

Washington Grade Level Content Expectations: Grade 7
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Number	Expectation	Student Edition Lesson(s)
EALR 1: The student understands and applies the concepts and procedures of mathematics.		
Component 1.1: Understand and apply concepts and procedures from number sense.		
<i>Number and numeration</i>		
1.1.1	<p>Understand the concept of rational numbers (integers, decimals, fractions). W</p> <ul style="list-style-type: none"> • Create a model when given a symbolic representation of a rational number. [CU, MC] • Write the rational number when given a model (e.g., number line, area model, situation, diagram, picture). [CU, MC] • Identify and convert between equivalent forms of rational numbers (e.g., fractions to decimals, percents to fractions). [MC] • Identify prime, square, or composite numbers. [CU] • Explain the meaning of rational numbers and give examples. [CU] 	3.1, 5.3, 5.4, 5.5, 7.5, 11.8
1.1.2	<p>Understand the relative values of rational numbers. W</p> <ul style="list-style-type: none"> • Compare and order rational numbers using physical models or implementing strategies (e.g., like denominators, changing to the same form). [RL, MC] • Locate symbolic representations of rational numbers on a model (e.g., a number line, fraction line, decimal grid, and circle graph). [MC] • Explain the value of a given digit in a rational number (e.g., 2.3 is 2 ones and 3 tenths). [CU] 	3.2, 5.8, 10.2

Number	Expectation	Student Edition Lesson(s)
1.1.3	<p>Apply properties of addition and multiplication including inverse properties to the rational number system. W</p> <ul style="list-style-type: none"> • Use the inverse relationships between multiplication and division to simplify computations and solve problems. [SP, RL] • Use the inverse properties of addition and multiplication to simplify computations with integers, fractions, and decimals. [SP, RL, MC] • Identify the inverse elements when using the additive inverse and the multiplicative inverse properties (e.g., $8 + -8 = 0$; $2 \times \frac{1}{2} = 1$). • Use the additive inverse property to solve problems. [RL] • Illustrate or explain the additive and multiplicative inverse properties and why they work. [CU] 	
1.1.4	<p>Understand the concept of direct proportion. W</p> <ul style="list-style-type: none"> • Express proportional relationships using objects, pictures, and symbols. [CU] • Explain the meaning of a proportion. [CU] • Represent a new relationship from a given ratio (e.g., height of a totem pole, May pole). [MC] • Represent percentages less than 1% or greater than 100% using objects, pictures, and symbols. [CU] • Complete or write a proportion for a given situation. [CU] • Solve problems involving proportions (e.g., determine the number and kinds of baked goods to bring to a bake sale based on proportions of different goods sold at previous bake sales). [SP, MC] • Use ratios to make predictions about proportions in a future situation. [RL, MC] • 	7.1, 7.3, 7.5, 7.6, 7.8
Computation		
1.1.5	<p>Understand the meaning of addition and subtraction on integers. W</p> <ul style="list-style-type: none"> • Explain the meaning of addition and subtraction of integers using real-world models (e.g., reducing debt, temperature increase or decrease, yards gained and lost, movement of a hot-air balloon). [CU, MC] • Create a problem situation involving addition or subtraction of integers. [CU, MC] • Explain or show the meaning of addition or subtraction of integers. [CU] • Use technology to demonstrate addition and subtraction with integers. 	3.4, 3.5

Number	Expectation	Student Edition Lesson(s)
1.1.6	<p>Apply computational procedures with fluency for multiplication and division on non-negative rational numbers. W</p> <ul style="list-style-type: none"> • Find the product or quotient using non-negative decimals and fractions with unlike denominators. • Apply percentages to solve a problem in a variety of situations (e.g., taxes, discounts, interest). [SP, MC] • Use multiplication and division to solve real-world problems involving non-negative rational numbers. [SP] • Multiply non-negative decimal numbers to the hundredths place. • Divided non-negative decimals numbers to the thousandths place by non-negative decimal numbers to the hundredths place. 	3.6, 3.7, 6.4, 6.6, 7.7, 7.8, 8.2, 8.4, 8.5, 8.6
1.1.7	<p>Understand and apply strategies and tools to complete tasks involving addition and subtraction on integers and the four basic operations on non-negative rational numbers.</p> <ul style="list-style-type: none"> • Select and justify the selection of appropriate strategies and tools (e.g., mental computation, estimation, calculators, and paper and pencil) to compute in a problem situation. [SP, RL] • Convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator. [MC] • Use calculators to add and subtract with integers of two or more digits. <p>Use calculators to compute with decimal numbers with precision from the thousandths place and beyond.</p>	3.4, 3.5, 5.4, 5.5, 6.1, 7.5, 8.1
Estimation		
1.1.8	<p>Apply estimation strategies to predict or determine the reasonableness of answers in situations involving addition and subtraction of integers and the four basic operations on non-negative rational numbers. W</p> <ul style="list-style-type: none"> • Identify when an approximation is appropriate in situations. [MC] • Use estimation strategies prior to operations on non-negative rational numbers to approximate an answer. [RL] • Justify why estimation would be used rather than an exact computation. [CU] • Describe a situation where estimation is sufficient in real life contexts. [CU, MC] • Use estimation to verify the reasonableness of calculated results. [RL] <p>Evaluate the appropriateness of estimation in a situation and support the evaluation. [RL]</p>	6.1, 8.1
Component 1.2: Understand and apply concepts and procedures from measurement.		

Number	Expectation	Student Edition Lesson(s)
<i>Attributes, units, and systems</i>		
1.2.1	<p>Analyze how a change in a linear dimension affects other linear measurements (perimeter, circumference) and area measurements. \boxed{W}</p> <ul style="list-style-type: none"> • Describe the relationships among linear dimensions (e.g., radius of a circle, length of a side or base, changes in the diameter affects the amount of deer hide needed to cover a drum face) and area of the figure (e.g., change the radius or length of a side, and check the change in area; describe that change). [CU] • Explain changing one, two, or three dimensions in a rectangular prism and how it affects the surface area and volume; give three examples. • Solve problems involving the effects of changes in one dimension on area (e.g., given a garden with certain dimensions, make the area of the garden x square units by changing only one dimension of the garden). [SP] 	
1.2.3	<p>Understand how the unit of measure affects the precision of measurement. \boxed{W}</p> <ul style="list-style-type: none"> • Select the appropriate measurement tool to match the precision needed (e.g., if needing measurement to the nearest $\frac{1}{16}$ inch, select a ruler that has $\frac{1}{32}$ increments). • Explain how the unit selected for a situation can affect the precision of the measurement (e.g., when you have a ruler that has only $\frac{1}{10}$ increments, you cannot measure something to the nearest hundredth with confidence of precision). <p>Explain how measurement systems allow for different levels of precision (e.g., millimeters give more precise measurement than centimeters). [CU]</p>	12.6
<i>Procedures, precision, and estimation</i>		

Number	Expectation	Student Edition Lesson(s)
1.2.5	<p>Apply formulas to find measurements of circles, triangles, and rectangular prisms. W</p> <ul style="list-style-type: none"> • Apply formulas to determine missing measurements for circles, rectangular prisms, and triangles. • Explain how to use a formula for finding the area and circumference of a circle (e.g., calculate the area needed to cover a drum face). [CU] • Find and compare the volumes of rectangular prisms that have a given volume (e.g., if two rectangular prisms have the same volume and one has twice the height of the other, determine how the areas of their bases compare). [RL] • Justify the standard formula for finding the area of a right triangle (e.g., 1/2 of a rectangle). [CU] • Use given dimensions to determine surface area and volume. 	6.9, 10.4, 11.6, 12.2, 12.3, 12.4, 12.5
1.2.6	<p>Understand and apply strategies to obtain reasonable estimates of circle measurements, right triangles, and surface area for rectangular prisms. W</p> <ul style="list-style-type: none"> • Identify situations in which estimated measures are sufficient. [MC] • Estimate circle and triangle measurements. • Use common approximations of pi (3.14; 22/7) to calculate the approximate circumference and the area of circles. • Use or describe a process to find a reasonable estimate of circle measurements (e.g., wrap a string around it). [RL] <p>Explain why estimation or precise measurement is appropriate in a given situation. [CU]</p>	6.9
Component 1.3: Understand and apply concepts and procedures from geometric sense.		
<i>Properties and relationships</i>		
1.3.1	<p>Understand the concept of similarity. W</p> <ul style="list-style-type: none"> • Identify corresponding sides and angles of two similar figures. • Determine and justify if two figures are similar using the definition of similarity. [CU, RL] • Differentiate between similar and congruent figures, either geometric figures or real-world objects, and justify the conclusion. [RL, MC] • Explain how a scale drawing is an example of similarity. [CU] 	10.6

Number	Expectation	Student Edition Lesson(s)
1.3.2	<p>Apply understanding of the characteristics of rectangular prisms and circles. W</p> <ul style="list-style-type: none"> • Identify, describe, compare, and sort figures. • Draw rectangular prisms and circles with specified properties (e.g., circumference of an 18 centimeter quadrilateral having equal sides but no right angles; a triangle with no equal sides). [CU] • Use the properties of rectangular prisms and circles to solve problems (e.g., determine which of two rectangular prism-shaped boxes will hold the most cans of food at the food drive and explain how the geometric characteristics affect capacity). [SP, RL, CU, MC] • Compare two rectangular prisms based on their characteristics (e.g., compare the geometric characteristics of two rectangular prisms with different dimensions and the same volume). [RL] 	
<i>Locations and transformations</i>		
1.3.3	<p>Understand the location of points on a coordinate grid in any of the four quadrants. W</p> <ul style="list-style-type: none"> • Identify the coordinates of the fourth point to make a rectangle given three points. [RL] • Plot and label ordered pairs in any of the four quadrants. [CU] • Name the coordinates of a given point in any of the four quadrants. • Identify objects or the location of objects on a coordinate grid using coordinates or labels. • Use technology to locate objects on a two-dimensional grid. <p>Use ordered pairs to describe the location of objects on a grid.</p>	3.3
1.3.4	<p>Understand and apply combinations of translations (slides) and reflections (flips) to two-dimensional figures. W</p> <ul style="list-style-type: none"> • Identify and explain whether a shape has been translated (slid) or reflected (flipped) with or without a grid. [RL, CU] • Use transformations to create congruent figures and shapes in multiple orientations. • Find the coordinate pairs for a translation or a reflection across an axis given a shape on a coordinate grid. [RL] • Match a shape with its image following one or two transformations (sliding or flipping). [RL] • Use combinations of translations and reflections to draw congruent figures. [RL] <p>Use ordered pairs to describe the location of an object on a coordinate grid after a translation and reflection. [CU]</p>	10.6, 10.7, 10.8, 10.9

Number	Expectation	Student Edition Lesson(s)
Component 1.4: Understand and apply concepts and procedures from probability and statistics.		
<i>Probability</i>		
1.4.1	<p>Understand the concepts of complementary, independent, and mutually exclusive events. W</p> <ul style="list-style-type: none"> • Determine and explain when events are mutually exclusive (e.g., your grade on a test is an A, B, or C). [CU, MC] • Determine and explain when events are complementary (e.g., a person awake or asleep, you pass or fail a test, coin throw — heads or tails). [CU, MC] <p>Identify or explain when events are complementary, mutually exclusive, or neither (e.g., spinning a 4 or a 5 but with the possibility of spinning 1, 2, 3, or 6) and explain. [CU]</p>	9.2, 9.3, 9.4, 9.5, 9.7
1.4.2	<p>Understand and apply the procedures for determining the probabilities of multiple trials. W</p> <ul style="list-style-type: none"> • Calculate the probabilities of independent or mutually exclusive outcomes or events. • Calculate the probability of an event given the probability of its complement. • Create a game that has an equal probability for all players to win. [SP, MC] • Revise a game with unequal probabilities for all players and make it a fair game. [SP, MC] • Determine, interpret, or express probabilities in the form of a fraction, decimal, or percent. [CU, MC] • Predict the probability of outcomes of experiments and test the predictions. [RL] • Predict the probability of future events based on empirical data. [RL] • 	9.2, 9.3, 9.4, 9.5, 9.7
<i>Statistics</i>		

Number	Expectation	Student Edition Lesson(s)
1.4.3	<p>Apply data collection processes to inform, persuade, or answer questions. W</p> <ul style="list-style-type: none"> • Formulate a question and collect data from a population, describing how the questions, collection method, and sample population affect the results. [CU] • Present collected data to support an opinion to inform or persuade an identified audience. [CU, MC] • Determine whether given data provides useful information for a situation (e.g., given a set of data, decide whether all of the information provided is necessary). [SP] • Determine whether data support a given opinion and explain the decision. [CU] • Identify a sample relevant to a given question and population. • Determine and use range and measures of central tendency to describe a set of data. 	2.3, 2.4, 8.3
1.4.4	<p>Understand how variations in data may affect the choice of data analysis techniques used. W</p> <ul style="list-style-type: none"> • Describe the effects of extreme values on means in a population. [CU, MC] • Explain the difference between median or mean as a measure of central tendency in a given situation (e.g., when an extreme value skews the mean). [RL, CU, MC] • Describe how additional data added to data sets may affect the result of measures of central tendency. [SP, CU] • Find the range of a set of data. <p>Explain what the range adds to measures of central tendency. [CU]</p>	2.3, 2.4

Number	Expectation	Student Edition Lesson(s)
1.4.5	<p>Understand and apply various data display techniques including box-and-whisker plots. W</p> <ul style="list-style-type: none"> • Read and interpret various data displays. • Determine the appropriate representation for given data. [RL, CU] • Construct bar graphs, circle graphs, line graphs, box-and-whisker and scatter plots using collected data. [CU, MC] • Use scatter plots to describe trends and interpret relationships. [RL, CU] • Read and interpret data from box-and-whisker plots and determine when using this type of graph is appropriate. [RL, CU] • Describe statistical information given a box-and-whisker plot (e.g., median, range, interquartile range). [CU] • Compare different graphical representations of the same data. [RL, MC] <p>Make and justify an inference drawn from a sample. [RL, CU, MC]</p>	2.2, 2.3, 2.5, 2.6, 2.7, 2.8, 8.3
1.4.6	<p>Evaluate how different representations of the same set of data can support different points of view. W</p> <ul style="list-style-type: none"> • Critique the use of data and data displays for univariate data. • Judge the reasonableness of conclusions drawn from a set of data and support that position with evidence (e.g., from newspapers, web sites, opinion polls). [MC, RL] • Determine the accuracy and completeness of the data in a table or graph. [RL, CU] • Explain how different representations of the same set of data can support different points of view. [RL, CU] • Describe how statistics or graphics have been used or misused to support a point of view. 	
<p>Component 1.5: Understand and apply concepts and procedures from algebraic sense.</p>		
<p><i>Patterns, functions, and other relations</i></p>		

Number	Expectation	Student Edition Lesson(s)
1.5.1	<p>Apply understanding of linear relationships to analyze patterns, sequences, and situations. W</p> <ul style="list-style-type: none"> • Identify patterns that are linear relations and provide missing terms. [RL] • Describe the relationship between the terms in a sequence and their positions in the sequence. [CU] • Identify, extend, or represent patterns and sequences using tables, graphs, or expressions. [RL, MC] • Use technology to generate graphic representations of linear relationships. [SP] • Make predictions using linear relationships in situations. [RL] • Identify a linear relationship that has the same pattern as another linear relationship. <p>Create a representation of a linear relationship given a rule. [MC]</p>	1.7, 4.6
1.5.2	<p>Apply understanding of linear patterns in a table, graph, or situation to develop a rule. W</p> <ul style="list-style-type: none"> • Describe the rule and/or construct a table to represent a pattern with combinations of two arithmetic operations in the rule. • Write an expression or equation with a single variable representing a situation or real-world problem. [CU, MC] • Write a story about a situation that represents a given linear equation, expression, or graph. [CU, MC] • Describe the rule or construct a table to represent a pattern with combinations of two arithmetic operations in the rule. [RL, CU] <p>Use technology to determine the rule for a linear relationship. [SP, RL].</p>	1.5, 4.1
<i>Symbols and representations</i>		
1.5.3	<p>Understand relationships between quantities using squares and square roots. W</p> <ul style="list-style-type: none"> • Represent relationships between quantities using exponents (squares) and radicals (roots). [CU] • Simplify square roots of square numbers (e.g., the square root of 9 is 3). [RL] • Demonstrate understanding of square roots with physical models and examples. [CU] <p>Use exponents (squares) and radicals (square roots) to represent relationships (e.g., finding the area of a square with a side of 5 could be represented by 5²). [CU]</p>	11.1, 11.2

Number	Expectation	Student Edition Lesson(s)
1.5.4	<p>Apply understanding of equations, tables, and graphs to represent situations involving linear relationships. W</p> <ul style="list-style-type: none"> • Represent linear relationships through expressions, equations, tables, and graphs of situations involving non-negative rational numbers. • Graph data to demonstrate relationships in familiar contexts (e.g., conversions, perimeter, area, volume, and scaling). [CU, MC] • Develop a situation that corresponds to a given equation or expression. [CU, MC] • Create a table or graph given a description of, or an equation for, a situation involving a linear relationship. [CU, MC] • Describe a situation involving a linear or non-linear relationship that matches a given graph (e.g., time-distance, time-height). [CU, MC] <p>Explain the meaning of a variable in a formula, expression, or equation. [CU]</p>	1.5, 4.1, 4.6
<i>Evaluating and solving</i>		
1.5.5	<p>Understand and apply procedures to evaluate expressions and formulas considering order of operations. W</p> <ul style="list-style-type: none"> • Substitute non-negative rational values for variables in order to evaluate expressions and formulas (e.g., length x width when length=3 and width=4) • Explain the simplification of expressions and equations using order of operations. [CU] • Evaluate expressions and formulas considering order of operations. [RL] • Determine the expression that represents a given situation. [MC, CU] • Describe a situation that fits with a given expression. [RL, MC, CU] <p>Write expressions or equations for a situation.</p>	1.3, 1.4, 1.5, 4.1, 4.2, 4.3, 4.4, 6.5
1.5.6	<p>Understand and apply a variety of strategies to solve two-step equations with one variable. W</p> <ul style="list-style-type: none"> • Explain and justify the solution to a problem in a given context. [RL, CU, MC] <p>Solve two-step equations with one variable on only one side of the equal sign (e.g., $2x + 4 = 12$).</p>	4.4
EALR 2: The student uses mathematics to define and solve problems.		

Number	Expectation	Student Edition Lesson(s)
<p>Component 2.1: Understand problems <i>Example: On the playground, Juan made 13 free throws out of 18 tries. If Bonita shoots 25 free throws, what is the lowest number she has to make in order to have a better free throw percentage than Juan?</i></p>		
<p>2.1.1</p>	<p>Analyze a situation to define a problem. W</p> <ul style="list-style-type: none"> • Use strategies to become informed about the situation (e.g., listing information, asking questions). • Summarize the situation (e.g., two people are shooting free throws, one shot 18, the other 25; we are trying to find the percentage made for each). • Determine whether enough information is given to find a solution (e.g., list what is needed to find the percentage of free throws made). • Determine whether information is missing or extraneous (e.g., compare the list of known things to the list of needed things to see if there are things that are not needed — names, location). • Define the problem (e.g., find the smallest number of free throws Bonita needs to make out of 25 attempts in order to top Juan’s percentage). • 	<p>1.1, 1.5a, 2.2a, 5.2a, 6.3b, 7.4a, 8.1b, 11.7a, 12.1b</p>
<p>Component 2.2: Apply strategies to construct solutions</p>		
<p>2.2.1</p>	<p>Apply strategies, concepts, and procedures to devise a plan to solve the problem. W</p> <ul style="list-style-type: none"> • Organize relevant information from multiple sources (e.g., describe how to calculate percents, set limits on the number that Bonita could make). • Select and apply appropriate mathematical tools for a situation (e.g., guess and check, calculate Juan’s percentage and create a table of values [with or without technology] for Bonita’s percentage). 	<p>1.1, 1.5a, 2.2a, 5.2a, 6.3b, 7.4a, 8.1b, 11.7a, 12.1b</p>

Number	Expectation	Student Edition Lesson(s)
2.2.2	<p>Apply mathematical tools to solve the problem. W</p> <ul style="list-style-type: none"> Implement the plan devised to solve the problem or answer the question posed (e.g., in a table of values of percentages for Bonita's possible results and percentages, find the range of values that yield a percentage larger than Juan's; find the smallest of those and use that number). Identify when an approach is unproductive and modify or try a new approach (e.g., if a result is larger than 25, return to see if the percentage computation is accurate and if it is computed correctly). <p>Check the solution to see if it works (e.g., if the solution is larger than 25, it makes no sense in the given problem).</p>	1.1, 1.5a, 2.2a, 5.2a, 6.3b, 7.4a, 8.1b, 11.7a, 12.1b
EALR 3: The student uses mathematical reasoning.		
Component 3.1: Analyze information.		
3.1.1	<p>Analyze information from a variety of sources to interpret and compare information. W</p> <ul style="list-style-type: none"> Explain and compare conclusions reached from data (e.g., from newspapers, web sites, opinions polls). [1.4.6] <p>Use graphs to describe trends, compare, and interpret relationships from data (e.g., from newspapers, web sits, opinion polls). [1.4.5]</p>	
Component 3.2: Make predictions, inferences, conjectures, and draw conclusions.		
3.2.1	<p>Apply prediction and inference skills to make or evaluate conjectures. W</p> <ul style="list-style-type: none"> Predict the probability of future events based on empirical data. [1.4.2] Predict the probability of outcomes of experiments and test the predictions. [1.4.2] 	
3.2.2	<p>Apply the skill of drawing conclusions and support those conclusions using evidence. W</p> <ul style="list-style-type: none"> Draw conclusions from displays, texts, or oral discussions and justify those conclusions with logical reasoning or other evidence (e.g., read a newspaper article that includes data, draw a conclusion, and support that conclusion with evidence from the article or elsewhere). 	
3.2.3	<p>Analyze procedures and results in various situations. W</p> <ul style="list-style-type: none"> Describe how additional data added to data sets may affect the computations of measures of central tendency in various situations. [1.4.4] 	
Component 3.3: Verify results.		

Number	Expectation	Student Edition Lesson(s)
3.3.1	<p>Analyze procedures and information used to justify results using evidence. \boxed{W}</p> <ul style="list-style-type: none"> • Justify the reasonableness of an estimate. [1.2.6] • Apply a process that can be used to find a reasonable estimate of circle measurements (e.g., wrap a string around the circle). [1.2.6] • Apply estimation strategies prior to computing addition and subtraction of integers and operations on non-negative rational numbers to determine reasonableness of answers. [1.1.8] 	3.4, 3.5, 6.1, 8.1
3.3.2	<p>Analyze thinking and mathematical ideas using models, known facts, patterns, relationships, or counter examples. \boxed{W}</p> <ul style="list-style-type: none"> • Explain how different representations of the same set of data can support different points of view. [1.4.6] 	
EALR 4: The student communicates knowledge and understanding in both everyday and mathematical language.		
Component 4.1: Gather information.		
4.1.1	<p>Apply a planning process to collect information for a given purpose. \boxed{W}</p> <ul style="list-style-type: none"> • Formulate a question and collect data from a population considering how the questions, collection method, and sample population affect the results. [1.4.3] • 	
4.1.2	<p>Understand how to extract information from multiple sources using reading, listening, and observation. \boxed{W}</p> <ul style="list-style-type: none"> • Create a table or graph given a description of, or an equation for, a situation involving a linear or non-linear relationship. [1.5.4] 	4.6
Component 4.2: Organize, represent, and share information.		
4.2.1	<p>Apply organizational skills for a given purpose. \boxed{W} <i>Identify, determine, interpret, or express probabilities in the form of a fraction, decimal, or percent. [1.4.2]</i></p>	

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4.2.2	<p>Apply communication skills to clearly and effectively express or present ideas and situations using mathematical language or notation. \overline{W}</p> <ul style="list-style-type: none"> • Identify data that may represent sampling errors and explain why the sample (and the display) might be biased. [1.4.4] • Explain when estimation might be used rather than computation. [1.1.8] • Clearly explain, describe, or represent mathematical information in a pictorial, tabular, graphical, two- or three-dimensional drawing, or other form as appropriate for the mathematical information (e.g., time, distance, categories), audience, and/or purpose such as to perform or persuade with notation and labels as needed. 	6.1, 6.9, 12.1
EALR 5: The student understands how mathematical ideas connect within mathematics, to other subject areas, and to real-life situations.		
Component 5.1: Relate concepts and procedures within mathematics		
5.1.1	<p>Apply concepts and procedures from a variety of mathematical areas in a given problem or situation. \overline{W}</p> <ul style="list-style-type: none"> • Write the rational number when given a model (e.g., number line, area model, situation, diagram, picture). [1.1.1] • Given a set of data, compare various representations (e.g., box-and-whisker, bar, circle graph) for a given situation. [1.4.5] 	
5.1.2	<p>Apply different mathematical models and representations to the same situation. \overline{W}</p> <ul style="list-style-type: none"> • Explain how different representations of the same set of data can support different points of view. [1.4.6] • Match a situation with a data set or graph. [1.5.4] 	
Component 5.2: Relate mathematical concepts and procedures to other disciplines.		

Number	Expectation	Student Edition Lesson(s)
5.2.1	<p>Analyze mathematical patterns and ideas to extend mathematical thinking and modeling to other disciplines. W</p> <ul style="list-style-type: none"> • Evaluate and explain conclusions of plant growth drawn from data (e.g., from magazines, newspapers, web sites). [1.4.6] • Write a story about a situation that represents a given linear equation, expression, or graph. [1.5.2] • Determine the target heart zone for participation in aerobic activities. • Chart a one week physical activity log based on calories expended/minute of activity. • Determine adjustments needed to achieve a healthy level of fitness. • Create a perspective drawing using vanishing point. • Mix paint in the correct proportions to create a particular color. 	
5.2.2	<p>Know the contributions of individuals and cultures to the development of mathematics.</p> <ul style="list-style-type: none"> • Recognize the contributions of a variety of people to the development of mathematics (e.g., research and report on the history of pi). • 	
Component 5.3: Relate mathematical concepts and procedures to real-world situations.		
5.3.1	<p>Understand that mathematics is used in daily life and extensively outside the classroom.</p> <ul style="list-style-type: none"> • Describe a situation where estimation is sufficient in real life contexts. [1.1.8] • Use properties of polygons and circles to solve real-world problems (e.g., find the amount of fencing needed for a pasture). [1.3.2] • Compare the unit prices of various soft drinks. 	6.1, 7.2
5.3.2	<p>Understand that mathematics is used within many occupations or careers.</p> <ul style="list-style-type: none"> • Explain how mathematics is used in careers or occupations of interest (e.g., complete a mathematically-based project). 	