

Second Grade Mathematics

Topics and Vocabulary - by unit

Unit One – Numbers and Routines

1. Complete number sequences, identify and use number patterns to solve problems. (developing)
2. Find values of coin and bill combinations. (developing).
3. Know easy addition facts; sums to 10. (developing).
4. Identify place value for ones, tens, and hundreds. (developing)
5. Find equivalent names for numbers. (developing)
6. Compare numbers, write the symbols. (developing)
7. Count by 2s, 5s, and 10s. (secure)
8. Make tallies and give the total. (secure)
9. Explorations: Temperatures, base 10 structures, dominoes

Vocabulary - math message, number line, tool kit, lost and found box, pattern block template, calendar, ordinal numbers, tally marks, digit, math boxes, number scroll, even number, odd number, equivalent names, equal to, less than, greater than.

Unit Two – Addition and Subtraction Facts

1. Know "harder" subtraction facts. (developing)
2. Know "harder" addition facts. (developing/secure)
3. Know "easier" subtraction facts. (developing/secure)
4. Complete What's My Rule? Tables. (developing/secure)
5. Solve simple subtraction number stories. (developing/secure)
6. Know "easier" addition facts. (secure)
7. Construct fact families for addition and subtraction. (secure)
8. Complete simple Frames and Arrows diagrams. (secure)
9. Solve simple addition number stories. (secure)
10. Find equivalent names for numbers. (secure)
11. Explorations: Exploring weights, scales and equal groups,

Vocabulary - addition number story, label, unit box, number model, addition fact, 0 facts, 1 facts, 0 shortcut, 1 shortcut, fact power, turn-around facts, 9 facts, 9 shortcut, double plus 1 facts, doubles plus 2 facts, subtraction number story, fact family, fact triangle, name collection box, frames and arrows diagrams, frame, arrow, arrow rule, what's my rule, function machine, difference

Unit Three – Place Value, Money and Time

1. Solve frames and arrows problems having two rules. (developing)

2. Make change. (developing)
3. Know more difficult subtraction facts. (developing)
4. Tell time to 5-minute intervals (developing/secure)
5. Identify place value in 2-digit and 3-digit numbers. (secure)
6. Show P, N, D, Q for a given amount. (secure)
7. Know all addition facts. (secure)
8. Know easy subtraction facts. (secure)
9. Explorations: Exploring numbers, time and geoboards.

Vocabulary - base 10 blocks, cube, long, flat, base 10 system, nickel, penny, dime, quarter, \$1 bill, minute hand, hour hand, clock face, analog clock, digit clock, predict, middle number, bar graph

Unit Four – Addition and Subtraction

1. Devise and use strategies for finding sums of 2 digit numbers. (developing)
2. Devise and use strategies for finding differences of 2 digit numbers. (developing)
3. Estimate approximate costs and sums. (developing)
4. Read F on a thermometer. (developing)
5. Add and subtract multiples of 10. (secure)
6. Explorations: Exploring length, area, and attributes.

Vocabulary - change to more number story, change diagram, mental arithmetic, parts and total diagram, parts and total number story, degrees Fahrenheit, degrees Celsius, thermometer, degree marks, estimate, inch, centimeter, tiling, attribute blocks, ballpark estimate, algorithm.

Unit Five – 3D and 2D Shapes

1. Identify 3D shapes. (developing)
2. Identify symmetrical figures. (developing)
3. Find common attributes of shapes. (developing)
4. Identify parallel and nonparallel line segments (developing)
5. Draw line segments. (developing/secure)
6. Identify 2D shapes. (secure)
7. Explorations: Rules, directions, time attributes, triangles, sharing polygons, arrays and coins.

Vocabulary – trapezoid, rhombus, polygon, side, vertex, angle, triangle, quadrangle, pentagon, hexagon, octagon, point, straightedge, line segment, endpoint, parallel, square corner, square, rectangle, parallelogram, kite, cylinder, cone, sphere, curved surface, rectangular prism, cube, pyramid, flat surface, face, edge, vertex, base, apex, square pyramid, triangular pyramid, rectangular pyramid, pentagonal pyramid, hexagonal pyramid, line symmetry, line of symmetry, symmetrical

Unit Six – Whole Number Operations and Number Stories

1. Solve stories about multiples of equal groups (beginning)
2. Solve equal-grouping and equal sharing division problems (beginning)
3. Use the trade first method to solve 2 digit subtraction problems (developing)
4. Make ballpark estimates of exact answers. (developing)
5. Model multiplication problems with arrays. (developing)
6. Add three 2 digit numbers mentally. (developing)
7. Add and subtract with multiples of 10. (developing/secure)
8. Solve addition and subtraction number stories. (developing/secure)
9. Add three 1 digit numbers mentally. (secure)
10. Explorations: Arrays, symmetry and division

Vocabulary – comparison number story, difference, comparison diagram, data table, bar graph, trade variable, trade first, equal sharing division, equal grouping division, equal groups, multiplication, times, multiplied by, multiplication diagram, division, remainder

Unit Seven – Patterns and Rules

1. Find missing addends for any multiple of 10. (developing)
2. Find the median of a data set. (developing)
3. Add three 2-digit numbers mentally. (developing)
4. Measure to the nearest inch. (developing/secure)
5. Measure to the nearest centimeter. (developing/secure)
6. Know complements of 10. (secure)
7. Count by 2s, 5s, and 10s and describe the patterns. (secure)
8. Find missing addends for the next multiple of 10. (secure)
9. Solve number grid puzzles. (secure)
10. Plot data on a bar graph. (secure)
11. Explorations: Weights and scales, equal sharing, block patterns

Unit Eight - Fractions

Vocabulary - number grid puzzle, arrow path, arrow path puzzle, half, double, arm span, sort, median, middle value, line plot

1. Compare fractions. (beginning/developing)
2. Understand fractions as names for equal parts of a region or set. (developing)
3. Understand that the amount represented by a fraction depends on the size of the whole. (developing)
4. Shade a specified fractional part of a collection. (developing)
5. Give the fraction name for the shaded part of a collection. (developing)
6. Recognize equivalent fraction names. (developing)
7. Shade a specified fractional part of a region. (developing)
8. Give the fraction name for the shaded part of a region. (developing)
9. Explorations: Fractions, multiplication and division, and volume.

Vocabulary – one (the whole), fraction, denominator, numerator, cubic centimeter,

volume, equivalent, equivalent fractions

Unit Nine – Measurement

1. Identify equivalencies for metric measurements. (beginning)
2. Measure to the nearest $\frac{1}{2}$ inch. (developing)
3. Measure the nearest $\frac{1}{2}$ centimeter. (developing)
4. Use appropriate units for measurement and recognize sensible measurements. (developing)
5. Find area concretely. (developing)
6. Find perimeter concretely. (developing)
7. Identify equivalencies for inches feet and yards. (developing)
8. Use a ruler, tape measure, and meter/yardstick correctly. (secure)
9. Exploration: Capacity, area, and pattern-block walls.

Vocabulary - standard unit, yard, meter, inch, centimeter, foot, decimeter, millimeter, perimeter, mile, kilometer, linear measures, measures of weight, volume, capacity, area, square centimeter, square inch, surface, cup, pint, quart, gallon, liter, weigh, scale, weight, once, pound, gram, kilogram

Unit Ten – Decimals and Place Value

1. Use parentheses in number models. (beginning)
2. Solve money stories involving change. (developing)
3. Estimate totals for ballpark check of exact answers. (developing)
4. Know and express automatically the values of digits in 5 digit numbers. (developing)
5. Read and write money amounts in decimal notation. (secure)
6. Use equivalent coins to show money amounts in different ways. (secure)
7. Use a calculator to compute money amounts. (secure)
8. Know exchange values of U.S. coins. (secure)
9. Know and express automatically the values of digits in 2,3, and 4 digit numbers. (secure)
10. Explorations: Area, polygons, and geoboard fractions.

Vocabulary - decimal point, flat, long, cube, place value, big cube, ones, tens, hundreds, thousands, ten-thousands, parentheses, parenthesis

Unit Eleven – Whole Number Operations Revisited

1. Estimate and solve addition and subtraction number stories with dollars and cents. (developing)
2. Solve 1 digit multiplications stories; multiples of equal groups. (developing)
3. Solve simple division stories; equal sharing and equal grouping. (developing)

4. Multiply numbers with 2, 5, or 10 as a factor. (developing)
5. Construct multiplication/division fact families. (developing)
6. Make difference and ratio comparisons. (developing)
7. Multiply numbers with 0 or 1 as a factor. (secure)

Vocabulary - multiplication diagram, factor, product, per, division diagram, division, quotient, remainder, divided by, multiplication fact, fact power, square (for a number), fact family, precipitation, middle value, range

Unit Twelve – Year End Reviews and Extensions

1. Use alternate names for times. (beginning)
2. Know harder multiplication facts. (beginning)
3. Determine the mode of a data set. (beginning)
4. Determine the median, maximum, and range of a data set. (developing)
5. Construct multiplication/division fact families. (developing/secure)
6. Multiply numbers with 2, 5 and 10 as a factor. (developing/secure)
7. Tell time to 5 minute intervals. (secure)
8. Demonstrate calendar concepts and skills. (secure)
9. Compare quantities from a bar graph. (secure)

Vocabulary - communicate, timeline, decade, century, factor, product, turn around rule, median, range, mode

** The only GLCEs not represented in the second grade Everyday Mathematics are G.LO.02.07 (Find and name locations using simple coordinate systems such as maps and grids), D.RE.02.01 (Make pictographs using a scale representation), D.RE.02.02 (Read and interpret pictographs with scales, using scale factor of 2 and 3.), D.RE.02.03 (Solve problems using information in pictographs such as "each * represents 2 apples").