Wyoming Content Standard 1. Number Operations and Concepts		
Skill 1. Understand the meaning of arithmetic operations and make reasonable estimates.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.1.4 Students explain their choice of estimation or problem-solving strategies and justify results when performing number operations in problem- solving situations.	**N1 is embedded in N2 and N3.**	
05.1.6 Students demonstrate an understanding of fractions as parts of wholes.		

Wyoming Content Standard 1. Number Operations and Concepts		
Skill 2. Understand ways to represent numbers, relationships among numbers, and number systems.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.1.1 Students use the concept of place value to read and write whole numbers (in words, standard, and expanded form) and decimals (10ths and 100ths).	**4.NB.2** (Read and write … compare two multi-digit numbers) **5.NB.3** (Read, write, and compare decimals to thousandths…)	• Items may compare whole numbers and proper fractions greater than zero. • The data presented to students may be either precise values, a range of values, or a combination of precise values and estimates of other values. • Numbers in the stimulus should not be presented in numerical order. • Items may compare smaller or larger numbers, or compare the order of magnitude between numbers. • Items involving comparison of fractions should be limited to use of whole numbers and fractions with like denominators (1/2 through 1/12). • Numbers being compared may be in the same form or in two different forms (i.e., word or standard). • Words, number lines, drawings, numerals, or symbols (<,>, =) may be used. • An item may utilize one format or a variety of formats, such as fractions or decimals. • Items may include the relationships among whole numbers and decimals given a real-world context. • The place values of the fractional part of decimal numbers should range from tenths through hundredths. • Items may contain multiple forms of a given value. (word, standard and expanded or whole number, fraction and decimal) • Items will not include repeating decimals. • Some items should include word names as well as numerals. • Items should be set in either a real-world or mathematical context. • CR items may have students “Show your work or explain your answer.” • Graphics should be used in some of these items, as appropriate.
05.1.6 Students demonstrate an understanding of fractions as parts of wholes.	**3.NF.1 (**Understand a fraction…formed by 1 part when a whole is partitioned into … equal parts)	
05.1.7 Students order, compare, add, and subtract fractions with like denominators.	**4.NF.2** (Compare two fractions with different numerators and different denominators…) **4.NF.3** (Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators)	

Wyoming Content Standard 1. Number Operations and Concepts		
Skill 3. Develop the connection between conceptual understanding and computational proficiency.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.1.2 Students demonstrate computational fluency with basic facts for all four operations, including identifying multiples and factors of designated numbers up to 100.	**2.OA.2** (addition and subtraction) **3.OA.7** (multiplication and division) **4.OA.4** (multiples and factors)	• Items should include any operation with whole numbers; or addition and subtraction of decimals (tens through hundredths) and fractions (with like denominators of 2 through 12). • Items will be limited to no more than two operation problems. • Items will assess factors and multiples of numbers to 100; rules of divisibility for 2, 3, 4, 5, 9, and 10; and least common multiples up to 100. • Items will not include whole numbers with more than four digits, positive fractions with more than two-digit numerators and denominators, and/or decimals greater than hundredths. • Items should not involve division by a fraction. • Items should not assess abstract constructs. • Items may use drawings, symbols, algorithms, number sentences, or real-world problem situations. • Graphics should be used in some of these items, as appropriate. • Items involving estimation should be limited to use of whole numbers and fractions with like denominators (1/2 through 1/12). • CR items may have students "Show your work or explain your answer." • Rounding will be limited to the nearest tenths, ones, tens and hundreds. • Solving problems in the context of money • Multiplying by two digit whole numbers and dividing by single digit whole numbers
05.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.	**4.NBT.5** (Multiply…two two-digit numbers) **4.NBT.6** (Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors…)	
05.1.5 Students add and subtract decimals to hundredths and solve problems in the context of money.	**5.NBT.7** (Add, subtract, multiply, and divide decimals to hundredths . . .)	
05.1.4 Students explain their choice of estimation or problem-solving strategies and justify results when performing number operations in problem- solving situations.	**5.NBT.7** (. . . relate the strategy to a written method and explain the reasoning used.)	

Wyoming Content Standard 2. Geometry		
Skill 1. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.2.1 Students describe, draw, and classify two-dimensional geometric figures such as triangles, quadrilaterals, and circles.	**4.G.1** (Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. **4.G.2** (Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence of absence of angles of a specified size) **5.G.3** (Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. . .) **5.G.4** (Classify two-dimensional figures in a hierarchy based on properties.)	• Items will assess identifying parallel, intersecting and perpendicular lines, and types of angles (acute, right, and obtuse). • Items will assess identifying basic properties of lines and various types of angles. • Items may assess understanding and application of perpendicularity and parallelism. • Items should assess only geometric concepts of two-dimensional figures. • Items should be set in either a real-world or mathematical context. • CR items may have students “Show your work or explain your answer.” • Graphics should be used in most of these items, as appropriate.

Wyoming Content Standard 2. Geometry		
Skill 2. Analyze characteristics and properties of two- and three-dimensional geometric shapes.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.2.1 Students describe, draw, and classify two-dimensional geometric figures such as triangles, quadrilaterals, and circles.	**5.G.2** (Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane . . .) **5.G.3** (See above) **5.G.4** (See above)	• Items will assess identifying basic properties and attributes of regular polygons or solid figures: such as sides, faces, edges, bases, and vertices, and diagonals of polygons. • Items assessing three-dimensional figures will use right prisms, right circular cylinders, cones, pyramids or spheres. • Items assessing three-dimensional figures will use various types of drawings and perspectives (e.g., flat patterns/nets, isometric drawings). • Items may use coordinate planes. • Items should be set in either a real-world or mathematical context. • Items may include pictures that represent geometric properties. • CR items may have students "Show your work or explain your answer." • Graphics should be used in most of these items, as appropriate.
05.2.2 Students describe, identify, and classify three-dimensional geometric figures such as cylinders, cones, pyramids, rectangular prisms, and spheres.	**6.G.4**. Represent three-dimensional figures using nets. . .	

Wyoming Content Standard 2. Geometry		
Skill 3. Apply transformations and use symmetry to analyze mathematical situations.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.2.3 Students describe and compare various geometric objects using congruency and lines of symmetry appropriate to grade level.	**4.G.3** (Lines of Symmetry) **5.G.2** (Graph ordered pairs in the first quadrant) **8.G.2** (Congruence and reflections)	• Items may assess properties and relationships pertaining to regular two-dimensional shapes, and the concepts of symmetry or congruency. • Items may assess understanding and application of symmetry and congruency. • Items will not assess three-dimensional figures. • Items should assess only geometric concepts of two-dimensional figures. • Items may present a coordinate plane to locate and/or describe objects. • Items will assess reflections and their results on a geometric figure or a real-world item shaped similarly to a geometric figure. • Polygons may include regular or irregular polygons up to 10 sides. • Regular polygons must be presented with distinct markings that enable the identification of reflections. • Items may be set in either a real-world or mathematical context. • CR items may have students “Show your work or explain your answer.” • Graphics should be used in all of these items.

Wyoming Content Standard 3. Measurement		
Skill 1. Understand measurable attributes of objects and the units, systems, and processes of measurement.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.3.1 Students apply estimation and measurement of length to content problems using actual measuring devices and express the results in U.S. customary units (parts of an inch-halves/fourths/eighths, inches, feet, yards, and miles).	**1.MD.2** (Understand concept of unit of measurement and it's application.) **2.MD.1** (Measure length using appropriate tools) **2.MD.2** (Measure with different units and understand relationship) **2.MD.3** (Estimate lengths with inches, feet, centimeters and meters) **2.MD.4** (Measure to determine differences in length) **3.MD.4** (Measure to ½ and ¼ inch) **7.G.1** Solve problems involving scale drawings. . .	• Items will assess the measurements defined in Grades 3 and 4 and the additional measurement units of length (eighth-inch, mile) and weight/mass. • Items may include standard units of measurement in inches, feet, yards, or miles; ounces, pounds; cups, pints, quarts, or gallons. • Time may include years, months, days, hours, minutes, or seconds, and elapsed time (in minute intervals). • Items may require students to solve real-world problems, including distance, using a scale drawing. • Items may include scale model conversions appropriate for fifth graders. • Items may assess capacity. • All conversions of units must be within the customary system of measurement. • Items should involve up to two-unit conversions except with items involving time (three step conversions are allowed only if leading quantity is a single unit (i.e. one gallon to ounces). • Ounce conversions in capacity items will include a conversion chart. • Items should not assess vocabulary (i.e. definition of terms). • Items should be set in a real-world context. • CR items may have students "Show your work or explain your answer." • Graphics should be used in most of these items, as appropriate.
05.3.2 Students apply estimation and measurement of weight to content problems using actual measuring devices and express the results in U.S. customary units (ounces and pounds).	**4.MD.1** (Know relative sizes of measurement units within one system of units including km, m, cm; kg, g, lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, . . .)	
05.3.3 Students apply estimation and measurement of capacity in real-world problem-solving situations using actual measuring devices and express the results in U.S. customary units (teaspoons, tablespoons, cups, pints, quarts, and gallons).	**4.MD.1** (See above)	
05.3.4 Students demonstrate relationships	**5.MD.1** (Convert among different-sized standard	

within the U.S. customary units, given an equivalence chart, in problem-solving situations appropriate to grade level.	measurement units within a given measurement system . . .)	
05.3.6 Students use time, in problem-solving situations to: • compare relationships among seconds, minutes, hours, and days, and • use elapsed time to the nearest minute.	**4.MD.1** (know relative size of measurements and express measures in terms of larger or smaller units) **4.MD.2** (intervals of time)	

Wyoming Content Standard 3. Measurement		
Skill 2. Apply appropriate techniques, tools, and formulas to determine perimeter, area or volume.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.3.5 Students determine area and perimeter of triangles, rectangles, and squares using models in problem-solving situations using appropriate units.	**4.MD.3** (Apply the area and perimeter formulas for rectangles…) **6.G.1** (Find the area of right triangles, other triangles, special quadrilaterals, and polygons…) **7.G.1** (Scale Factor)	• For area of triangles or parallelograms, pictorial models should be used. • Items may assess the area of squares and rectangles, the area of figures made by combining sections of a grid, or the perimeter of any polygon when dimensions are provided. • Items should use geometric properties and formulas for two-dimensional shapes only; three-dimensional shapes will not be assessed under this context. • Only simple formulas should be used. • The number of two-dimensional figures assessed in an item cannot exceed two. • Dimensions included in items should be numbers appropriate for this grade level. • Items may assess the relationship between the area and perimeter of an original figure and that of a newly created figure, or how perimeter or area is affected by changes in the dimensions of the figure. • The changes in dimensions of a figure that are increased should use scale factors that are whole numbers. • The changes in dimensions of a figure that are decreased should use scale factors that are common-unit fractions with denominators of 2, 3, or 4. • Graphics should be used in most of these items, as appropriate. • CR items may have students “Show your work or explain your answer.” • Items may be set in either a real-world or mathematical context.

Wyoming Content Standard 4. Algebra		
Skill 1. Understand patterns, relations, and functions.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.4.1 Students recognize, describe, extend, create, and generalize patterns by using manipulatives, numbers, and graphic representations, including charts and graphs.	**4.OA.5** (Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. . .) **Core Practice #7**	• Items will assess numerical and graphical patterns. • A repeating pattern set should contain no more than 7 elements. • Items may use pictures and graphics to present one-step linear equations. • Students should not be asked to extend the pattern more than 5 steps beyond what is given or to provide more than 3 missing elements within a pattern. • Items should not use more than one variable or include more than two operations. • The pattern given should be shown with at least two examples of the pattern repeated, unless it is clearly explained in the stem of the item. • Operations in patterns such as function tables will be limited to effects of the four basic operations on whole numbers. • Variables used to represent numbers in problem situations should be geometric symbols or lowercase italicized letters. • Items may use drawings, tables, lists, charts, graphs, T-charts, diagrams, or calendars. • Items may be set in either a real-world or mathematical context. • CR items may have students “Show your work or explain your answer.” • Graphics should be used in most of these items, as appropriate.
05.4.2 Students apply knowledge of patterns when solving problems appropriate to grade level.	**4.OA.5** (See above) **Core Practice #7**	

Wyoming Content Standard 4. Algebra		
Skill 2. Use mathematical models to represent and understand quantitative relationships.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.4.3 Students represent the idea of a variable as an unknown quantity, a letter, or a symbol within addition and subtraction sentences using whole numbers.	**1.OA.1** (symbol for unknown number) **1.OA.2** (symbol for unknown number) **1.OA.8** **2.OA.1 (**symbol for unknown number) **3.OA.3 (**symbol for unknown number) **3.OA.4 (**symbol for unknown number) **4.OA.2** (letter for unknown quantity) **4.OA.3** (letter for unknown quantity)	• Items may include only one variable limited to whole numbers up to 3 digits. • Variables used to represent numbers in problem situations should be geometric symbols or lowercase italicized letters. • Items should rely primarily on translating among written descriptions, expressions, and graphic representations. • Items may be assessed in either a real-world or mathematical context. • CR items may have students “Show your work or explain your answer.” • Graphics should be used in most of these items, as appropriate • Represent the concepts of a variable as an unknown quantity, letter, or symbol in addition or subtraction sentences using whole numbers.

Wyoming Content Standard 5. Data Analysis and Probability		
Skill 1. Collect, organize, and display relevant data to answer questions and use appropriate statistical methods to analyze the data.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.5.1 Students systematically collect, organize, and describe/represent categorical data using bar graphs.	**3.MD.3** (Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. . .)	• Data sets that do not include finding the mode should contain no more than 7 two-digit numbers (with the exception of time and money) and a sum that can easily be divided without a remainder. • Items will use sets of numerical data presented in a list, picture, chart, graph, or plot. • Items will assess finding the mode of a set of data presented in a list, chart, table, graph or plot. • Data contained in these items need not be ordered. • Items will assess: o interpreting and comparing information from single-bar graphs, single-line graphs, stem-and-leaf plots, or Venn diagrams; o recognizing appropriate displays for different kinds of data; o using and recognizing appropriate scale increments; o choosing reasonable titles, labels, scales, and intervals for data on pictographs and bar or line graphs; o generating questions, collecting responses, and displaying data on graphs; o analyzing and explaining in writing the implications of graphed data. • Graphics should be used in most of these items, as appropriate. • Graphs presented for students to interpret should contain all elements of a correct graph. • Scale increments are limited to units of 1, 2, 4, 5, 10, 20, 25, 50, 100 or 1000. • CR items may have students “Show your work or explain your answer.” • Items should be set in a real-world context.
05.5.2 Students find and interpret mode for data sets in a problem-solving setting appropriate to grade level. Students communicate their findings.	**Core Practice # 6**	

Wyoming Content Standard 5. Data Analysis and Probability		
Skill 2. Develop and evaluate inferences and predictions that are based on data.		
Benchmark	**Where in CCSS**	**Content Limits:**
05.5.3 Students predict and record outcomes of probability experiments or simulations.	**7.SP.5** (Understand probability expresses the likelihood of an event occurring and is expresses as a number between 0 and 1) **7.SP. 6** (Predict relative frequency of various probabilities) **7.SP.7** (Develop a probability model and use it to find probabilities of events) **7.SP.8** (Find probabilities of compound events)	• In items involving the determination and/or listing of all possible outcomes, the number of outcomes should not exceed 12. • Mathematical expectations of probabilities will be assessed using simple empirical data or theoretical probabilities. • Most items developed for this context should assess simple events. • Probabilities should be based on whole numbers. • Items will assess the likelihood or probability of an outcome occurring. • Probabilities may be expressed as certain, most likely, equally likely, least likely, unlikely and impossible. • Items may include numeric probabilities of simple events with 12 or fewer outcomes. • Items should be set in a real-world context. • Items may use models such as organized lists, charts, or tree diagrams. • CR items may have students “Show your work or explain your answer.” • Graphics should be used in most of these items, as appropriate.