



Alignment Document
State of Georgia and Aventa Learning

Math 6

Strand	Common Curriculum Goal	Standard	Lesson Name
M6N Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will apply these concepts and associated skills in real world situations.	M6N1 Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will use these concepts to solve problems.	M6N1.a Apply factors and multiples.	Lesson 11: Factors and Divisibility rules Lesson 15: Add and Subtract unlike fractions
		M6N1.b Decompose numbers into their prime factorization (Fundamental Theorem of Arithmetic)	Lesson 11: Factors and Divisibility rules
		M6N1.c Determine the greatest common factor (GCF) and the least common multiple (LCM) for a set of numbers.	Lesson 12: GCF and Lowest Terms Lesson 15: Add and Subtract unlike fractions
		M6N1.d Add and subtract fractions and mixed numbers with unlike denominators.	Lesson 15: Add and Subtract unlike fractions Lesson 16: Add and subtract mixed numbers
		M6N1.e Multiply and divide fractions and mixed numbers.	Lesson 8: Multiply Fractions Lesson 9: Divide Fractions
		M6N1.f Use fractions, decimals, and percents interchangeably.	Lesson 20: Connect Percents, Decimals, and Fractions



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		M6N1.g Solve problems involving fractions, decimals, and percents.	Lesson 8: Multiply Decimals Lesson 15: Add and subtract unlike fractions Lesson 19: Introduction to percents Lesson 35: Ratios
M6M Students will understand how to determine the volume and surface area of solid figures. They will understand and use the customary and metric systems of measurement to measure quantities efficiently and to represent volume and surface area appropriately.	M6M Students will understand how to determine the volume and surface area of solid figures. They will understand and use the customary and metric systems of measurement to measure quantities efficiently and to represent volume and surface area appropriately.	M6M1 Students will convert from one unit to another within one system of measurement (customary or metric) by using proportional relationships.	
	M6M2 Students will use appropriate units of measure for finding length, perimeter, area and volume and will express each quantity using the appropriate unit.	M6M2.a Measure length to the nearest half, fourth, eighth and sixteenth of an inch.	



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		M6M2.b Select and use units of appropriate size and type to measure length, perimeter, area and volume.	
		M6M2.c Compare and contrast units of measure for perimeter, area, and volume.	
	M6M3 Students will determine the volume of fundamental solid figures (right rectangular prisms, cylinders, pyramids and cones).	M6M3.a Determine the formula for finding the volume of fundamental solid figures.	
		M6M3.b Compute the volumes of fundamental solid figures, using appropriate units of measure.	
		M6M3.c Estimate the volumes of simple geometric solids.	
		M6M3.d Solve application problems involving the volume of fundamental solid figures.	
	M6M4 Students will determine the surface area of solid figures (right rectangular prisms and cylinders).	M6M4.a Find the surface area of right rectangular prisms and cylinders using manipulatives and constructing nets.	
		M6M4.b Compute the surface area of right rectangular prisms and cylinders using formulae.	
		M6M4.c Estimate the surface area of simple geometric solids.	
		M6M4.d Solve application problems involving surface area of right rectangular prisms and cylinders.	



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M6G Students will further develop their understanding of plane and solid geometric figures, incorporating the use of appropriate technology and using this knowledge to solve authentic problems.	M6G1 Students will further develop their understanding of plane figures.	M6G1.a Determine and use lines of symmetry.	
		M6G1.b Investigate rotational symmetry, including degree of rotation.	
		M6G1.c Use the concepts of ratio, proportion and scale factor to demonstrate the relationships between similar plane figures.	
		M6G1.d Interpret and sketch simple scale drawings.	
		M6G1.e Solve problems involving scale drawings.	
	M6G2 Students will further develop their understanding of solid figures.	M6G2.a Compare and contrast right prisms and pyramids.	
		M6G2.b Compare and contrast cylinders and cones.	
		M6G2.c Interpret and sketch front, back, top, bottom and side views of solid figures.	
		M6G2.d Construct nets for prisms, cylinders, pyramids, and cones.	



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M6A Students will investigate relationships between two quantities. They will write and solve proportions and simple one-step equations that result from problem situations.	M6A Students will investigate relationships between two quantities. They will write and solve proportions and simple one-step equations that result from problem situations.	M6A1 Students will understand the concept of ratio and use it to represent quantitative relationships.	Lesson 36: Proportional Relationships
	M6A2 Students will consider relationships between varying quantities.	M6A2.a Analyze and describe patterns arising from mathematical rules, tables, and graphs.	Lesson 3: Patterns
		M6A2.b Use manipulatives or draw pictures to solve problems involving proportional relationships.	Lesson 35: Ratios Lesson 36: Proportional Relationships
		M6A2.c Use proportions ($a/b=c/d$) to describe relationships and solve problems, including percent problems.	
		M6A2.d Describe proportional relationships mathematically using $y = kx$, where k is the constant of proportionality.	
		M6A2.e Graph proportional relationships in the form $y = kx$ and describe characteristics of the graphs.	



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		M6A2.f In a proportional relationship expressed as $y = kx$, solve for one quantity given values of the other two. Given quantities may be whole numbers, decimals, or fractions. Solve problems using the relationship $y = kx$.	Lesson 4: Properties
		M6A2.g Use proportional reasoning ($a/b=c/d$ and $y = kx$) to solve problems.	
	M6A Students will investigate relationships between two quantities. They will write and solve proportions and simple one-step equations that result from problem situations.	M6A3 Students will evaluate algebraic expressions, including those with exponents, and solve simple one-step equations using each of the four basic operations.	Lesson 4: Properties
M6D Students will demonstrate understanding of data analysis by posing questions to be answered by collecting data. They will represent, investigate, and use data to answer those questions. Students will understand experimental and theoretical probability.	M6D1 Students will pose questions, collect data, represent and analyze the data, and interpret results.	M6D1.a Formulate questions that can be answered by data. Students should collect data by using samples from a larger population (surveys), or by conducting experiments.	Lesson 25: Problem solve with data



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		M6D1.b Using data, construct frequency distributions, frequency tables, and graphs.	Lesson 23: Analyze data Lesson 25: Problem solve with data
		M6D1.c Choose appropriate graphs to be consistent with the nature of the data (categorical or numerical). Graphs should include pictographs, histograms, bar graphs, line graphs, circle graphs, and line plots.	Lesson 23: Analyze data Lesson 25: Problem solve with data
		M6D1.d Use tables and graphs to examine variation that occurs within a group and variation that occurs between groups.	
		M6D1.e Relate the data analysis to the context of the questions posed.	Lesson 23: Analyze data Lesson 25: Problem solve with data
	M6D2 Students will use experimental and simple theoretical probability and understand the nature of sampling. They will also make predictions from investigations.	M6D2.a Predict the probability of a given event through trials/simulations (experimental probability), and represent the probability as a ratio.	
		M6D2.b Determine, and use a ratio to represent, the theoretical probability of a given event.	Lesson 21: Probability
		M6D2.c Discover that experimental probability approaches theoretical probability when the number of trials is large.	



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M6P Each topic studied in this course should be developed with careful thought toward helping every student achieve the following process standards.	M6P1 Students will solve problems (using appropriate technology).	M6P1.a Build new mathematical knowledge through problem solving.	Lesson 25: Problem solve with data Lesson 33: Perimeter, Area Lesson 34: Elapsed Time
		M6P1.b Solve problems that arise in mathematics and in other contexts.	Lesson 24: Mean, Median, Mode, Range Lesson 30: Coordinate Geometry Lesson 31: Metric Measurement (Length)
		M6P1.c Apply and adapt a variety of appropriate strategies to solve problems.	Lesson 15: Add and Subtract unlike fractions Lesson 25: Problem Solve with Data Lesson 33: Perimeter, Area Lesson 34: Elapsed Time
		M6P1.d Monitor and reflect on the process of mathematical problem solving.	
	M6P2 Students will reason and evaluate mathematical arguments.	M6P2.a Recognize reasoning and proof as fundamental aspects of mathematics.	
		M6P2.b Make and investigate mathematical conjectures.	



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		M6P2.c Develop and evaluate mathematical arguments and proofs.	
		M6P2.d Select and use various types of reasoning and methods of proof.	
	M6P3 Students will communicate mathematically.	M6P3.a Organize and consolidate their mathematical thinking through communication.	All lessons
		M6P3.b Communicate their mathematical thinking coherently and clearly to peers, teachers, and others.	All lessons
		M6P3.c Analyze and evaluate the mathematical thinking and strategies of others.	
		M6P3.d Use the language of mathematics to express mathematical ideas precisely.	
	M6P4 Students will make connections among mathematical ideas and to other disciplines.	M6P4.a Recognize and use connections among mathematical ideas.	Lesson 20: Connect Percents, Decimals, and Fractions
		M6P4.b Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.	Lesson 20: Connect Percents, Decimals, and Fractions
		M6P4.c Recognize and apply mathematics in contexts outside of mathematics.	Lesson 23: Analyze data Lesson 25: Problem solve with data
	M6P5 Students will represent mathematics in multiple ways.	M6P5.a Create and use representations to organize, record, and communicate mathematical ideas.	Lesson 23: Analyze data Lesson 25: Problem solve with data



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		M6P5.b Select, apply, and translate among mathematical representations to solve problems.	Lesson 23: Analyze data Lesson 25: Problem solve with data
		M6P5.c Use representations to model and interpret physical, social, and mathematical phenomena.	
M6RC1 Students will enhance reading in all curriculum areas by:	M6RC1.a Reading in all curriculum areas	M6RC1.a.1 Read a minimum of 25 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas.	
		M6RC1.a.2 Read both informational and fictional texts in a variety of genres and modes of discourse.	
		M6RC1.a.3 Read technical texts related to various subject areas.	
	M6RC1.b Discussing books	M6RC1.b.1 Discuss messages and themes from books in all subject areas.	
		M6RC1.b.2 Respond to a variety of texts in multiple modes of discourse.	
		M6RC1.b.3 Relate messages and themes from one subject area to messages and themes in another area.	
		M6RC1.b.4 Evaluate the merit of texts in every subject discipline.	
		M6RC1.b.5 Examine author's purpose in writing.	
		M6RC1.b.6 Recognize the features of disciplinary texts.	



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	M6RC1.c Building vocabulary knowledge	M6RC1.c.1 Demonstrate an understanding of contextual vocabulary in various subjects.	
		M6RC1.c.2 Use content vocabulary in writing and speaking.	
		M6RC1.c.3 Explore understanding of new words found in subject area texts.	
	M6RC1.d Establishing context	M6RC1.d.1 Explore life experiences related to subject area content.	
		M6RC1.d.2 Discuss in both writing and speaking how certain words are subject area related.	
		M6RC1.d.3 Determine strategies for finding content and contextual meaning for unknown words.	