



Alignment Document
State of Wisconsin and Aventa Learning

Math 6

Strand	Common Curriculum Goal	Standard	Lesson Name
A.8 Mathematical Processes	A.8.1 Use reasoning abilities to	A.8.1.a evaluate information	Lesson 1: Compare and Order Numbers
		A.8.1.b perceive patterns	Lesson 3: Patterns
		A.8.1.c identify relationships	Lesson 3: Patterns Lesson 23: Analyze Data Lesson 25: Problem Solve with Data Lesson 26: Classify Lines Lesson 36: Proportional Relationships
		A.8.1.d formulate questions for further exploration	
		A.8.1.e evaluate strategies	
		A.8.1.f justify statements	
		A.8.1.g test reasonableness of results	Lesson 25: Problem Solve with Data
		A.8.1.h defend work	
		A.8.2 Communicate logical arguments clearly to show why a result makes sense	All lessons
		A.8.3 Analyze non-routine problems by modeling, illustrating, guessing, simplifying, generalizing, shifting to another point of view, etc.	
A.8.4 Develop effective oral and written presentations that include		A.8.4.a appropriate use of technology	
		A.8.4.b the conventions of mathematical discourse (e.g., symbols, definitions, labeled drawings)	All lessons
		A.8.4.c mathematical language	All lessons

		A.8.4.d clear organization of ideas and procedures	All lessons
		A.8.4.e understanding of purpose and audience	All lessons
	A.8 Mathematical Processes	A.8.5 Explain mathematical concepts, procedures, and ideas to others who may not be familiar with them	
		A.8.6 Read and understand mathematical texts and other instructional materials and recognize mathematical ideas as they appear in other contexts	
B.8 Number Operations and Relationships	B.8 Number Operations and Relationships	B.8.1 Read, represent, and interpret various rational numbers (whole numbers, integers, decimals, fractions, and percents) with verbal descriptions, geometric models, and mathematical notation (e.g., expanded, scientific, exponential)	Lesson 2: Exponents and Exponential Form Lesson 3: Patterns Lesson 10: Review Fractions Lesson 11: Factors and Divisibility Rules Lesson 19: Introduction to Percents
		B.8.2 Perform and explain operations on rational numbers (add, subtract, multiply, divide, raise to a power, extract a root, take opposites and reciprocals, determine absolute value)	Lesson 6: Estimate Operations with Decimals Lesson 7: Add and Subtract Decimals Lesson 8: Multiply Decimals Lesson 9: Divide Decimals Lesson 14: Add and Subtract Like Fractions
		B.8.3 Generate and explain equivalencies among fractions, decimals, and percents	Lesson 12: GCF and Lowest Terms Lesson 13: Convert Fractions to Decimals Lesson 20: Connect Percents, Decimals, and Fractions
		B.8.4 Express order relationships among rational numbers using appropriate symbols ($>$,	Lesson 1: Compare and Order Numbers Lesson 5: Compare and Order Decimals

	B.8.5 Apply proportional thinking in a variety of problem situations that include, but are not limited to	B.8.5.a ratios and proportions (e.g., rates, scale drawings, similarity)	Lesson 35: Ratios Lesson 36: Proportional Relationships
		B.8.5.b percents, including those greater than 100 and less than one (e.g., discounts, rate of increase or decrease, sales tax)	Lesson 19: Introduction to Percents Lesson 20: Connect Percents, Decimals, and Fractions
	B.8.6 Model and solve problems involving number-theory concepts such as	B.8.6.a prime and composite numbers	Lesson 11: Factors and Divisibility Rules
		B.8.6.b divisibility and remainders	Lesson 12: GCF and Lowest Terms
		B.8.6.c greatest common factors	Lesson 15: Add and Subtract Unlike Fractions
		B.8.6.d least common multiples	Lesson 16: Add and Subtract Mixed Numbers
	B.8.7 In problem-solving situations, select and use appropriate computational procedures with rational numbers such as	B.8.7.a calculating mentally	Lesson 1: Compare and Order Numbers Lesson 3: Patterns Lesson 4: Properties Lesson 5: Compare and Order and Decimals
		B.8.7.b estimating	Lesson 6: Estimate Operations with Decimals Lesson 7: Add and Subtract Decimals Lesson 11: Factors and Divisibility Rules Lesson 31: Metric Measurement (Length) Lesson 34: Elapsed Time
		B.8.7.c creating, using, and explaining algorithms	
		B.8.7.d using technology (e.g., scientific calculators, spreadsheets)	

C.8 Geometry	C.8.1 Describe special and complex two- and three-dimensional figures (e.g., rhombus, polyhedron, cylinder) and their component parts (e.g., base, altitude, and slant height) by	C.8.1.a naming, defining, and giving examples	Lesson 28: Polygons Lesson 29: Circles
		C.8.1.b comparing, sorting, and classifying them	
		C.8.1.c identifying and contrasting their properties (e.g., symmetrical, isosceles, regular)	Lesson 28: Polygons
		C.8.1.d drawing and constructing physical models to specifications	
		C.8.1.e explaining how these figures are related to objects in the environment	
	C.8 Geometry	C.8.2 Identify and use relationships among the component parts of special and complex two- and three-dimensional figures (e.g., parallel sides, congruent faces).	
		C.8.3 Identify three-dimensional shapes from two-dimensional perspectives and draw two-dimensional sketches of three-dimensional objects preserving their significant features	
		C.8.4 Perform transformations on two-dimensional figures and describe and analyze the effects of the transformations on the figures	
		C.8.5 Locate objects using the rectangular coordinate system	Lesson 30: Coordinate Geometry
D.8 Measurement	D.8 Measurement	D.8.1 Identify and describe attributes in situations where they are not directly or easily measurable (e.g., distance, area of an irregular figure, likelihood of occurrence)	Lesson 31: Metric Measurement (Length)
	D.8.2 Demonstrate understanding of basic measurement facts, principles, and techniques including the following	D.8.2.a approximate comparisons between metric and US Customary units (e.g., a liter and a quart are about the same; a kilometer is about six-tenths of a mile)	Lesson 32: Conversions
		D.8.2.b knowledge that direct measurement produces approximate, not exact, measures	Lesson 31: Metric Measurement (Length)
		D.8.2.c the use of smaller units to produce more precise measures	Lesson 31: Metric Measurement (Length)

	D.8.3 Determine measurement directly using standard units (metric and US Customary) with these suggested degrees of accuracy	D.8.3.a lengths to the nearest mm or 1/16 of an inch	Lesson 31: Metric Measurement (Length)
		D.8.3.b weight (mass) to the nearest 0.1 g or 0.5 ounce	Lesson 5: Compare and Order Decimals
		D.8.3.c liquid capacity to the nearest ml	
		D.8.3.d angles to the nearest degree	Lesson 27: Classify and Measure Angles
		D.8.3.e temperature to the nearest C° or F°	
		D.8.3.f elapsed time to the nearest second	Lesson 34: Elapsed Time
	D.8.4 Determine measurements indirectly using	D.8.4.a estimation	Lesson 31: Metric Measurement (Length)
		D.8.4.b conversion of units within a system (e.g., quarts to cups, millimeters to centimeters)	Lesson 32: Conversions
		D.8.4.c ratio and proportion (e.g., similarity, scale drawings)	
		D.8.4.d geometric formulas to derive lengths, areas, volumes of common figures (e.g., perimeter, circumference, surface area)	Lesson 33: Perimeter, Area
		D.8.4.e the Pythagorean relationship	
		D.8.4.f geometric relationships and properties for angle size (e.g., parallel lines and transversals; sum of angles of a triangle; vertical angles)	
E.8 Statistics and Probability	E.8.1 Work with data in the context of real-world situations by	E.8.1.a formulating questions that lead to data collection and analysis	Lesson 21: Probability
		E.8.1.b designing and conducting a statistical investigation	
		E.8.1.c using technology to generate displays, summary statistics, and presentations	
	E.8.2 Organize and display data from statistical investigations using	E.8.2.a appropriate tables, graphs, and/or charts (e.g., circle, bar or line for multiple sets of data)	Lesson 21: Probability
		E.8.2.b appropriate plots (e.g., line, stem-and-leaf, box, scatter)	Lesson 23: Analyze Data
	E.8.3 Extract, interpret, and analyze information from organized and displayed data by using	E.8.3.a frequency and distribution, including mode and range	

		E.8.3.b central tendencies of data (mean and median)	
		E.8.3.c indicators of dispersion (e.g., outliers)	
	E.8.4 Use the results of data analysis to	E.8.4.a make predictions	Lesson 21: Probability
		E.8.4.b develop convincing arguments	
		E.8.4.c draw conclusions	
	E.8 Statistics and Probability	E.8.5 Compare several sets of data to generate, test, and, as the data dictate, confirm or deny hypotheses	
	E.8.6 Evaluate presentations and statistical analyses from a variety of sources for	E.8.6.a credibility of the source	
		E.8.6.b techniques of collection, organization, and presentation of data	
		E.8.6.c missing or incorrect data	
		E.8.6.d inferences	
		E.8.6.e possible sources of bias	
	E.8.7 Determine the likelihood of occurrence of simple events by	E.8.7.a using a variety of strategies to identify possible outcomes (e.g., lists, tables, tree diagrams)	Lesson 22: Tree Diagrams
		E.8.7.b conducting an experiment	
		E.8.7.c designing and conducting simulations	
		E.8.7.d applying theoretical notions of probability (e.g., that four equally likely events have a 25% chance of happening)	
F.8 Algebraic Relationships	F.8.1 Work with algebraic expressions in a variety of ways, including	F.8.1.a using appropriate symbolism, including exponents and variables	Lesson 2: Exponents and Exponential Form
		F.8.1.b evaluating expressions through numerical substitution	
		F.8.1.c generating equivalent expressions	
		F.8.1.d adding and subtracting expressions	Lesson 4: Properties Lesson 7: Add and Subtract Decimals Lesson 14: Add and Subtract Like
	F.8.2 Work with linear and nonlinear patterns and relationships in a variety of ways, including	F.8.2.a representing them with tables, with graphs, and with algebraic expressions, equations, and inequalities	
		F.8.2.b describing and interpreting their graphical representations (e.g., slope, rate of change, intercepts)	

		F.8.2.c using them as models of real-world phenomena	
		F.8.2.d describing a real-world phenomenon that a given graph might represent	
	F.8 Algebraic Relationships	F.8.3 Recognize, describe, and analyze functional relationships by generalizing a rule that characterizes the pattern of change among variables. These functional relationships include exponential growth and decay (e.g., cell division, depreciation)	
	F.8.4 Use linear equations and inequalities in a variety of ways, including	F.8.4.a writing them to represent problem situations and to express generalizations	
		F.8.4.b solving them by different methods (e.g., informally, graphically, with formal properties, with technology)	
		F.8.4.c writing and evaluating formulas (including solving for a specified variable)	
		F.8.4.d using them to record and describe solution strategies	
	F.8.5 Recognize and use generalized properties and relations, including	F.8.5.a additive and multiplicative property of equations and inequalities	Lesson 4: Properties
		F.8.5.b commutativity and associativity of addition and multiplication	Lesson 4: Properties
		F.8.5.c distributive property	Lesson 4: Properties
		F.8.5.d inverses and identities for addition and multiplication	
		F.8.5.e transitive property	