

## Washington Grade Level Content Expectations: Grade 6 Correlated to *Glencoe MAC1* ©2004

Number	Expectation	Student Edition Lesson(s)
<b>EALR 1: The student understands and applies the concepts and procedures of mathematics.</b>		
<b>Component 1.1: Understand and apply concepts and procedures from number sense.</b>		
<i>Number and numeration</i>		
<b>1.1.1</b>	<p><b>Understand the concept of integers as the set of natural numbers (1, 2, 3 ...), their opposites (-1, -2, -3 ...), and 0. <math>\overline{W}</math></b></p> <ul style="list-style-type: none"> <li>• Illustrate integer values using models and pictures (e.g., temperature, elevators, net worth/debt, riding a bus or subway). [CU]</li> <li>• Apply rules of divisibility to show if a quotient is an integer. [RL]</li> <li>• Explain the meaning of integers and give examples.</li> <li>• Identify the opposite of a given integer.</li> </ul>	1.2, 8.1
<b>1.1.2</b>	<p><b>Understand the relative values of integers and non-negative rational numbers. <math>\overline{W}</math></b></p> <ul style="list-style-type: none"> <li>• Compare different representations of non-negative rational numbers by implementing strategies (e.g., like denominators, changing to the same form). [RL, CU, MC]</li> <li>• Identify equivalence between non-negative integers, fractions, percents, and decimals. [MC]</li> <li>• Compare and order integer values and explain which is greater and why (e.g., place the integers on a number line). [CU]</li> <li>• Represent and identify integers on a model (e.g., number line, fraction line, or decimal grid). [RL, CU]</li> </ul>	5.6, 5.7, 8.1, 10.5, 10.6
<b>1.1.3</b>	<p><b>Apply properties of addition and multiplication to non-negative rational numbers. <math>\overline{W}</math></b></p> <ul style="list-style-type: none"> <li>• Illustrate and explain the commutative and associative properties and why they work (e.g., use physical models, pictures). [CU]</li> <li>• Use addition and multiplication properties to assist in computations (e.g., <math>5 \cdot 7 \cdot 6</math> can be rewritten as <math>5 \cdot 6 \cdot 7</math> which is <math>30 \cdot 7</math> or 210).</li> <li>• Determine whether a solution is accurate based on application commutative, associative, and identity properties of addition and/or multiplication. [RL]</li> </ul>	8.1, 8.2, 8.3, 8.4, 8.5, 9.1

Number	Expectation	Student Edition Lesson(s)
1.1.4	<p><b>Understand the concepts of ratio and percent.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Write ratios in part/part and part/whole relationships using objects, pictures, and symbols (e.g., using /, :, or “to” as representations for ratios). [CU]</li> <li>• Represent equivalent ratios using objects, pictures, or symbols. [CU]</li> <li>• Represent equivalent percentages using objects, pictures, and symbols. [CU]</li> <li>• Identify percent as 100 equal size parts of a set (e.g., 1% of 200 items is 2 items).</li> <li>• Explain ratio and percents and give examples of each. [CU]</li> </ul>	10.1, 10.4
<i>Computation</i>		
1.1.5	<p><b>Understand the meaning of multiplication and division on non-negative rational numbers.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Explain the meaning of multiplying and dividing non-negative fractions and decimals using words, visual, or physical models (e.g., sharing a restaurant bill, cutting a board into equal-sized pieces, drawing a picture of an equation or situation). [CU, MC]</li> <li>• Explain why multiplication of fractions can be done by multiplying denominators while addition of fractions requires finding common denominators. [CU]</li> <li>• Use technology to demonstrate how multiplication and division with decimals affects place value.</li> </ul>	4.1, 4.2, 4.3, 4.4, 4.6, 6.3, 6.4, 6.5, 6.6, 7.2, 7.3, 7.4, 7.5
1.1.6	<p><b>Apply computational procedures with fluency for addition and subtraction on non-negative rational numbers.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Find the sums or differences of non-negative fractions or decimals.</li> <li>• Write and solve real-world problem situations to find sums or differences of decimals or fractions. [CU, MC]</li> <li>• Use the least common multiple and the greatest common factor of whole numbers to solve problems with fractions (e.g., to find a common denominator, to add two fractions, or to find the simplified form for a fraction). [MC]</li> <li>• Use addition and subtraction to solve real-world problems involving non-negative rational numbers. [SP]</li> <li>• Solve multiple-step computations requiring one, two, or more different operations. [MC]</li> </ul>	1.5, 3.5, 5.2, 5.5, 6.3, 6.4, 6.5, 6.6

Number	Expectation	Student Edition Lesson(s)
1.1.7	<p><b>Understand and apply strategies and tools to complete tasks involving addition and subtraction on non-negative rational numbers.</b></p> <ul style="list-style-type: none"> <li>• 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, CU]</li> <li>• Describe strategies for mentally solving problems involving fractions and decimals. [CU]</li> <li>• Use calculators to add and subtract with decimal numbers with precision to the thousandths place and beyond.</li> </ul>	7.1
<i>Estimation</i>		
1.1.8	<p><b>Apply estimation strategies to predict or determine the reasonableness of answers in situations involving addition and subtraction on non-negative rational numbers. <b>W</b></b></p> <ul style="list-style-type: none"> <li>• Identify when an approximation is appropriate. [MC]</li> <li>• Apply estimation strategies prior to computation on whole numbers, decimals, and fractions to approximate an answer. [RL]</li> <li>• Use estimation to verify the reasonableness of calculated results. [RL]</li> <li>• Identify appropriate estimated answers for a given situation.</li> <li>• Describe various strategies used during estimation involving fractions and decimals. [CU]</li> </ul>	3.3, 3.4, 4.1, 6.1, 6.2, 7.1
<b>Component 1.2: Understand and apply concepts and procedures from measurement.</b>		
<i>Attributes, units, and systems</i>		

Number	Expectation	Student Edition Lesson(s)
1.2.1	<p><b>Understand the concepts of volume and extend the concept of area to surface area of rectangular prisms. <span style="border: 1px solid black; padding: 0 2px;">W</span></b></p> <ul style="list-style-type: none"> <li>• Compare the relative capacity of two containers and explain the differences (e.g., paper cylinders formed horizontally and vertically and filled with popcorn). [RL]</li> <li>• Represent the volume for given rectangular prisms using pictures or models. [CU]</li> <li>• Compare the surface area of two different rectangular prisms.</li> <li>• Describe and provide examples for surface area measurement (e.g., gift wrapping, painting a room, amount of material needed to build a box). [MC]</li> <li>• Explain and give examples of how the area and surface area are related (e.g., surface area is the sums of the areas of all the sides of a rectangular prism). [CU, MC]</li> <li>• Describe and compare the use of area and volume (e.g., covering and filling). [CU]</li> </ul>	14.5, 14.6
1.2.2	<p><b>Understand the differences between square and cubic units. <span style="border: 1px solid black; padding: 0 2px;">W</span></b></p> <ul style="list-style-type: none"> <li>• Identify cubic units to measure volume (e.g., linking cubes, cubic centimeter).</li> <li>• Identify and read incremental units for capacity (e.g., milliliters, cups, ounces).</li> <li>• Use the appropriate units when describing a situation (e.g., five square meters of carpet, five cubic meters of water). [MC]</li> <li>• Explain why volume is measured in cubic units. [CU, MC]</li> <li>• Explain how the selected unit of length affects the size of cubic units (e.g., centimeter versus inch). [CU]</li> </ul>	
<i>Procedures, precision, and estimation</i>		

Number	Expectation	Student Edition Lesson(s)
1.2.4	<p><b>Understand and apply systematic procedures to measure volume and capacity for solid shapes.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Identify the attribute to be measured in the situation (e.g., volume or capacity).</li> <li>• Choose the appropriate standard unit for measuring volume or capacity (e.g., cubic inches vs. cubic feet, cups vs. gallons).</li> <li>• Select and use tools that match the unit.</li> <li>• Count or compute to obtain the volume or capacity and label the measurement.</li> <li>• Use volume and capacity to describe and compare figures (e.g., fill containers with cubes to find which has a greater volume). [RL, CU]</li> <li>• Measure the capacity of containers using appropriate tools and label (e.g., graduated cylinders, measuring cups, tablespoons). [CU]</li> <li>• Evaluate whether measurement has been done correctly. [RL]</li> </ul>	
1.2.6	<p><b>Understand and apply strategies to obtain reasonable estimates of volume or capacity.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Identify situations in which estimated measures are sufficient.</li> <li>• Estimate volume or capacity.</li> <li>• Use estimation to justify reasonableness of a volume of a rectangular prism. [RL]</li> <li>• Estimate a measurement of volume or capacity using standard or non-standard units (e.g., estimate the capacity of a bowl in cups and handfuls). [SP]</li> <li>• Use or describe a process to find a reasonable estimate of volume or capacity (e.g., fill a container with rice or popcorn). [CU]</li> </ul>	
<b>Component 1.3: Understand and apply concepts and procedures from geometric sense.</b>		
<i>Properties and relationships</i>		
1.3.1	<p><b>Understand the characteristics of circles and rectangular prisms.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Name and sort circles or rectangular prisms according to their attributes (faces, edges, radii, base, parallel faces). [RL]</li> <li>• Draw a figure with given characteristics (e.g., the set of points equidistant from a given point). [CU]</li> <li>• Identify lines of symmetry in rectangular prisms.</li> <li>• Explain lines of symmetry for circles. [CU]</li> <li>• Describe the relationship between the diameter and the radius of a circle. [CU]</li> </ul>	13.5, 14.3, 14.4

Number	Expectation	Student Edition Lesson(s)
1.3.2	<p><b>Apply understanding of angles and polygons. <span style="border: 1px solid black; padding: 0 2px;">W</span></b></p> <ul style="list-style-type: none"> <li>• Identify geometric figures and concepts in nature and art (e.g., triangle in architecture, rhombus in beadwork, culturally relevant textiles, quilts). [MC]</li> <li>• Combine polygons to create given two-dimensional figures and represent them on grid paper (e.g., use all pieces of tangrams to create a square). [SP, RL, CU]</li> <li>• Create a three-dimensional shape given its net or draw the net of a given three-dimensional shape. [RL]</li> <li>• Find the missing measure of an angle using the properties of parallel lines, perpendicular lines, vertical and corresponding angles.</li> <li>• Find the missing angle given all but one of the angles of a polygon. [RL]</li> </ul>	13.4, 14.6
<b><i>Locations and transformations</i></b>		
1.3.3	<p><b>Understand the relative location of integers on a number line. <span style="border: 1px solid black; padding: 0 2px;">W</span></b></p> <ul style="list-style-type: none"> <li>• Show the order of a given set of integers on a number line. [CU]</li> <li>• Identify the point of final destination given directions for movement on a number line including positive and negative numbers (vertical or horizontal) (e.g., temperature variation at different times of the day, bank accounts, gain and loss of weight). [MC]</li> <li>• Determine the distance between any two integers on a number line. [RL]</li> <li>• Describe relative location of points and objects on a number line with both positive and negative numbers. [CU]</li> <li>• Identify objects on a number line based on given numeric locations.</li> </ul>	
1.3.4	<p><b>Apply understanding of rotations (turns) to two-dimensional figures. <span style="border: 1px solid black; padding: 0 2px;">W</span></b></p> <ul style="list-style-type: none"> <li>• Apply rotations (turns) of 90° or 180° to a simple two-dimensional figure.</li> <li>• Create a design using (90°, 180°, 270°, 360°) rotations (turns) of a shape. [SP, MC]</li> <li>• Show how a shape has been rotated by 90° or 180°. [CU]</li> <li>• Describe a rotation so that another person could draw it. [CU]</li> <li>• Identify the coordinates of objects that have been rotated 90°, 180°, or 270° on a coordinate grid.</li> <li>• Determine whether an object has been translated or rotated on a coordinated grid.</li> </ul>	

Number	Expectation	Student Edition Lesson(s)
<b>Component 1.4: Understand and apply concepts and procedures from probability and statistics.</b>		
<i>Probability</i>		
1.4.1	<p><b>Understand probability as a ratio between and including 0 and 1. <math>\overline{W}</math></b></p> <ul style="list-style-type: none"> <li>• Determine whether a real-life event has zero probability, 50% probability, or 100% probability of occurring. [MC]</li> <li>• Express probabilities as fractions or decimals between 0 and 1 and percents between 0 and 100. [CU]</li> <li>• Translate between representations of probability (e.g., translate a probability of 6 out of 16 to <math>\frac{3}{8}</math> or 37.5%). [MC]</li> </ul>	11.4, 11.5
1.4.2	<p><b>Understand various ways to determine outcomes of events or situations. <math>\overline{W}</math></b></p> <ul style="list-style-type: none"> <li>• Determine and use the probabilities of the outcome of a single event.</li> <li>• Represent or describe all possible outcomes of experiments (e.g., an organized list, a table, a tree diagram, or a sample space). [RL, CU]</li> <li>• Calculate probability for an event (e.g., pulling colored or numbered balls from a bag, drawing a card, rolling a six on a number cube, spinning a spinner, etc.).</li> <li>• Determine all possible outcomes (sample space) of an experiment or event (e.g., all different choices a person has to wear one top and one skirt from three different tops and two different skirts). [CU]</li> </ul>	11.2, 11.4, 11.5
<i>Statistics</i>		
1.4.3	<p><b>Analyze how data collection methods affect the data collected. <math>\overline{W}</math></b></p> <ul style="list-style-type: none"> <li>• Evaluate how a question or data collection method may affect the data. [RL]</li> <li>• Determine whether a sampling method will result in a representative sample.</li> <li>• Describe a data collection method that will provide an unbiased sample. [CU]</li> <li>• Compare data collection methods for a given situation to determine fairness of the method (e.g., compare a phone survey, a web survey, and a personal interview survey). [RL, MC]</li> <li>• Identify different ways of selecting a sample (e.g., convenience sampling, response to a survey, random sampling) and explain which method makes a sample more representative for a population. [SP, MC]</li> </ul>	11.3

Number	Expectation	Student Edition Lesson(s)
1.4.4	<p><b>Apply measures of central tendency to interpret a set of data.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Determine when it is appropriate to use mean, median, or mode and why a specific measure provides the most useful information in a given context. [RL, CU]</li> <li>• Use mean, median, and mode to explain familiar situations (e.g., the heights of students in the class, the hair color of students in the class). [CU, MC]</li> <li>• Find the missing number given a mean for a data set with a missing element (e.g., given a set of homework scores and the desire to earn an average score of 80%, determine what score the student must earn on the next assignment). [SP, RL]</li> </ul>	2.6, 2.7, 2.8
1.4.5	<p><b>Understand how to organize, display, and interpret data in text from single line graphs and scatter plots.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Justify a choice of a graph type for a given situation using information about the type of data. [RL, CU, MC]</li> <li>• Read and interpret data from single line graphs and scatter plots and determine when the use of these graphs is appropriate. [RL, CU]</li> <li>• Use an appropriate representation to display data (e.g., table, graphs) given a particular situation and audience. [MC, CU]</li> <li>• Make inferences based on a set of data. [RL]</li> <li>• Use data from a table, graph, or chart to support an interpretation. [RL, CU]</li> <li>• Use technology to generate bar graphs, line graphs, and scatter plots from tables of data. [MC]</li> </ul>	2.1, 2.2, 2.3, 2.4, 2.5, 2.8
1.4.6	<p><b>Evaluate a data set to determine how it can be, or has been, used to support a point of view.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Compare graphs to data sets (e.g., given unlabeled graphs and data sets, match the appropriate data to a graph). [RL]</li> <li>• Judge the appropriateness of inferences made from a set of data and support the judgment. [CU, MC]</li> <li>• Identify claims based on statistical data and assess the validity of the claims. [CU, RL]</li> <li>• Explain whether the scale on a graph accurately represents the data. [CU]</li> <li>• Compare or evaluate two or more interpretations of the same set of data for accuracy.</li> </ul>	2.1, 2.2, 2.3, 2.4, 2.5, 2.8
<p><b>Component 1.5: Understand and apply concepts and procedures from algebraic sense.</b></p>		
<p><i>Patterns, functions, and other relations</i></p>		

Number	Expectation	Student Edition Lesson(s)
1.5.1	<p><b>Apply rules for number patterns based on two arithmetic operations.</b> <math>\overline{W}</math></p> <ul style="list-style-type: none"> <li>• Recognize or extend patterns and sequences using operations that alternate between terms. [RL]</li> <li>• Create, explain, or extend number patterns involving two related sets of numbers and two operations including addition, subtraction, multiplication, or division. [CU]</li> <li>• Use rules for generating number patterns (e.g., Fibonacci sequence, bouncing ball) to model real-life situations. [MC]</li> <li>• Use technology to generate patterns based on two arithmetic operations. [SP]</li> <li>• Supply missing elements in a pattern based on two operations.</li> <li>• Select or create a pattern that is equivalent to a given pattern.</li> </ul>	7.6
1.5.2	<p><b>Apply understanding of patterns involving two arithmetic operations to develop a rule.</b> <math>\overline{W}</math></p> <ul style="list-style-type: none"> <li>• Describe the rule for a pattern with combinations of two arithmetic operations in the rule.</li> <li>• Identify patterns involving combinations of operations in the rule, including exponents (e.g., 2, 5, 11, 23). [RL, MC]</li> <li>• Represent a situation with a rule involving a single operation (e.g., presidential elections occur every four years; when will the next three elections occur after a given year). [CU, MC]</li> <li>• Create a pattern involving two operations using a given rule.</li> </ul>	
<i>Symbols and representations</i>		
1.5.3	<p><b>Apply understanding of equalities and inequalities to interpret and represent relationships between quantities.</b> <math>\overline{W}</math></p> <ul style="list-style-type: none"> <li>• Express relationships between quantities (decimals, percents, and integers) using =, <math>\neq</math>, &lt;, &gt;, <math>\leq</math>, and <math>\geq</math>. [CU]</li> <li>• Match a given situation to the correct inequality or equality. [MC]</li> <li>• Express relationships between non-negative rational numbers using symbols.</li> <li>• Write an inequality with a single variable to match a particular situation. [RL, CU]</li> </ul>	8.1

Number	Expectation	Student Edition Lesson(s)
1.5.4	<p><b>Apply understanding of tables, graphs, expressions, equations, or inequalities to represent situations involving two arithmetic operations. <math>\boxed{W}</math></b></p> <ul style="list-style-type: none"> <li>• Translate a situation involving multiple arithmetic operations into algebraic form using equations, tables, and graphs. [RL, CU, MC]</li> <li>• Identify or describe a situation involving two arithmetic operations that matches a given graph. [CU, MC]</li> <li>• Represent an equation, expression, or inequality using a variable in place of an unknown number. [CU]</li> <li>• Represent or evaluate algebraic expressions involving a single variable. [RL, CU]</li> <li>• Represent an equation or expression using a variable in place of an unknown number. [RL, CU]</li> <li>• Identify a situation that corresponds to a given equation or expression.</li> </ul>	1.6, 1.8, 9.5, 9.7
<i>Evaluating and solving</i>		
1.5.5	<p><b>Understand and apply procedures to evaluate expressions and formulas. <math>\boxed{W}</math></b></p> <ul style="list-style-type: none"> <li>• Evaluate simple expressions and formulas using pictures and/or symbols. [RL]</li> <li>• Represent and evaluate algebraic expressions involving a single variable. [RL, CU]</li> <li>• Evaluate an expression by substituting non-negative values for variables (e.g., find the value of <math>3y + 2</math> when <math>y=3</math>). [RL, MC]</li> <li>• Determine the expression that represents a given situation. [MC, CU]</li> <li>• Describe a situation that fits with a given expression. [RL, MC, CU]</li> </ul>	1.6, 1.8
1.5.6	<p><b>Understand and apply a variety of strategies to solve one-step equations. <math>\boxed{W}</math></b></p> <ul style="list-style-type: none"> <li>• Solve one-step equations using pictures and symbols.</li> <li>• Solve one-step single variable equations using any strategy (e.g., what number goes in the mystery box).</li> <li>• Solve real-world situations involving single variable equations. [CU, MC]</li> <li>• Explain a strategy for solving a single variable equation. [CU]</li> <li>• Write and solve one-step single variable equations for a given situation. [MC]</li> </ul>	1.7, 9.2, 9.3, 9.4
<b>EALR 2: The student uses mathematics to define and solve problems.</b>		

Number	Expectation	Student Edition Lesson(s)
<b>Component 2.1: Understand problems</b> <b>EXAMPLE: A GARDENER LIVING IN YAKIMA HAS 100 FEET OF FENCING MATERIAL. FIND THE DIMENSIONS OF THE LARGEST RECTANGULAR AREA THAT HE COULD ENCLOSE USING ALL OF THE FENCING MATERIAL.</b>		
2.1.1	<b>Analyze a situation to define a problem. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Use strategies to become informed about the situation (e.g., listing information, asking questions).</li> <li>• Summarize the situation (e.g., there is 100 feet of fencing and we want to enclose as much land, in the shape of a rectangle, as possible).</li> <li>• Determine whether enough information is given to find a solution (e.g., list what is needed to find the area of a rectangle and compare to the list of known things).</li> <li>• 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).</li> <li>• Define the problem (e.g., find the rectangle with largest area with a perimeter of 100 feet).</li> </ul>	1.1, 1.8, 5.4a, 8.5a, 9.5b, 13.4a
<b>Component 2.2: Apply strategies to construct solutions</b>		
2.2.1	<b>Apply strategies, concepts, and procedures to devise a plan to solve the problem. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Organize relevant information from multiple sources to devise a plan (e.g., create a list of known and unknown information; create a table of values for length, width, and area of rectangles with perimeter of 100).</li> <li>• Select and apply appropriate mathematical tools for a situation (e.g., guess and check, creating tables of values [with or without technology], examine relationships between sides of a rectangle and area).</li> </ul>	1.1, 1.8, 5.4a, 8.5a, 9.5b, 13.4a
2.2.2	<b>Apply mathematical tools to solve the problem. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Implement the plan devised to solve the problem (e.g., in a table of values of lengths, widths, and areas find the one that shows the largest area; check smaller increments to see if this is the largest that works).</li> <li>• Identify when an approach is unproductive and modify or try a new approach (e.g., while guess and check may give some sense of a neighborhood of values, it is less efficient than a more organized method).</li> <li>• Check the solution to see if it works (e.g., if the solution gives a perimeter that is not 100, it makes no sense in the given problem).</li> </ul>	1.1, 1.8, 5.4a, 8.5a, 9.5b, 13.4a

Number	Expectation	Student Edition Lesson(s)
<b>EALR 3: The student uses mathematical reasoning.</b>		
<b>Component 3.1: Analyze information.</b>		
3.1.1	<p><b>Analyze information from a variety of sources to interpret and compare information.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Identify claims based on statistical data and evaluate the validity of the claims. [1.4.5]</li> <li>• Read and interpret data from single line graphs and scatter plots and determine when the use of these graphs is appropriate. [1.4.5]</li> <li>• Use volume and capacity to describe and compare figures (e.g., fill containers with cubes to find which has a greater volume). [1.2.4]</li> </ul>	2.1, 2.2, 2.3, 2.4, 2.5, 2.8
<b>Component 3.2: Make predictions, inferences, conjectures, and draw conclusions.</b>		
3.2.1	<p><b>Apply prediction and inference skills to make or evaluate conjectures.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Identify claims based on statistical data and evaluate the validity of the claims. [1.4.5]</li> <li>• Predict a future element in a relation (e.g., find the fifteenth term in a pattern). [1.5.1]</li> </ul>	2.1, 2.2, 2.3, 2.4, 2.5, 2.8
3.2.2	<p><b>Apply the skill of drawing conclusions and support those conclusions using evidence.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Draw conclusions from displays, texts, or oral discussions and justify those conclusions with logical reasoning or other evidence (e.g., read a newspaper article or ad; draw a conclusion and support that conclusion with evidence from the article or elsewhere).</li> </ul>	
3.2.3	<p><b>Analyze procedures and results in various situations.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Represent and interpret all possible outcomes of experiments (e.g., an organized list, a table, a tree diagram, or a sample space). [1.4.2]</li> </ul>	11.2
<b>Component 3.3: Verify results.</b>		

Number	Expectation	Student Edition Lesson(s)
3.3.1	<p><b>Analyze procedures and information used to justify results using evidence.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Find and compare 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). [1.2.5]</li> <li>• Apply estimation strategies prior to computation of whole numbers, decimals, and fractions to determine reasonableness of answers. [1.1.8]</li> <li>• Identify different ways of selecting a sample (e.g., convenience sampling, response to a survey, random sampling) and which method makes a sample more representative for a population. [1.4.3]</li> </ul>	4.1, 7.1, 11.3
3.3.2	<p><b>Analyze thinking and mathematical ideas using models, known facts, patterns, relationships, or counter examples.</b> <b>W</b></p> <p>Identify claims based on statistical data and evaluate the validity of the claims. [1.4.5]</p>	2.1, 2.2, 2.3, 2.4, 2.5
<b>EALR 4: The student communicates knowledge and understanding in both everyday and mathematical language.</b>		
<b>Component 4.1: Gather information.</b>		
4.1.1	<p><b>Apply a planning process to collect information for a given purpose.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Use mean, median, and mode to explain familiar situations (e.g., the heights of students in the class; the hair color of students in the class). [1.4.4]</li> <li>• Decide on information needed to create a report on a mathematical topic (e.g., compare the predicted rainfall in a given period with the actual rainfall).</li> </ul>	2.6, 2.7, 2.8
4.1.2	<p><b>Understand how to extract information from multiple sources using reading, listening, and observation.</b> <b>W</b></p> <ul style="list-style-type: none"> <li>• Use mean, median, and mode to explain situations (e.g., the heights of students in the class; hair color of students in the class; favorite movie of students in the class; most watched movie in a specific time frame). [1.1.4]</li> </ul>	2.6, 2.7, 2.8
<b>Component 4.2: Organize, represent, and share information.</b>		

Number	Expectation	Student Edition Lesson(s)
4.2.1	<b>Apply organizational skills for a given purpose. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Show the order of the set of integers on a number line with both positive and negative numbers (e.g., organize the given birth years of the following Arabic kings on a number line). [1.3.3]</li> </ul>	8.1
4.2.2	<b>Apply communication skills to clearly and effectively express or present ideas and situations using mathematical language or notation. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Articulate various strategies used during estimation involving fractions and decimals. [1.1.8]</li> <li>• 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.</li> <li>• Use an appropriate representation to display data (e.g., table, graphs) given a particular situation and audience. [1.4.5]</li> </ul>	3.3, 3.4, 4.1, 7.1
<b>EALR 5: The student understands how mathematical ideas connect within mathematics, to other subject areas, and to real-life situations.</b>		
<b>Component 5.1: Relate concepts and procedures within mathematics</b>		
5.1.1	<b>Apply concepts and procedures from a variety of mathematical areas in a given problem or situation. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Translate a situation involving multiple arithmetic operations into algebraic form using equation, table, and graphs. [1.5.4]</li> <li>• Given a set of data, compare various representations (e.g., table, graph, rule) for a given situation. [1.4.5]</li> </ul>	9.5, 9.7
5.1.2	<b>Apply different mathematical models and representations to the same situation. <span style="border: 1px solid black; padding: 0 2px;">W</span></b> <ul style="list-style-type: none"> <li>• Represent equivalent ratios or given percentages using objects, pictures, and symbols. [1.1.4]</li> <li>• Match a graph with a data set. [1.5.4]</li> </ul>	9.7, 10.1, 10.4
<b>Component 5.2: Relate mathematical concepts and procedures to other disciplines.</b>		

Number	Expectation	Student Edition Lesson(s)
5.2.1	<p><b>Analyze mathematical patterns and ideas to extend mathematical thinking and modeling to other disciplines. <b>W</b></b></p> <ul style="list-style-type: none"> <li>• Identify geometric figures and concepts in nature and art (e.g., triangle in architecture, rhombus in beadwork). [1.3.2]</li> <li>• Show the order of the set of integers on a number line with both positive and negative numbers (e.g., organize and graph on a number line the given birth years of the given Arabic kings). [1.3.3]</li> <li>• Read a micrometer to the nearest hundredth of an inch or centimeter, depending on the tool. [1.2.4]</li> <li>• Create a physical activity plan that results in 2500 calories expended over the week.</li> <li>• Calculate the ratio of various parts of an artwork (length of eyes to ears).</li> <li>• Discuss the difference between <math>\frac{3}{4}</math> time and <math>\frac{6}{8}</math> time and how it relates to a model.</li> </ul>	8.1, 10.2, 10.3, 13.4
5.2.2	<p><b>Know the contributions of individuals and cultures to the development of mathematics.</b></p> <ul style="list-style-type: none"> <li>• Recognize the contributions of a variety of people to the development of mathematics (e.g., research the concept of the golden ratio).</li> </ul>	
<b>Component 5.3: Relate mathematical concepts and procedures to real-world situations.</b>		
5.3.1	<p><b>Understand that mathematics is used in daily life and extensively outside the classroom.</b></p> <ul style="list-style-type: none"> <li>• Write and solve real-world problem situations to find sums or differences of decimals or fractions (e.g., explain how to find the change received from a \$50.00 bill when a given amount of CD's and tapes with prices are bought). [1.1.6]</li> <li>• Calculate the ratio of bicycle gears.</li> </ul>	6.3
5.3.2	<p><b>Understand that mathematics is used within many occupations or careers.</b></p> <ul style="list-style-type: none"> <li>• Explain or describe the mathematics necessary to get and perform in a particular job (e.g., complete a project that researches how mathematics is used in careers or occupations of interest).</li> <li>• Identify where in a particular career mathematics is used (e.g., police work — looking for patterns in fingerprints or crimes).</li> </ul>	