

Grade 3
 Concepts and Procedures
 Operations and Algebraic Thinking

<p>RANGE ALD Target A: Represent and solve problems involving multiplication and division.</p>	<p>Level 1 students should be able to represent multiplication and division problems within 100 involving equal groups of objects.</p>	<p>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 whole numbers, and to determine the unknown number in a multiplication equation relating three whole numbers.</p>	<p>Level 3 students should be able to select the appropriate operation (multiplication or division) within 100 to solve one-step problems involving measurement quantities of single-digit whole numbers 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.</p>	<p>Level 4 students should be able to select and apply the appropriate operation (multiplication or division) within 100 to solve one-step problems involving measurement quantities.</p>
<p>RANGE ALD Target B: Understand properties of multiplication and the relationship between multiplication and division.</p>	<p>No Descriptor</p>	<p>Level 2 students should be able to apply the commutative property of multiplication to mathematical problems with one-digit factors.</p>	<p>Level 3 students should be able to apply the commutative and associative properties of multiplication and the distributive property within the range of 1–100. They should be able to understand the relationship between multiplication and division when solving an unknown factor problem.</p>	<p>Level 4 students should be able to demonstrate understanding of the commutative and associative properties of multiplication and the relationship between multiplication and division.</p>
<p>RANGE ALD Target C: Multiply and divide within 100.</p>	<p>Level 1 students should be able to multiply a one-digit number by 1, 2, and 5.</p>	<p>Level 2 students should be able to recall from memory all products of two one-digit numbers.</p>	<p>Level 3 students should be able to apply relevant strategies to fluently multiply and divide within 100 and recognize division as an unknown factor problem.</p>	<p>Level 4 students should be able to use relevant procedures to multiply or divide in a wide range of contexts.</p>
<p>RANGE ALD Target D: Solve problems involving the four operations and identify and explain patterns in arithmetic.</p>	<p>Level 1 students should be able to represent and solve one-step problems using addition and subtraction within 100 and multiplication and division within the 10-by-10 multiplication table.</p>	<p>Level 2 students should be able to solve two-step problems using addition and subtraction with numbers larger than 100 and solutions within 1,000; assess the reasonableness of an answer; and</p>	<p>Level 3 students should be able to create and solve two-step problems using multiplication and division within the 10-by-10 multiplication table. They should be able to represent the problem using</p>	<p>Level 4 students should be able to use the properties of operations to explain arithmetic patterns (including patterns in the addition and multiplication tables).</p>

		identify patterns in the addition table.	equations with a letter or symbol to represent an unknown quantity. They should be able to explain patterns in the multiplication table.	
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Number and Operations – Base Ten

RANGE ALD 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.	Level 4 students should be able to use multiple strategies to fluently add and subtract within 1,000.
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Number and Operations – Fractions

RANGE ALD 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 with the same numerator or the same denominator by reasoning about their size.	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.
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Measurement and Data

<p>RANGE ALD Target G: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</p>	<p>Level 1 students should be able to tell and write time to the nearest five-minute interval and solve addition and subtraction problems involving fifteen-minute time intervals.</p>	<p>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 measure 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.</p>	<p>Level 3 students should be able to solve one-step addition and subtraction problems involving time intervals in minutes. They should be able to multiply or divide to solve one-step problems involving masses or volumes that are given in the same units. They should be able to select an appropriate unit of English, metric, or nonstandard measurement to estimate length, time, weight, or temperature.</p>	<p>Level 4 students should be able to solve one-step addition or subtraction problems involving all time intervals from hours to minutes.</p>
<p>RANGE ALD Target H: Represent and interpret data.</p>	<p>Level 1 students should be able to draw a picture graph and a bar graph to represent a data set with up to four categories; generate measurement data by measuring length using rulers marked with one-inch intervals; and create a line plot to represent a data set where the horizontal scale is marked in whole unit intervals.</p>	<p>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 a line plot with a horizontal scale marked in half-unit intervals.</p>	<p>Level 3 students should be able to draw a scaled picture graph and a scaled bar graph to represent a data; solve two-step "how many more?" and "how many less?" problems using information presented in a scaled bar graph; generate measurement data by measuring length using rulers marked with quarter-inch intervals; and create a line plot with a horizontal scale marked in quarter-unit intervals.</p>	<p>Level 4 students should be able to compare and contrast data using minimum and maximum from two different data displays.</p>
<p>RANGE ALD Target I: Geometric measurement: understand the concepts of area and relate area to multiplication and to addition.</p>	<p>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.</p>	<p>Level 2 students should be able to find the area of a rectilinear figure by counting unit squares.</p>	<p>Level 3 students should be able to find the area of a rectilinear figure by multiplying side lengths and by decomposing a rectilinear figure into nonoverlapping rectangles and adding them together.</p>	<p>Level 4 students should be able to find the area of a rectilinear figure in a word problem.</p>

<p>RANGE ALD Target J: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</p>	<p>Level 1 students should be able to find the perimeter of polygons when given all side lengths in problems.</p>	<p>Level 2 students should be able to solve for an unknown side length of a polygon when given the perimeter in problems.</p>	<p>Level 3 students should be able to identify rectangles with the same perimeter and different areas or with the same area and different perimeters.</p>	<p>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.</p>
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Geometry

<p>RANGE ALD Target K: Reason with shapes and their attributes.</p>	<p>Level 1 students should be able to recognize rhombuses, rectangles, and squares-</p>	<p>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.</p>	<p>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.</p>	<p>No Descriptor</p>
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