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Missouri Mathematics Learning Goals Correlated to *Moving with Algebra Grade 7*

	Part A Student Book Skill Builders (SB)	Part B Student Book Skill Builders (SB)
CORE CONTENT A: INTEGERS AND LINEAR EQUATIONS		
1. Represent, order, and compare integers.		
a. Explain everyday contexts (e.g., owing money, measuring elevations above and below sea level) where integers are used to quantify situations.	63 SB: 139	
b. Compare ($<$, $>$, $=$) and order integers, locate integers on a number line, recognize the absolute value as an integer's distance from zero on a number line and apply to problem situations.	64, 65 SB: 54	241-243 SB: 201
2. Model operations, compute fluently and solve problems with integers.		
a. Show how operations on integers can be modeled and use the models to develop and explain efficient procedures for computing with integers.	68-70 SB: 56, 58	244, 245 SB: 202
b. Compute fluently with integers in problem situations, applying order of operations and the absolute value of integers.	71, 72, 75 SB: 58-60	244-248 SB: 204
c. Estimate and judge the reasonableness of results involving integer operations.	30, 31, 33 SB: 27	
d. Identify and use properties (closure, associative, commutative, identity, inverse, zero) in computing with integers as well as order of operations.	10-15, 76 SB: 9-12	290-293 SB: 226, 227
e. Use exponents to represent repeated multiplication and calculate the value of expressions represented with exponential notation.	16-18 SB: 13	294, 301
3. Represent situations and solve problems that involve linear relationships.		
a. Represent linear relationships with equations using both explicit and recursive (Next, Now) notation.		
b. solve one- and two-step linear equations with integer coefficients.		255, 260, 261 SB: 212, 213, 216
c. Write and solve one- or two-step linear equations that correspond to problem situations.		273, 274 SB: 245
d. Represent linear relationships using graphs, tables, and verbal descriptions.		311-314, 317 SB: 236, 237

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e.	Identify relationships as linear or nonlinear and contrast their properties (e.g., rate of change) from tables, graphs, or equations.		
CORE CONTENT B: PROPORTIONALITY & SIMILARITY			
1.	Develop computational fluency in working with ratios percents, and proportional situations and apply this fluency to estimate the solution to and solve a variety of problems.		
a.	Use proportionality to model and solve problems, including percent applications and measurement conversions.	122, 169 SB: 102	221, 222, 276 SB: 187, 188
b.	Estimate solutions to percent problems.	172 SB: 135	
c.	Use proportionality to interpret circle graphs.	179	
2.	Identify, describe, and apply similarity relationships to find measures of corresponding parts in similar figures and apply scales/scale factors to measurements in drawings and maps.		
a.	Given similar two-dimensional figures, identify the scale factor and describe the relationships between the scale factor and measurements of corresponding parts (angles, side lengths, perimeters, areas).		
b.	Determine if two figures are similar and justify the conclusions by examining corresponding side lengths, angles, perimeters, and area.		224
c.	Interpret and solve scaling problems involving various mathematical contexts (e.g., indirect measurement, scale models).		225-227 SB: 189, 191
3.	Connect the constant rate of change in a proportional relationship to the concept of slope of a line.		
a.	Represent proportional relationships using graphs, tables, verbal descriptions, and equations, and make connections among the representations.		314, 322 SB: 197
b.	Determine the slope/rate of change of a line corresponding to the graph of a proportional relationship, recognize that slope is the same between any two points on the line, and that similar triangles may be used to demonstrate constant slope.		321, 322 SB: 197
c.	Determine the unit rate in a proportional relationship and relate it to the slope of the associated line.		322 SB: 254
CORE CONTENT C: SURFACE AREA & VOLUME			
1.	Describe the components of two- and three-dimensional shapes.		
a.	Know the names of the sides of a right triangle (legs and hypotenuse); dimensions of a circle or sphere (radius, diameter); surfaces of rectangular prisms (base, faces, vertices, edges).		183, 192, 193, 218 SB: 161, 177

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b.	Describe the surfaces of common three-dimensional shapes (e.g., base of a cylinder is a circle; face of a cylinder is a rectangle) including cylinders, cones, rectangular prisms, pyramids.		192
c.	Describe the cross section (parallel to the base) of common three-dimensional figures (e.g., cylinder, cone, rectangular prism).		
d.	Name the measurable features of three-dimensional shapes (size of base, height, surface area, volume) and know the types of units used to measure each feature.		214
2.	Develop formulas for measuring surface area and volume of common three-dimensional figures.		
a.	Describe the relationships between the measurements of three-dimensional figures and the measures of related two-dimensional figures (e.g., the volume of a rectangular prism can be found by multiplying the base area by the height).		214 SB: 181
b.	Recognize and draw two-dimensional representations (isometric and perspective drawings) of three-dimensional figures.		193
c.	determine the surface area and volume of right prisms and right cylinders.		212, 214 SB: 180, 181
d.	Describe the relationship between the volume of right prisms and pyramids, and cylinders and cones.		
e.	Describe how surface area and volume are affected when a figure's linear dimensions are changed by a scale factor (whole number or unit fraction).		SB: 256
f.	Solve single- and multi-step word problems involving surface area or volume using appropriate units of measure.		213 SB: 180, 181
3.	Use the term "square root" (or "cube root") to denote the length of sides of squares (or cubes) with given volume.		
a.	Find the length of a side of a square given its area and denote the side length as the "square root" of the area. Likewise, find the length of a side of a cube given its volume and denote the side length as the "cube root" of the volume.		SB: 184, 185
b.	Estimate square roots of numbers less than 225 and cube roots of numbers less than 1000 between two whole numbers.		217 SB: 185
c.	Recall the square root of perfect squares between 1 and 100 and the cube roots of perfect cubes from 1 through 1000.		216, 304 SB: 184, 233
d.	Solve area and volume problems using square and cube roots.		
CORE CONTENT D: EXPERIMENTAL & THEORETICAL PROBABILITY			
1.	Conduct one-stage experiments to estimate the likelihood of a simple event, compare the experimental probability with an easily identifiable theoretical probability, describe and compare the likelihood of events.		

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a.	Determine the sample space for a given one-stage experiment using lists, tables, and three diagrams to represent all possible outcomes.		
b.	Within a given context, determine the theoretical probability of an event and its complement given a sample space.		
c.	Recognize that with the collection of more data, the experimental probability of a particular outcome approaches the theoretical probability and that although probability cannot determine an individual outcome, it can be used to predict the frequency of an outcome.		
d.	Use experimental data to estimate the probability of an event when the theoretical probability is unknown.		