Acadience Math Alignment to
Utah Core State Standards in Mathematics

Kindergarten

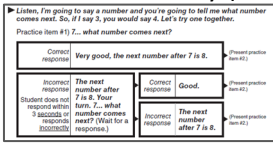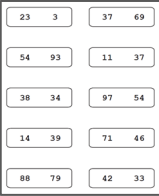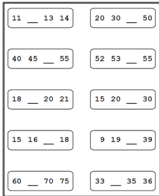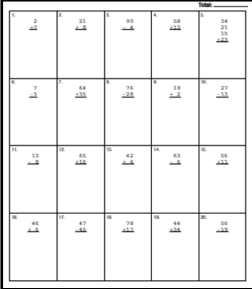| Acadience Math Measure	Utah Core State Standards in Mathematics Alignment
Beginning Quantity Discrimination (BQD)	Count to tell the number of objects: Standard K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality. Compare numbers: Standard K.CC.6 Use matching or counting strategies to identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. Include groups with up to ten objects.
Number Identification (NIF)	Know number names and the counting sequence: Standard K.CC.3 Read and write numbers using base ten numerals from 0 to 20.
Next Number Fluency (NNF)	Know number names and the counting sequence: Standard K.CC.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

First Grade

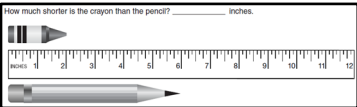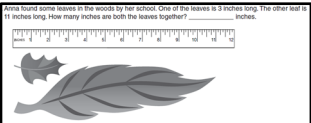| Acadience Math Measure	Utah Core State Standards in Mathematics Alignment
Number Identification (NIF)	Extend the counting sequence: Standard 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
Next Number Fluency (NNF)	Extend the counting sequence: Standard 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral
Advanced Quantity Discrimination (AQD)	Understand place value: Standard 1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Standard 1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Missing Number Fluency (MNF)	Extend the counting sequence: Standard 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. Use place value understanding and properties of operations to add and subtract: Standard 1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
Computation (Comp)	Understand and apply properties of operations and the relationship between addition and subtraction: Standard 1.OA.3 Apply properties of operations as strategies to add and subtract. Add and subtract within 20: Standard 1.OA.6 Add and subtract within 20. a. Use strategies (to add and subtract) b. By the end of Grade 1, demonstrate fluency for addition and subtraction within 10.

Second Grade

Acadience Math Measure	Utah Core State Standards in Mathematics Alignment
Computation (Comp)	Add and subtract within 20: Standard 2.OA.2 Fluently add and subtract within 20. a. Add and subtract within 20 using mental strategies b. By the end of Grade 2, know from memory all sums of two one-digit numbers. Use place value understanding and properties of operations to add and subtract: Standard 2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Standard 2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

Concepts and Applications (C&A)
Note: Images represent items from Benchmark 1. Benchmarks 2 and 3 have similar items aligned to the same standards.

Item	Utah Core State Standards in Mathematics Alignment
1)	Work with equal groups of objects to gain foundations for multiplication: Standard 2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
2)	Reason with shapes and their attributes: Standard 2.G.3 Partition circles and rectangles into two, three, or four equal shares; describe the shares using the words halves, thirds, half of, a third of, etc.; and describe the whole as two halves, three thirds, or four fourths. Recognize that equal shares of identical wholes need not have the same shape.
3)	Understand place value: Standard 2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
4)	Measure and estimate lengths in standard units: Standard 2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

5) Sally has 4 red toy cars, 5 blue toy cars, and 6 green toy cars. How many toy cars does she have in total? _____ toy cars.	Represent and solve problems involving addition and subtraction: Standard 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, for example, by using drawings and equations with a symbol for the unknown number to represent the problem.
6) Draw the time on the clock: 6:10	Work with time and money: Standard 2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
7) Dan has 8 black ants and 3 red ants in his ant farm. How many ants does he have in all? _____ ants.	Represent and solve problems involving addition and subtraction: Standard 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, for example, by using drawings and equations with a symbol for the unknown number to represent the problem.
8) How much shorter is the crayon than the pencil? _____ inches.	Measure and estimate lengths in standard units: Standard 2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. For example, after measuring a pencil and a crayon, a student uses the measurements to determine that the pencil is two inches longer than the crayon.
9) Circle the hexagon:	Reason with shapes and their attributes: Standard 2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Sizes are compared directly or visually, not compared by measuring. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
10) What is 16 less than 629? _____	Use place value understanding and properties of operations to add and subtract: Standard 2.NBT.7 Add and subtract within 1,000 using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
11) Anna found some leaves in the woods by her school. One of the leaves is 3 inches long. The other leaf is 11 inches long. How many inches are both the leaves together? _____ inches.	Relate addition and subtraction to length: Standard 2.MD.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units.

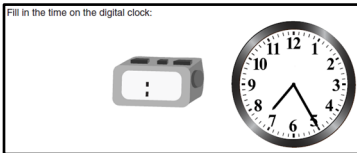|	
12) Bill and his friends were swimming in the pool. Then 9 more friends show up to swim. There are now 18 people in the pool. How many people were in the pool in the beginning? ____ + 9 = 18	Represent and solve problems involving addition and subtraction: Standard 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, for example, by using drawings and equations with a symbol for the unknown number to represent the problem.
13) Write the number... <table><tr><td>Number</td><td>...in the 1s place</td><td>...in the 10s place</td></tr><tr><td>248</td><td></td><td></td></tr><tr><td>782</td><td></td><td></td></tr><tr><td>126</td><td></td><td></td></tr></table>	Understand place value: Standard 2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; *for example, 706 equals 7 hundreds, 0 tens, and 6 ones.*
14) Fill in the time on the digital clock:	Work with time and money: Standard 2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
15) José has 14 gumballs, but gives 5 of them away. He then gives 3 more away. How many gumballs does José have now? _____ gumballs.	Represent and solve problems involving addition and subtraction: Standard 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, for example, by using drawings and equations with a symbol for the unknown number to represent the problem.
16) You have 2 quarters, 2 dimes, and 1 penny. How many cents do you have to spend? _____ ¢	Work with time and money: Standard 2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *For example, if you have 2 dimes and 3 pennies, how many cents do you have?*
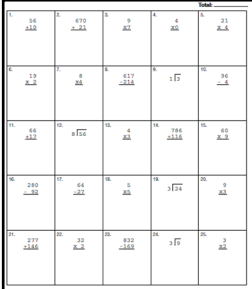
Third Grade

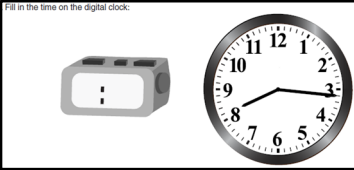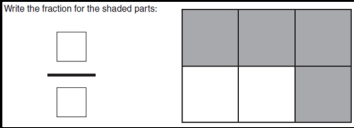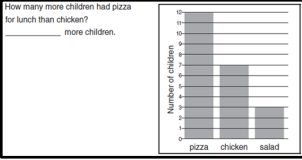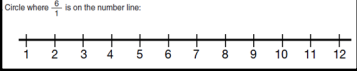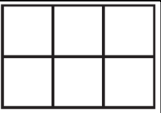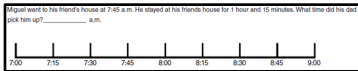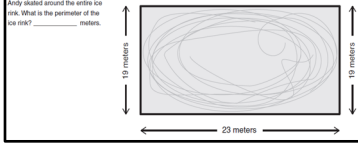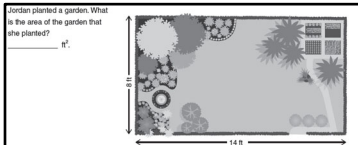| Acadience Math Measure	Utah Core State Standards in Mathematics Alignment
Computation (Comp) 	Understand properties of multiplication and the relationship between multiplication and division: Standard 3.OA.5 Apply properties of operations as strategies to multiply and divide. Multiply and divide within 100: Standard 3.OA.7 Fluently multiply and divide. a. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. (For example, knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8.) b. By the end of Grade 3, know from memory all products of two one-digit numbers. Use place value understanding and properties of operations to perform multi-digit arithmetic: Standard 3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Concepts and Applications (C&A)
Note: Images represent items from Benchmark 1. Benchmarks 2 and 3 have similar items aligned to the same standards.

Item	Utah Core State Standards in Mathematics Alignment
1) 	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects: Standard 3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, for example, by representing the problem on a number line diagram.
2) 	Reason with shapes and their attributes: Standard 3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into four parts with equal area, and describe the area of each part as 1/4 of the area of the shape.
3) 	Use place value understanding and properties of operations to perform multi-digit arithmetic: Standard 3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.

4) A group of people took 3 cars to a football game. Each car held 5 people. How many people were there total? _____ ÷ 5 = 3	Represent and solve problems involving multiplication and division within 100: Standard 3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number—product, factor, quotient, dividend, or divisor—that makes the equation true in each of the equations 8 x ? = 48, 5 = ? ÷ 3, and 6 x 6 = ?
5) Compare the fraction in Box 1 with the fraction in Box 2. Fill in the blank with > (greater than), = (equal to), or < (less than). 	Box 1	>, =, <	Box 2
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$\frac{3}{4}$		$\frac{2}{4}$
$\frac{3}{8}$		$\frac{7}{8}$		Develop understanding of fractions as numbers. Denominators are limited to 2, 3, 4, 6, and 8 in third grade: Standard 3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, for example, by using a visual fraction model.
6) One glass has 5 ounces of milk and the other has 4 ounces of milk. How much milk is there in both glasses? _____ ounces.	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects: Standard 3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses of objects or volumes of liquids that are given in the same units.
7) Keith helps his parents with chores. He does 4 chores a day. How many chores does he do in 7 days? _____ chores.	Represent and solve problems involving multiplication and division within 100: Standard 3.OA.1 Interpret the products of whole numbers, such as interpreting 5 × 7 as the total number of objects in 5 groups of 7 objects each. Standard 3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.
8) Write the fraction for the whole number: $5 = \frac{\square}{\square}$ $8 = \frac{\square}{\square}$	Develop understanding of fractions as numbers. Denominators are limited to 2, 3, 4, 6, and 8 in third grade: Standard 3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *For example, express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*

9) How many more children had pizza for lunch than chicken? _____ more children. *[bar graph: Number of children vs pizza, chicken, salad]*	Represent and interpret data: Standard 3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent five pets.*
10) Rose walks 7 dogs a day. How many days would it take her to walk 14 dogs? _____ days.	Represent and solve problems involving multiplication and division within 100: Standard 3.OA.2 Interpret whole-number quotients of whole numbers. For example, interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into eight shares (partitive), or as a number of shares when 56 objects are partitioned into equal shares of eight objects each (quotative). Standard 3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.
11) Circle where $\frac{6}{1}$ is on the number line: 1 2 3 4 5 6 7 8 9 10 11 12	Develop understanding of fractions as numbers. Denominators are limited to 2, 3, 4, 6, and 8 in third grade: Standard 3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *For example, express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*
12) There were 10 grams of jelly beans. Sara's mom said she could only have 7 grams. How many grams of jelly beans will Sara need to put back? _____ grams. 10 Grams	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects: Standard 3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses of objects or volumes of liquids that are given in the same units.
13) Anna rode her bike for 37 minutes before school. She also rode for 17 minutes after school. She then rode after dinner for 18 minutes. How many minutes total did Anna ride her bike? _____ minutes.	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects: Standard 3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, for example, by representing the problem on a number line diagram.
14) What is the area of the rectangle? _____ units²	Understand concepts of area and relate area to multiplication and addition: Standard 3.MD.6 Measure area by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units).

15) There are 4 children. Each child has 3 blue flowers and 5 red flowers. How many flowers is that in total? 4 x (3 + 5) = _____	Demonstrate understanding of the properties of multiplication and the relationship between multiplication and division: Standard 3.OA.5 Apply properties of operations as strategies to multiply and divide. For example: If 6 x 4 = 24 is known, then 4 x 6 = 24 is also known (commutative property of multiplication). 3 x 5 x 2 can be found by 3 x 5 = 15, then 15 x 2 = 30, or by 5 x 2 = 10, then 3 x 10 = 30 (associative property of multiplication). Knowing that 8 x 5 = 40 and 8 x 2 = 16, one can find 8 x 7 as 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56 (distributive property).
16) Miguel went to his friend's house at 7:45 a.m. He stayed at his friends house for 1 hour and 15 minutes. What time did his dad pick him up? _____ a.m. 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects: Standard 3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, for example, by representing the problem on a number line diagram.
17) Solve: 4 x 8 x 2 = _____	Demonstrate understanding of the properties of multiplication and the relationship between multiplication and division: Standard 3.OA.5 Apply properties of operations as strategies to multiply and divide. For example: If 6 x 4 = 24 is known, then 4 x 6 = 24 is also known (commutative property of multiplication). 3 x 5 x 2 can be found by 3 x 5 = 15, then 15 x 2 = 30, or by 5 x 2 = 10, then 3 x 10 = 30 (associative property of multiplication). Knowing that 8 x 5 = 40 and 8 x 2 = 16, one can find 8 x 7 as 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56 (distributive property).
18) Andy skated around the entire ice rink. What is the perimeter of the ice rink? _____ meters. 19 meters 19 meters 23 meters	Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures: Standard 3.MD.8 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
19) A shirt costs 3 times as much as a hat. The hat costs $11. How much are both the hat and shirt together? $ _____	Use the four operations to identify and explain patterns in arithmetic: Standard 3.OA.8 Solve two-step word problems. a. Solve two-step word problems using the four operations. Know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
20) Jordan planted a garden. What is the area of the garden that she planted? _____ ft². 8 ft 14 ft	Understand concepts of area and relate area to multiplication and addition: Standard 3.MD.7 Relate area to the operations of multiplication and addition b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole number products as rectangular areas in mathematical reasoning.