Common Core State Standards & Long-Term Learning Targets
Math, Grade 3

Grade level	3
Discipline(s)	CCSS - Math
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"Fluency" is defined as accuracy, efficiency, and flexibility. (Russell, S. J. (2000). Developing computational fluency with whole numbers in the elementary grades. *The New England Math Journal, 32*(2), 40-54.)

CCS Standards: Operations and Algebraic Thinking	Long-Term Target(s)
3.OA.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.*	I can use multiplication to solve problems. I can represent the context of a multiplication problem using drawings and equations.
3.OA.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.*	I can use division to solve problems. I can represent the context of a division problem using drawings and equations.
3.OA.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. (See glossary, Table 2)	I can use multiplication and division (within 100) to solve word problems. I can represent the context of a multiplication and division problem using drawings and equations. I can fluently use the models of multiplication.
3.OA.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 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*	I can find an unknown number in a multiplication or division equation.
3.OA.5. Apply properties of operations as strategies to multiply and divide.[2] (Students need not use formal terms for these properties.) *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.)*	I can analyze the relationship between the four basic operations. I can follow the rules of multiplication and division. I can use the properties of operations as strategies to help me multiply and divide.

3.OA.6. Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	I can explain the relationship between multiplication and division.
3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	I can fluently multiply and divide within 100. I can say from memory every multiplication fact 0-10. I can use my fluency with the multiplication facts 0-10 to help me divide.
3.OA.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.[3] (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order.)	I can use all four operations to solve two-step word problems. I can represent the context of a word problem with pictures, models, equations and/or variables. I can check the reasonableness of my answer using a variety of strategies.
3.OA.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.*	I can identify arithmetic patterns. I can explain arithmetic patterns using the properties of operations.
Number and Operations in Base Ten	**Long-Term Target(s)**
3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.	I can explain what each digit of a three-digit number represents. I can name the place values of numbers (up to 100). I can round whole numbers to the nearest 10 or 100.
3.NBT.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.	I can explain the relationship between addition and subtraction. I can fluently add and subtract within 1000 using a variety of strategies.
3.NBT.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.	I can use the properties of operations and place value as strategies to help me multiply fluently (one-digit whole numbers by multiples of 10 in the range of 10-90).
Number and Operations – Fractions Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8	**Long-Term Target(s)**
3.NF.1. Understand a fraction $1/b$ 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 $1/b$.	I can explain what fractions represent. I can recognize fractional parts of a whole.

3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. – 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. – 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. [1] Excludes compound units such as cm3 and finding the geometric volume of a container. [2] Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).	I can explain what fractions represent using a number line. I can plot fractions on a number line.
3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. – Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. – 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. – 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.* – 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.	I can explain the concept of equivalence. I can reason about fraction size and equivalence using models. I can create equivalent fractions. I can compare two fractions using appropriate mathematical symbols (<, >, =).
Measurement and Data	**Long-Term Target(s)**
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, e.g., by representing the problem on a number	I can tell time to the nearest minute. I can use addition and subtraction to solve word problems involving time.

line diagram.	
3.MD.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.	I can measure liquid volumes and masses of objects using standard units (grams, kilograms, and liters). I can estimate liquid volumes and masses of objects using standard units (grams, kilograms, and liters). I can use models to represent the context of a measurement problem. I can solve problems involving liquid volumes and masses of objects.
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 5 pets.*	I can draw a scaled graph (picture and bar) to represent a data set with several categories. I can use a scaled bar graph to solve problems.
3.MD.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.	I can use a ruler to measure lengths accurately to fourths of an inch. I can draw a line plot to represent a data set (using a horizontal scale of appropriate units).
3.MD.5. Recognize area as an attribute of plane figures and understand concepts of area measurement. – 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. – 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.	I can explain the concept of area measurement. I can describe the area of an object using appropriate units.
3.MD.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	I can find the area of objects using a variety of methods.
3.MD.7. Relate area to the operations of multiplication and addition. – 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. – 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. – Use tiling to show in a concrete case that the area of	I can analyze the relationship between the concepts of area, multiplication, and addition. I can solve word problems involving area of rectangular figures. I can use models to represent the context of an area problem.

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. – Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	
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.	I can solve problems involving perimeter of polygons. I can compare the perimeter and area of polygons.
Geometry	**Long-Term Target(s)**
3.G.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.	I can identify basic geometric shapes by name and attributes. I can compare geometric shapes using their attributes. I can recognize common examples and non-examples of quadrilaterals.
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 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	I can divide shapes into equal parts. I can express the parts of a shape as fractions.