

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
<b>Models</b>	<b>knows, explains, and/or uses...</b>	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

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Algebra I	Geometry	Algebra II	Trigonometry	Statistics	Calculus	Applied Math I	Applied Math II
K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, factor trees, algebraic expressions, equations and inequalities, function tables, coordinate planes, tree diagrams, Pascal's Triangle, constructions, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, factor trees, algebraic expressions, equations and inequalities, function tables, coordinate planes, constructions, two and three-dimensional geometric models, real world objects, scale drawings, and data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include process models, factor trees, algebraic expressions, equations and inequalities, function tables, coordinate planes, tree diagrams, Pascal's Triangle, data representations, and Venn Diagrams to sort data	K.1...mathematical models to represent trigonometric concepts, procedures, and relationships.	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include tree diagrams, data representations, Pascal's Triangle, and Venn Diagrams to sort data		K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include place value models, fraction and mixed number models, decimal and money models.	K.1...mathematical models to represent mathematical concepts, procedures, and relationships that include place value models, fraction and mixed number models, decimal and money models.

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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
<b>Models</b>	<b>recognizes...</b>	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 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, 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	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 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, 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, 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
	<b>uses or creates...</b>	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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Algebra I	Geometry	Algebra II	Trigonometry	Statistics	Calculus	Applied Math I	Applied Math II
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, 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	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, and coordinate planes.	A.1...that various mathematical models can be used to represent the same problem situation that include process models, trigonometric expressions, trigonometric equations, and coordinate and polar planes.			A.1...that various mathematical models can be used to represent the same problem situation that include process models place value, fraction and mixed number models.	A.1...that various mathematical models can be used to represent the same problem situation that include process models place value, fraction and mixed number models.

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<b>Models</b>	<b>selects or determines...</b>			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	
	<b>uses...</b>								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

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Algebra I

Geometry

Algebra II

Trigonometry

Statistics

Calculus

Applied Math I

Applied Math II

A.2...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	A.2...the mathematical modeling process to analyze and make inferences about real-world situations
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A.2.. statistical processes to analyze and make inferences about real-world situations
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A.3...the mathematical modeling process to make inferences about real-world situations.	A.3...the mathematical modeling process to make inferences about real-world situations.
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