Grade 3 Math	
Louisiana Student Standards	**Louisiana Connectors (LC)**
3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as* 5 × 7.	**LC.3.OA.A.** Describe a context in which a total number of objects can be expressed as product of two one-digit numbers.
3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as* 56 ÷ 8.	**LC.3.OA.A.2** Describe a context in which a number of shares or a number of groups can be expressed as a division problem.
3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	**LC.3.OA.A.3a** Use objects to model multiplication and division situations involving up to 5 groups with up to 5 objects in each group and interpret the results. **LC.3.OA.A.3b** Use objects to model multiplication and division situations involving up to 10 groups with up to 5 objects in each group and interpret the results.
3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations* $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$.	**LC.3.OA.A.4a** Find total number inside an array with neither number in the columns or rows larger than 10. **LC.3.OA.A.4b** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 10.

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3.OA.B.5 Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*	**LC.3.OA.B.5** Apply properties of operations as strategies to multiply and divide.
3.OA.B.6 Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	**LC.3.OA.B.6a** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 5. **LC.3.OA.B.6b** Determine the number of groups given the total number of objects and the number of objects in each group where the number in each group and the number of groups is not greater than 5.
3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	**LC.3.OA.C.7a** Find the total number of objects when given the number of identical groups and the number of objects in each group, neither number larger than 5. **LC.3.OA.C.7b** Find the total number inside an array with neither number in the columns or rows larger than 5. **LC.3.OA.C.7c** Solve multiplication problems with neither number greater than 5.
3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**LC.3.OA.D.8a** Use rounding to solve word problems. **LC.3.OA.D.8b** Solve or solve and check one or two step word problems requiring addition, subtraction or multiplication with answers up to 100.

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3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*	**LC.3.OA.D.9a** Describe the rule for a numerical pattern (e.g., increase by 2, 5 or 10). **LC.3.OA.D.9b** Select or name the three next terms in a numerical pattern where numbers increase by 2, 5 or 10. **LC.3.OA.D.9c** Identify multiplication patterns in a real word setting.
3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	**LC.3.NBT.A.1** Use place value to round to the nearest 10 or 100.
3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**LC.3.NBT.A.2a** Use the relationships between addition and subtraction to solve problems. **LC.3.NBT.A.2b** Solve multi-digit addition and subtraction problems up to 100. **LC.3.NBT.A.2c** Solve multi-digit addition and subtraction problems up to 1000.
3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.	**LC.3.NBT.A.3** Multiply a multiple of 10 in the range of 10-90 by a one digit whole number.

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3.NF.A.1 Understand a fraction 1/*b*, with denominators 2, 3, 4, 6, and 8, as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.	**LC.3.NF.A.1a** Identify the number of highlighted parts (numerator) of a given representation (rectangles and circles). **LC.3.NF.A.1b** Identify the total number of parts (denominator) of a given representation (rectangles and circles). **LC.3.NF.A.1c** Identify the fraction that matches the representation (rectangles and circles; halves, fourths, thirds, eighths). **LC.3.NF.A.1d** Identify that a part of a rectangle can be represented as a fraction that has a value between 0 and 1. **LC.3.NF.A.1e** Select a model of a given fraction (halves, thirds, fourths, sixths, eighths). **LC.3.NF.A.1f** Using a representation, decompose a fraction into multiple copies of a unit fraction (e.g., ¾ = ¼ + ¼ + ¼).
3.NF.A.2 Understand a fraction with denominators 2, 3, 4, 6, and 8 as a number on a number line diagram. a. Represent a fraction 1/ b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	**LC.3.NF.A.2a** Locate given common unit fractions (i.e., $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$) on a number line or ruler. **LC.3.NF.A.2b** Locate fractions on a number line. **LC.3.NF.A.2c** Order fractions on a number line.

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3.NF.A.3 Explain equivalence of fractions with denominators 2, 3, 4, 6, and 8 in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: 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.* 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, e.g., by using a visual fraction model.	**LC.3.NF.A.3a** Use =, <, or > to compare two fractions with the same numerator or denominator. **LC.3.NF.A.3b** Express whole numbers as fractions. **LC.3.NF.A.3c** Determine equivalent fractions.
3.MD.A.1 Understand time to the nearest minute. a. Tell and write time to the nearest minute and measure time intervals in minutes, within 60 minutes, on an analog and digital clock. b. Calculate elapsed time greater than 60 minutes to the nearest quarter and half hour on a number line diagram. c. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	**LC.3.MD.A.1a** Solve word problems involving the addition and subtraction of time intervals of whole hours or within an hour (whole hours: 5:00 to 8:00, within hours: 7:15 to 7:45). **LC.3.MD.A.1b** Determine the equivalence between number of minutes and the fraction of the hour (e.g., 30 minutes = ½ hour). **LC.3.MD.A.1c** Determine the equivalence between the number of minutes and the number of hours (e.g., 60 minutes = 1 hour).

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Louisiana Student Standards	**Louisiana Connectors (LC)**
3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	**LC.3.MD.A.2a** Add to solve one-step word problems. **LC.3.MD.A.2b** Estimate liquid volume. **LC.3.MD.A.2c** Select appropriate units for measurement(liquid volume, mass). **LC.3.MD.A.2d** Select appropriate tools for measurement(liquid volume, mass). **LC.3.MD.A.2e** Determine whether a situation calls for a precise measurement or an estimation.
3.MD.B.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 5 pets.*	**LC.3.MD.B.3a** Collect data, organize into picture or bar graph. **LC.3.MD.B.3b** Select the appropriate statement that describes the data representations based on a givens scaled picture or bar graph.
3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	**LC.3.MD.B.4a** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. **LC.3.MD.B.4b** Measure to solve problems using number lines and ruler to 1 inch, ½ inch, or ¼ of an inch. **LC.3.MD.B.4c** Organize measurement data into a line plot.
3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.	**LC.3.MD.C.5a** Select a square from pictures as the appropriate unit for measuring area. **LC.3.MD.C.5b** Select a picture which correctly shows how to place squares to measure the area of a rectangle.
3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	**LC.3.MD.C.6** Measure area of rectangles by counting squares.

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3.MD.C.7 Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. 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. ~~c.~~ Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	**LC.3.MD.C.7a** Use tiling and addition to determine area. **LC.3.MD.C.7b** Multiply side lengths to find the area of a rectangle with whole number side lengths to solve problems. **LC.3.MD.C.7c** Use tiling and multiplication to determine area. **LC.3.MD.C.7d** Apply the distributive property to solve problems with models.
3.MD.D.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.	**LC.3.MD.D.8a** Identify a figure as getting larger or smaller when the dimensions of the figure change. **LC.3.MD.D.8b** Use addition to find the perimeter of a rectangle. **LC.3.MD.D.8c** Solve real world problems involving perimeter.
3.MD.E.9 Solve word problems involving pennies, nickels, dimes, quarters, and bills greater than one dollar, using the dollar and cent symbols appropriately.	**LC.3.MD.E.9** Solve word problems using bills greater than one dollar, quarters, dimes, nickels, or pennies.

Grade 3 Math	
Louisiana Student Standards	**Louisiana Connectors (LC)**
3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	**LC.3.G.A.1** Identify shared attributes of shapes.
3.G.A.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 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.*	**LC.3.G.A.2** Partition rectangles into equal parts with equal area.