



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
1.0 Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships.	1.A.1 Identify, describe, extend, and create patterns, functions and sequences	1.A.1.a Determine the recursive relationship of arithmetic sequences represented in words, in a table or in a graph	Lesson 16 Arithmetic and Geometric Sequences
		1.A.1.b Determine the recursive relationship of geometric sequences represented in words, in a table, or in a graph	Lesson 16 Arithmetic and Geometric Sequences
		1.A.1.c Determine whether relationships are linear or nonlinear when represented in words, in a table, symbolically, or in a graph	Lesson 4 Equations Lesson 22 Functions Lesson 23 Graphing Linear Equations
		1.A.1.d Determine whether relationships are linear or nonlinear when represented symbolically	Lesson 4 Equations Lesson 22 Functions
	1.B.1 Write, simplify, and evaluate expressions	1.B.1.a Write an algebraic expression to represent unknown quantities	Lesson 14 Solving Multi Step Inequalities Lesson 4 Equations Lesson 2 Variables and Expressions Lesson 13 Solving Multi Step Equations



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
		1.B.1.b Evaluate an algebraic expression	Lesson 13 Solving Multi Step Equations, Lesson 14 Solving Multi Step Inequalities
		1.B.1.c Evaluate numeric expressions using the order of operations	Integers and order of operations: Lesson 1 Number Sense Lesson 2 Variables and Expressions
		1.B.1.d Simplify algebraic expressions by combining like terms	Lesson 9 Equations with Fractions and Decimals, Lesson 12 Percent and Equations, Lesson 13 Solving Multi Step Equations, Lesson 14 Solving Multi Step Inequalities
		1.B.1.e Describe a real-world situation represented by an algebraic expression	Lesson 14 Solving Multi Step Inequalities Lesson 4 Equations Lesson 5 Inequalities Lesson 3 Properties of numbers Lesson 13 Solving Multi Step Equations



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
	1.B.2 Identify, write, solve, and apply equations and inequalities	1.B.2.a Write equations or inequalities to represent relationships	Lesson 5 Inequalities Lesson 12 Percent and Equations Lesson 13 Solving Multi Step Equations Lesson 14 Solving Multi Step Inequalities Lesson 15 Interest
		1.B.2.b Solve for the unknown in a linear equation	Lesson 4 Equations Lesson 18 Transforming Formulas Lesson 13 Solving Multi Step Equations
		1.B.2.c Solve for the unknown in an inequality	Lesson 5 Inequalities, Lesson 14 Solving Multi Step Inequalities
		1.B.2.d Identify or graph solutions of inequalities on a number line	Lesson 5 Inequalities
		1.B.2.e Identify equivalent equations	Lesson 13 Solving Multi Step Equations, Lesson 14 Solving Multi Step Inequalities
		1.B.2.f Apply given formulas to a problem-solving situation	Lesson 15 Interest, Lesson 18 Transforming Formulas, Lesson 26 Circles and Pi, Lesson 29 Measurement Systems, Lesson 30 Surface Area, Lesson 31 Volume, Lesson 32 Triangles and Triangular Prisms



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
		1.B.2.g Write equations and inequalities that describe real-world problems	Lesson 14 Solving Multi Step Inequalities Lesson 4 Equations Lesson 5 Inequalities Lesson 12 Percent and Equations Lesson 13 Solving Multi Step Equations
	1.C.1 Locate points on a number line and in a coordinate plane	1.C.1.a Graph linear equations in a coordinate plane	Lesson 23 Graphing Linear Equations
	1.C.2 Analyze linear relationships	1.C.2.a Determine the slope of a graph in a linear relationship	Lesson 23 Graphing Linear Equations
		1.C.2.b Determine the slope of a linear relationship represented numerically or algebraically	Lesson 23 Graphing Linear Equations
2.0 Students will apply the properties of one-, two-, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects.	2.A.1 Analyze the properties of plane geometric figures	2.A.1.a Identify and describe geometric relationships between angles formed when parallel lines are cut by a transversal.	Lesson 25 Angles
		2.A.1.b Identify and describe the relationship among the parts of a right triangle	Lesson 32 Triangles and Triangular Prisms, Lesson 34 Pythagorean Theorem
	2.A.2 Analyze geometric relationships	2.A.2.a Determine the measurements of angles formed by parallel lines cut by a transversal	Lesson 25 Angles



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
		2.A.2.b Apply right angle concepts to solve real-world problems	Lesson 34 Pythagorean Theorem
		2.A.2.c Determine whether three given side lengths form a right triangle	Lesson 32 Triangles and Triangular Prisms, Lesson 34 Pythagorean Theorem
	2.C.1 Represent plane geometric figures	2.C.1.a Draw quadrilaterals	Lesson 28 Parallelograms
		2.C.1.b Construct perpendicular line segments	Lesson 28 Parallelograms, Lesson 34 Pythagorean Theorem
		2.C.1.c Construct triangles	Lesson 32 Triangles and Triangular Prisms
	2.D.1 Apply the properties of similar polygons	2.D.1.a Determine similar parts of polygons	Lesson 24 Polygons
	2.E.1 Analyze a transformation on a coordinate plane	2.E.1.a Identify, describe, and plot the results of multiple transformations on a coordinate plane	Lesson 27 Symmetry and Translations
3.0 Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools, or technology for determining measurements.	3.C.1 Estimate and apply measurement formulas	3.C.1.a Estimate and determine the circumference or area of a circle	Lesson 26 Circles and Pi
		3.C.1.b Estimate and determine area of a composite figure	Lesson 28 Parallelograms, Lesson 30 Surface Area
		3.C.1.c Estimate and determine the volume of a cylinder	Lesson 31 Volume
		3.C.1.d Determine the volume of cones, pyramids, and spheres	Lesson 31 Volume



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
		3.C.1.e Determine the surface area of cylinders, prisms, and pyramids	Lesson 31 Volume, Lesson 32 Triangles and Triangular Prisms Lesson 30 Surface Area
	3.C.2 Analyze measurement relationships	3.C.2.a Use proportional reasoning to solve measurement problems	Lesson 10 Ratios, Proportions and Percents Lesson 11 Similarity and Scale
4.0 Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	4.A.1 Organize and display data	4.A.1.a Organize and display data to make circle graphs	Lesson 17 Data Analysis Lesson 36 Inferential Statistics
		4.A.1.b Organize and display data to make box-and-whisker plots	Lesson 36 Inferential Statistics
		4.A.1.c Organize and display data to make a scatter plot	Lesson 36 Inferential Statistics
	4.B.1 Analyze data	4.B.1.a Interpret tables	Lesson 17 Data Analysis Lesson 36 Inferential Statistics
		4.B.1.b Interpret box-and-whisker plots	Lesson 36 Inferential Statistics
		4.B.1.c Interpret scatter plots	Lesson 36 Inferential Statistics
		4.B.1.d Interpret circle graphs	Lesson 17 Data Analysis, Lesson 36 Inferential Statistics
		4.B.1.e Analyze multiple box-and-whisker plots using the same scale	Lesson 36 Inferential Statistics



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name	
5.0 Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	5.A.1 Identify a sample space	5.A.1.a Describe the difference between independent and dependent events	Lesson 19 Probability, Lesson 20 Counting Theory	
		5.A.1.b Determine the number of outcomes	Lesson 20 Counting Theory	
	5.B.1 Determine the probability of an event comprised of no more than 2 independent events	5.B.1.a Express the probability of an event as a fraction, a decimal, or a percent	Lesson 19 Probability, Lesson 20 Counting Theory	
		5.B.2 Determine the probability of a second event that is dependent on a first event of equally likely outcomes	Lesson 19 Probability, Lesson 20 Counting Theory	
	5.C.1 Analyze the results of a survey or simulation	5.C.1.a Make predictions and express the probability of the results as a fraction, a decimal with no more than 2 decimal places, or a percent	Lesson 19 Probability, Lesson 20 Counting Theory	
		5.C Experimental Probability	5.C.2 Conduct a probability experiment	Lesson 19 Probability
			5.C.3 Compare outcomes of theoretical probability with the results of experimental probability	Lesson 20 Counting Theory
			5.C.4 Describe the difference between theoretical and experimental probability	Lesson 20 Counting Theory



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
6.0 Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil, or technology.	6.A.1 Apply knowledge of rational numbers and place value	6.A.1.a Read, write, and represent rational numbers	Lesson 1 Number Sense
		6.A.1.b Compare, order, and describe rational numbers with and without relational symbols (<, >, =)	Lesson 1 Number Sense, Lesson 5 Inequalities
	6.C.1 Analyze number relations and compute	6.C.1.a Add, subtract, multiply and divide integers	Lesson 1 Number Sense
		6.C.1.b Calculate powers of integers and square roots of perfect square whole numbers	Lesson 33 Square Roots and Irrational Numbers Lesson 6 Exponents
		6.C.1.c Identify and use the laws of exponents to simplify expressions	Lesson 6 Exponents
		6.C.1.d Use properties of addition and multiplication to simplify expressions	Lesson 3 Properties of Numbers
	6.C.2 Estimation	6.C.2.a Estimate the square roots of whole numbers	Lesson 33 Square Roots and Irrational Numbers
	6.C.3 Analyze ratios, proportions, and percents	6.C.3.a Determine unit rates	Lesson 10 Ratios, Proportions and Percents
		6.C.3.b Determine or use percents, rates of increase and decrease, discount, commission, sales tax, and simple interest in the context of a problem	Lesson 10 Ratios, Proportions and Percents Lesson 12 Percents and Equations Lesson 15 Interest



Alignment Document
State of Maryland and Aventa Learning

Math 8

Strand	Common Curriculum Goal	Standard	Lesson Name
		6.C.3.c Solve problems using proportional reasoning	Lesson 10 Ratios, Proportions and Percents, Lesson 11 Similarity and Scale