

Third Grade Math Skills

- Round two- and three-digit whole numbers to the nearest ten or hundred, respectively.
- Add two- and three-digit whole numbers (limit sums from 100 through 1,000).
- Subtract two- and three-digit numbers from three-digit whole numbers.
- Order a set of whole numbers from least to greatest or greatest to least (up through 9,999; limit sets to no more than four numbers).
- Complete a scaled pictograph and a scaled bar graph to represent a data set with several categories (scales limited to 1, 2, 5, and 10).
- Solve one- and two-step problems using information to interpret data presented in scaled pictographs and scaled bar graphs (scales limited to 1, 2, 5, and 10).
Example 1: (One step) "Which category is the largest?"
Example 2: (Two step) "How many more are in category A than category B?"
- Translate information from one type of display to another. Limit to pictographs, tally charts, bar graphs, and tables.
Example: Convert a tally chart to a bar graph.
- Interpret and/or describe products of whole numbers (up to and including 10×10).
Example 1: Interpret 35 as the total number of objects in 5 groups, each containing 7 objects.
Example 2: Describe a context in which a total number of objects can be expressed as 5×7 .
- Multiply one-digit whole numbers by two-digit multiples of 10 (from 10 through 90).
- Apply the commutative property of multiplication (not identification or definition of the property).
- Apply the associative property of multiplication (not identification or definition of the property).
- Compare total values of combination of coins (penny, nickel, dime, quarter) and/or dollar bills to less than \$5.00.
- Make change for an amount up to \$5.00 with no more than \$2.00 change given (penny, nickel, dime, quarter, and dollar).
- Round amounts of money to the nearest dollar.
- Interpret and/or model division as a multiplication equation with an unknown factor.
Example: Find $32/8$ by solving $8 \times ? = 32$.
- Interpret and/or describe whole-number quotients of whole numbers (limit dividends through 50 and limit divisors and quotients through 10).
Example 1: Interpret $48/8$ as the number of objects in each share when 48 objects are partitioned equally into 8 shares, or as number of shares when 48 objects are partitioned into equal shares of 8 objects each.
Example 2: Describe a context in which a number of shares or a number of groups can be expressed as $48/8$.

- Use multiplication (up to and including 10×10) and/or division (limit dividends through 50, and limit divisors and quotients through 10) to solve word problems in situation involving equal groups, arrays, and/or measurement quantities.
- Determine the unknown whole number in a multiplication (up to and including 10×10) or division (limit dividends through 50, and limit divisors and quotients through 10) equation relating three whole numbers.
Example: Determine the unknown number that makes an equation true.
- Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations.
Example 1: Observe that 4 times a number is always even.
Example 2: Explain why 3 times a number can be composed into three equal addends.
- Identify the missing symbol (+, -, x, /, <, >, =) that makes a number sentence true.
- Create or match a story to a given combination of symbols (+, -, x, /, <, >, =) and numbers.
- Assess the reasonableness of answers. Limit problems posed to whole numbers and having whole-number answers.
- Solve two-step word problems using the four operations (expressions are not explicitly stated). Limit to problems with whole numbers and having whole-number answers.
- Represent two-step word problems using equations with a symbol standing for unknown quantity. Limit to problems with whole numbers and having whole-number answers.
- Demonstrate that when a whole or set is partitioned into 7 equal parts, the fraction $1/7$ represents 1 part of the whole and/or the fraction $x/7$ represents x equal parts of the whole (limit the denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; no simplification necessary).
- Represent fractions of a number (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; no simplification necessary).
- Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator).
Example 1: $\frac{1}{2} = \frac{2}{4}$
Example 2: $\frac{4}{6} = \frac{2}{3}$
- Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers (limit the denominators to 1, 2, 3, 4, 6, and 8).
Example 1: Express 3 in the form $3 = \frac{3}{1}$
Example 2: Recognize that $\frac{6}{1} = 6$
- Compare two fractions with the same denominator (limit the denominators to 1, 2, 3, 4, 6, and 8), using the symbols >, =, or <, and/or justify the conclusions.
- Use a ruler to measure lengths to the nearest quarter inch or centimeter.
- Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problems.

- Measure areas by counting unit squares (square cm, square m, square in., square ft., and non-standard square units).
- 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.
- Tell, show, and/or write time (analog) to the nearest minute.
- Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less).
- Measure and estimate liquid volumes and masses of objects using standard units (cups [c], pints [p], quarts [q], gallons [gal] ounces [oz], and pounds [lb]) and metric units (liters [l], grams [g], kilograms [kg]), and temperature using standard [Fahrenheit] and metric [Celsius] scales.
- Add, subtract, multiply, and divide to solve one-step word problems involving masses or liquid volumes that are given in the same units.
- Use a ruler to measure lengths to the nearest quarter inch or centimeter.
- Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units – whole numbers, halves, or quarters.
- Explain that shapes in different categories may share attributes, and that the shared attributes define a larger category.

Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides.

Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures.

- Recognize rhombi, rectangles, and squares as examples of quadrilaterals, and/or draw examples of quadrilaterals that do not belong to any of these subcategories.
- Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.

Example 1: Partition a shape into 4 parts with equal areas.

Example 2: Describe the area of each of 8 equal parts as $\frac{1}{8}$ of the area of the shape.

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