete objects, pictures, written descriptions, symbols, equations, tables, and graphs	▲A.1... mathematical relationships between whole numbers from 0 through 1,000 using concrete objects, pictures, written descriptions, symbols, equations, tables, and graphs	A.1... mathematical relationships between whole numbers from 0 through 5,000 using written and oral descriptions, tables, graphs, symbolic notation, and between verbal, numerical, and graphical representations including the use of concrete objects	A.1...a variety of mathematical relationships using written and oral descriptions of the rule, tables, graphs, and when possible, symbolic notation	A.1...a variety of constant and linear relationships using written or oral descriptions of the rule, tables, graphs, and when possible, symbolic notation	A.1...a variety of constant and nonlinear relationships using written or oral descriptions of the rule, tables, graphs, and symbolic notation	A.1...between the numerical, graphical, and symbolic representations of functions

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Relations and Functions	finds, knows, describes, and/or matches...			K.2...the values and determines the rule that involve addition or subtraction of whole numbers from 0 through 100 using a horizontal or vertical function table	K.2...the values and determines the rule with one operation of whole numbers from 0 through 200 using a horizontal or vertical function table	▲K.2...the values, determines the rule, and states the rule using symbolic notation with one operation of whole numbers from 0 through 200 using a horizontal or vertical function table	K.2...the values, determines the rule, and states the rule using symbolic notation with one operation of whole numbers from 0 through 10,000 using a vertical or horizontal function table	K.2...the values and determines the rule with one operation using a function table	K.2...the values and determines the rule through two operations using a function table	K.2...the difference between constant, linear, and nonlinear relationships	K.2...equations and graphs of constant and linear functions and quadratic functions
	generalizes or describes...			K.3...numerical patterns using whole numbers from 0 through 100 with one operation by stating the rule using words	▲K.3...numerical patterns using whole numbers from 0 through 200 with one operation by stating the rule using words	K.3...numerical patterns using whole numbers from 0 through 200 with one operation by stating the rule using words	K.3 & K.6... numerical patterns using whole numbers from 0 through 5,000 up to two operations by stating the rule using words and whole number relationships using letters and symbols	K.3...numerical patterns up to two operations by stating the rule using words			
	recognizes, finds, states, extends, interprets, describes, and/or analyzes...		A.2...numerical patterns through 50 using a hundred chart	A.2...the rule, states the rule, and extends numerical patterns with whole numbers from 0 through 100	A.2...the rule, states the rule using words, and extends numerical patterns with whole numbers from 0 through 100	A.2...the rule, states the rule, and extends numerical patterns using real-world applications using whole numbers from 0 through 200	A.2...the rule for numerical patterns using real-world problems with whole numbers from 0 through 5,000	A.2...the mathematical relationships of numerical, tabular, and graphical representations	A.2...the mathematical relationships of numerical, tabular, and graphical representations	A.2... the mathematical relationships of numerical, tabular, and graphical representations	▲A.2...the meaning of the x- and y- intercepts, slope, and/or points on and off the line on a graph in the context of a real-world situation
	describes, gives, explains, and/ or determines...								K.4...examples of mathematical relationships that remain constant	K.3...the concepts of slope and x- and y-intercepts of a line	K.4...x- and y- intercepts and maximum and minimum values of the portion of the graph that is shown on a coordinate plane

Standard 2: Algebra Benchmark 3: Functions

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Relations and Functions	recognizes, identifies, plots, and/or determines...									K.4 & K.5...the graphs of constant and linear functions and ordered pairs using a variety of scales for the x- and y-axis	K.3...whether a graph, list of ordered pairs, table of values, or rule represents a function
	translates...						A.3...between verbal, numerical, and graphical representations including the use of concrete objects to describe mathematical relationships			▲ A.3...between the numerical, tabular, graphical, and symbolic representations of linear relationships with integer coefficients and constants	
	identifies...										K.5...domain and range of a relationships given the graph or table and linear, constant, and quadratic functions given the equation
	recognizes...										▲ K.6...how changes in the constant and/or slope within a linear function changes the appearance of a graph
	uses...										K.7...function notation
	evaluates...										K.8...functions given a specific domain
	describes and/or identifies...										K.9...independent and dependent variables

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Relations and Functions	analyzes...										A.3...the effects of parameter changes, changes in the constants and/or slope within a linear function, and changes in the constants and/or coefficients within a quadratic function affect the appearance of a graph

Standard 2: Algebra Benchmark 4: Models

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Models	knows, explains, and/or uses...	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction models, money models, two and three-dimensional geometric models, real world objects, graphs using concrete objects, pictographs, and frequency tables, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction models, money models, function tables, two and three-dimensional geometric models, real world objects, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction models, money models, function tables, two and three-dimensional geometric models, real world objects, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction models, money models, function tables, two and three-dimensional geometric models, real world objects, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction and mixed number models, money models, function tables, two and three-dimensional geometric models, real world objects, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, tree diagrams, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, tree diagrams, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, coordinate planes, tree diagrams, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, coordinate planes, tree diagrams, and data representations, and scale drawings, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, scale drawings, and data representations, and Venn Diagrams to sort data

Standard 2: Algebra Benchmark 4: Models

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Models	recognizes...	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, two and three-dimensional geometric models, real world objects, graphs using concrete objects, pictographs, and frequency tables	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, two and three-dimensional geometric models, real world objects, and data representations	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, money models, two and three-dimensional geometric models, real world objects, and data representations	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, fraction models, money models, function tables, two and three-dimensional geometric models, real world objects, and data representations, and Venn Diagrams to sort data	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, fraction and mixed number models, decimal models, money models, function tables, two and three-dimensional geometric models, real world objects, and Venn Diagrams to sort data	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, scale drawings, and Venn Diagrams to sort data	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, tree diagrams, and data representations, and Venn Diagrams to sort data	A.1...that various mathematical models used to represent the same problem situation that include process models, place value models, fraction and mixed number models, decimal and money models, factor trees, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, coordinate planes, scale drawings, tree diagrams, and data representations, and Venn Diagrams to sort data	A.1...that various mathematical models can be used to represent the same problem situation that include process models, place value models, fraction and mixed number models, decimal and money models, equations and inequalities, function tables, two and three-dimensional geometric models, real world objects, coordinate planes, scale drawings, tree diagrams, and data representations, and Venn Diagrams to sort data	A.1...that various mathematical models can be used to represent the same problem situation that include process models, algebraic expressions, equations and inequalities, function tables, coordinate planes, tree diagrams, two and three-dimensional geometric models, real world objects, scale drawings, and data representations, and Venn Diagrams to sort data
	uses or creates...	K.2...concrete objects, pictures, drawings, diagrams, or dramatizations to show the relationship between two or more things	K.2...concrete objects, pictures, diagrams, or dramatizations to show the relationship between two or more things	K.2...a mathematical model to show the relationship between two or more things	K.2...a mathematical model to show the relationship between two or more things	K.2...a mathematical model to show the relationship between two or more things	K.2...a mathematical model to show the relationship between two or more things	K.2...one or more mathematical models to show the relationship between two or more things			

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Models	selects or determines...			A.2...a mathematical model that is more useful than other mathematical models in a given situation	A.2...a mathematical model that is more useful than other mathematical models in a given situation	A.2...a mathematical model and explains why some mathematical models are more useful than other mathematical models in certain situations.	A.2...a mathematical model and explains why some mathematical models are more useful than other mathematical models in certain situations.	A.2...a mathematical model and justifies why some mathematical models are more accurate than other mathematical models in certain situations	A.2...a mathematical model and justifies why some mathematical models are more accurate than other mathematical models in certain situations	▲A.2...if a given graphical, algebraic, or geometric model is an accurate representation of a given real-world situation	
	uses...								A.3...the mathematical modeling process to make inferences about real-world situations when the mathematical model used to represent the situation is given	A.3...the mathematical modeling process to analyze and make inferences about real-world situations	A.2...the mathematical modeling process to analyze and make inferences about real-world situations