

Essential Concepts for Mathematics – 2nd Grade

Number and Operations

- Represent whole numbers up to 1,000 in groups of hundreds, tens, and one using base ten models
- Write the numeral representing a set in standard and expanded form
- Identify the place and value of a given digit in a three-digit numeral
- Represent the composition and decomposition of numbers in a variety of ways
- Compare and order numbers using the terms and symbols for greater than, less than, or equal to
- Identify and describe even and odd whole numbers
- Divide geometric shapes into two, three or four equal parts
- Divide sets of objects into two, three, or four parts of equal number of objects
- Identify parts and sets as halves, thirds, or fourths
- Represent the unit fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ with objects, pictures, words, and symbols
- Demonstrate quick recall of addition and subtraction facts up to $10+10$
- Model addition and subtraction of two- and three-digit whole numbers in a variety of ways
- Write a story problem that relates to a given addition or subtraction equation
- Write a number sentence to solve a story problem that is related to the environment
- Demonstrate fluency with two- and three-digit addition and subtraction problems using a variety of strategies
- Use the properties of addition to model and solve problems
- Represent multiplication with equal groups using concrete objects and skip counting by twos, fives, and tens
- Represent division as fair shares using concrete objects or pictures

Algebra

- Determine the next term in linear patterns
- Construct models and skip count by twos, threes, fives, tens, and relate to repeated addition
- Recognize that “ \neq ” indicates a relationship in which the two sides of the inequality are expressions of different numbers
- Recognize that symbols such as X , Δ , or \diamond in an addition or subtraction equation represent a number that will make the statement true
- Use the commutative and associative properties of addition to simplify calculations

Geometry

- Describe and classify plane and solid figures according to the number of sides and angles, or faces, edges, and vertices
- Compose and decompose shapes and figures and describe the part-whole relationships, similarities and differences

Measurement

- Identify and use measurement units to measure, to the nearest unit, length, weight in pounds, and capacity in cups
- Estimate and measure length by repeating a nonstandard or standard unit of measure
- Use different units to measure the length of the same object and recognize that the smaller the unit, the more units needed to cover a given length
- Determine the value of a set of up to five coins that total \$1.00 or less
- Tell time to the quarter-hour and sequence a series of daily events by time

Data Analysis

- Collect and record data using a variety of strategies
- Organize and represent data in more than one way
- Organize, display, and label information, including keys, using pictographs, tallies, bar graphs, and organized tables
- Describe data represented on charts and graphs and answer simple questions related to the data