Grade 3

Concepts and Procedures

Operations and Algebraic Thinking

RANGE PLD Target A: Represent and solve problems involving multiplication and division.	Level 1 students should be able to represent multiplication and division problems within 100 involving equal groups of objects using only single-digit numbers.	Level 2 students should be able to use multiplication and division within 100 to solve one-step problems using arrays to interpret the meaning of multiplication of two single-digit numbers.	Level 3 students should be able to select the appropriate operation (multiplication or division) within the 10-by-10 multiplication table to solve problems involving measurement quantities and determine the unknown number in multiplication and division equations relating three whole numbers. They should be able to interpret whole number quotients of whole numbers.	Level 4 students should be able to extend previous understanding of multiplication and division to include products and quotients within 100 using a two-digit factor.
RANGE PLD Target B: Understand properties of multiplication and the relationship between multiplication and division.	No Descriptor	Level 2 students should be able to apply the commutative property of multiplication to mathematical problems with one-digit factors.	Level 3 students should be able to apply the commutative and associative properties of multiplication and the distributive property within the 10-by-10 multiplication table. They should be able to understand the relationship between multiplication and division when solving an unknown factor problem.	Level 4 students should be able to extend previous understanding of the commutative and associative properties of multiplication and the distributive property to include multiplication within 100 using a two-digit factor.
RANGE PLD Target C: Multiply and divide within 100.	No Descriptor	Level 2 students should be able to multiply one-digit numbers by 1, 2, and 5.	Level 3 students should be able to recall from memory all products within the 10-by-10 multiplication table.	Level 4 students should be able to fluently multiply and divide within 100, including products and quotients involving a two-digit factor.
RANGE PLD Target D: Solve problems involving the four operations and identify and explain patterns in arithmetic.	Level 1 students should be able to represent and solve one-step problems using addition and subtraction within 100.	Level 2 students should be able to solve two-step mathematical problems using all four operations; assess the reasonableness of an answer; and identify patterns in the addition table.	Level 3 students should be able to solve two-step word problems using all four operations (including multiplication and division within the 10-by-10 multiplication table). They should be able to represent the problems using equations with a	No Descriptor

			letter or symbol to represent an unknown quantity. They should also be able to explain patterns in the addition and multiplication tables.	

Number and Operations – Base Ten

RANGE PLD Target E: Use place value understanding and properties of arithmetic to perform multidigit arithmetic.	Level 1 students should be able to add and subtract within 100 using strategies and algorithms based on place value understanding. They should be able to round two-digit whole numbers to the nearest 10.	Level 2 students should be able to add and subtract within 1,000 using strategies and algorithms based on the relationship between addition and subtraction. They should be able to round whole numbers to the nearest 100 and multiply one-digit whole numbers by multiples of 10 in the range of 10–90.	Level 3 students should be able to fluently add and subtract within 1,000 using strategies or algorithms based on place value understanding, properties of operations, and/or the relationship between addition and subtraction.	No Descriptor

Number and Operations – Fractions

RANGE PLD Target F: Develop understanding of fractions as numbers.	Level 1 students should be able to identify a fraction as a number and identify a fraction on a number line when the increments are equal to the denominator.	Level 2 students should be able to understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; recognize simple equivalent fractions; express whole numbers as fractions; and recognize that comparisons are valid only when the two fractions refer to the same whole.	Level 3 students should be able to understand a fraction a/b as the quantity formed by a parts of size $1/b$; represent a fraction on a number line with partitioning; generate simple equivalent fractions and recognize when they are equal to whole numbers; and compare two fractions (using symbols <, >, or =) with the same numerator or the same denominator by reasoning about their size or their position on the number line.	Level 4 students should be able to explain why two fractions are equivalent and approximate the location of a fraction on a number line with no partitioning.

Measurement and Data

RANGE PLD Target G: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	Level 1 students should be able to tell and write time to the nearest five-minute interval and solve addition and subtraction problems involving 15-minute time intervals.	Level 2 students should be able to tell and write time to the nearest minute and solve one-step addition problems involving five-minute time intervals. They should be able to use visual models to identify measurements of liquid volumes using liters and masses of objects using grams and kilograms and add or subtract to solve one-step word problems involving masses or liquid volumes that are given in the same units.	Level 3 students should be able to solve addition and subtraction problems involving time intervals in minutes. They should be able to solve one-step problems using all four operations involving masses or liquid volumes that are given in the same units.	Level 4 students should be able to solve addition or subtraction problems involving all time intervals from hours to minutes.
RANGE PLD Target H: Represent and interpret data.	Level 1 students should be able to draw picture graphs and bar graphs to represent data sets with up to four categories; generate measurement data by measuring length using rulers marked with one-inch intervals; and create line plots to represent data sets where the horizontal scale is marked in whole unit intervals.	Level 2 students should be able to solve one-step "how many more?" and "how many less?" problems using information presented in picture and bar graphs; generate measurement data by measuring lengths using rulers marked with half-inch intervals; and represent measurement data on line plots with a horizontal scale marked in half-unit intervals.	Level 3 students should be able to draw scaled picture graphs and scaled bar graphs to represent data; solve two-step "how many more?" and "how many less?" problems using information presented in scaled bar graphs; generate measurement data by measuring length using rulers marked with quarter-inch intervals; and create line plots with a horizontal scale marked in quarter-unit intervals.	No Descriptor
RANGE PLD Target I: Geometric measurement: understand the concepts of area and relate area to multiplication and to addition.	Level 1 students should be able to recognize area as an attribute of plane figures and recognize that a square with side lengths of one unit is called a unit square.	Level 2 students should be able to find the area of rectilinear figures by counting unit squares.	Level 3 students should be able to find the area of rectilinear figures by multiplying side lengths and by decomposing rectilinear figures into non-overlapping rectangles and adding them together.	Level 4 students should be able to find the area of rectilinear figures in a word problem.

RANGE PLD Target J: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	Level 1 students should be able to find the perimeter of polygons when given all side lengths in problems.	Level 2 students should be able to solve for an unknown side length of polygons when given the perimeter in problems.	Level 3 students should be able to identify rectangles with the same perimeter and different areas or with the same area and different perimeters.	Level 4 students should be able to solve real-world problems involving rectangles with the same perimeter and different areas or with the same area and different perimeters using models.

Geometry

RANGE PLD Target K: Reason with shapes and their attributes.	Level 1 students should be able to recognize rhombuses, rectangles, and squares.	Level 2 students should be able to reason with the attributes of shapes (e.g., rhombuses, rectangles, and others) to recognize rhombuses, rectangles, and squares as examples of quadrilaterals and reason with shapes to partition them into parts with equal areas.	Level 3 students should be able to create examples or nonexamples of shapes (e.g., rhombuses, rectangles, and others) based on their attributes; partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole; and understand that shapes in different categories may share attributes and that the shared attributes can define a larger category.	No Descriptor