

Math Standards

Second Grade

Course Abilities

1. Develop abilities in math.

- A. Think clearly and solve problems in math (classify, decide, estimate, solve, compare).
- B. Talk and write clearly about math (present, persuade, collaborate, explain, recommend).
- C. Make careful plans and use them (brainstorm, envision, research, plan, organize, persist).
- D. Use the quality process (plan, draft, analyze, and revise when producing products).

2. Be able to apply math knowledge and skills to a variety of purposes.

- A. Be able to estimate and solve one-step daily life problems (estimate and explain estimation strategies, use cues to select operation, write problem sentence, solve and label solution).
- B. Be able to conduct research (locate, observe/gather, present).
- C. Be able to use manipulatives, graphs, charts, clocks (to the quarter-hour and in five-minute intervals), calendars (length of a day, week, month, year), and shapes (cubes, spheres, cylinders, cones, pyramids, rectangular prisms) to solve problems and money (identify coins and bills).
- D. Possess technical skills:
 - listen/read/write/present: instructions, chart, letter of request, proposal, report, summary
 - technology: word processing, Internet, AV production, calculators

Course Content

1. Be able to read, write, and compare whole numbers up to 1000 with an emphasis on place value and equality.

- A. Be able to read, write, and represent whole numbers up to 1000 using a variety of methods.
- B. Be able to use place value to describe whole numbers between 10 and 1000 in terms of hundreds, tens, and ones. Know that 100 is 10 tens, and 1000 is 10 hundreds.
- C. Be able to know $<$, $>$, $=$, and be able to use them appropriately when comparing numbers up to 1000.
- D. Be able to compare and order whole numbers up to 1000.
- E. Be able to round numbers up to the nearest 10 and 100 and round numbers down to the nearest 10 and 100.
- F. Be able to estimate sums and differences up to 100.
- G. Be able to find 10 more or 10 less than a given number and 100 more or 100 less than a given number.

2. Be able to demonstrate mastery of addition and subtraction facts and processes up to 18.

- A. Be able to know fact families and "double" facts, missing addends.
- B. Be able to use strategies to generate addition and subtraction facts.
- C. Be able to introduce the concepts of commutative and associative properties as well as the identity property of addition (0).

3. Be able to add and subtract 2-digit numbers with and without regrouping.

- A. Be able to solve two-digit addition and subtraction problems.
- B. Be able to start process in the ones column.
- C. Be able to correctly line up addition and subtraction problems with two-digit numbers.
- D. Be able to use manipulatives to understand regrouping.
- E. Be able to regroup numbers greater than ten in the next column in addition.
- F. Be able to regroup in subtraction if the top digit is smaller than the digit below.

4. Be able to use addition and subtraction to create and obtain information from tables, bar graphs, pictographs, and tally charts.

5. Be able to recognize, create, describe, and use patterns and rules to solve real-world and mathematical problems.

- A. Be able to identify, create, and describe simple number patterns involving repeated addition or subtraction, skip counting, and arrays of objects such as counters or tiles. Use patterns to solve problems in various contexts.

6. Be able to use number sentences involving addition, subtraction, and unknowns to represent and solve real-world and mathematical problems; create real-world situations corresponding to number sentences.

- A. Be able to understand how to interpret number sentences involving addition, subtraction, and unknowns represented by letters. Use objects and number lines and create real-world situations to represent number sentences.
- B. Be able to use number sentences involving addition, subtraction and unknowns to represent given problem situations. Use number sense and properties of addition and subtraction to find values for the unknowns that make the number sentences true.

7. Be able to identify, describe, and compare basic shapes according to their geometric attributes.

- A. Be able to describe, compare, and classify two and three dimensional figures according to number and shape of faces, and the number of sides, edges, and vertices (corners).
- B. Be able to identify and name basic two and three dimensional shapes such as squares, circles, triangles, rectangles, trapezoids, hexagons, cubes, rectangular prisms, cones, cylinders, pyramids, and spheres.
Example: Use a drawing program to show several ways that a rectangle can be decomposed into exactly three triangles.

8. Be able to use standard linear (inch, foot, yard, centimeter, meter) and liquid (cup, pint, quart, gallon, liter) measures.

- A. Be able to properly place a ruler when measuring.
- B. Be able to recognize an inch and centimeter.
- C. Be able to measure to the nearest $\frac{1}{2}$ inch up to 12 inches.
- D. Be able to measure to the nearest centimeter up to 30 centimeters.
- E. Be able to select the appropriate unit of measure.

9. Be able to use time and money in real-world and mathematical situations.

- A. Be able to count money using coins and bills.
- B. Be able to identify the value of coins and bills.
- C. Be able to find the value of a group of coins and determine combinations of coins that equal a given amount.
- D. Be able to tell time to the quarter hour and distinguish between a.m. and p.m.
- E. Be able to tell time to 5 minute intervals

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