

## Course/Grade Level: Grade Two Math Curriculum

**Focus:** Students will apply strategies to solve two-digit addition and subtraction facts with and without regrouping, count coins including half dollar, memorize basic addition facts/corresponding subtraction facts with sums 10-20, utilize pattern strategies including telling time by 5 minute intervals, and investigate properties of plane figures and 3-D solids.

### **M.2.1 Students will utilize equivalent representations of whole numbers 0-1000.** Students will...

- M.2.1.1 know, explain, and represent whole numbers from 0-1,000 using concrete objects. e.g., base ten blocks, unifix cubes, variety of counters. (2.1.1.K1, 2.2.4.K1a-h, K2)
- M.2.1.2 generate and solve real-world problems with equivalent representations to estimate (with adjustments as needed), count, compare, and order 0 through 1,000. (2.1.1.A1a, 2.1.3.K1,2,2.1.3.A1-2)
- M.2.1.3 ▲ know, explain, and use addition and subtraction to show equivalent representations for whole numbers from 0-100. e.g.,  $8-5 = 2 + 1$  or  $20 + 40 = 70 - 10$ . (2.1.1.K3)
- M.2.1.4 use whole numbers from 0 through 1,000 on segments of a number line using the term "**plot**". (1.2.3.K1)

### **M.2.2 Students will identify and count coins to \$1.00 and currency to \$100.00.** Students will...

- M.2.2.1 ▲ identify, recognize, state their individual value, and determine the total value to \$1.00 of a mixed group of coins using pennies, nickels, dimes, quarters, and half-dollars. (2.1.1.K5, K6, 2.2.4.K1a-h)
- M.2.2.2 ▲ identify, recognize, state their individual value, and determine the total value to \$100.00 of a like group of currency using \$1, \$5, \$10, and \$20. (2.1.1.K5, K6)
- M.2.2.3 generate and solve real-world problems to estimate (with adjustments as needed) and count a mixed group of coins to \$1.00 and investigate the amount of change owed to \$20. (3.1.1.A3, 2.1.1.A1c, 2.1.3.K1, 2.1.3.A1-2)

**M.2.3 Students will compare and order whole numbers 0-1000, simple fractions, and ordinal numbers first through twentieth. Students will...**

- M.2.3.1 compare and order whole numbers from 0 to 1,000.
- M.2.3.2 ▲ compare and order fractions with like denominators including halves, fourths, thirds, and eighths. (2.1.1.K2)
- M.2.3.3 ▲ recognize, identify, and use ordinal positions from first (1st) through twentieth (20th). (2.1.1.K4)

**M.2.4 Students will read, identify, and write place values of whole numbers. Students will...**

- M.2.4.1 read and write in numerical form whole numbers 0 through 1,000. (2.1.2.K1a)
- M.2.4.2 read and write in word form whole numbers 0 through 100. (2.1.2.K1b)
- M.2.4.3 read and write in numerical form 0 through 1,000 when given the word form. e.g., nine hundred forty-two = 942. (2.1.2.K1c)
- M.2.4.4 ▲ state the value of the digit in the ones, tens, hundreds, and thousands place. e.g., in 385, the 3 represents 3 hundreds, 30 tens, or 300 ones; the 8 represents 8 tens, or 80 ones, and the 5 represents 5 ones. (2.1.2.K2)
- M.2.4.5 ▲ identify the place value of the digits in whole numbers from 0 through 1,000. (2.1.2.K4)
- M.2.4.6 count subsets of whole numbers from 0 through 1,000 both forward and backwards. e.g., 311, 312, 313, 314....; 210, 209, 208... (2.1.2.K3)

## **M.2.5 Students will demonstrate the use of properties of whole numbers.**

Students will...

- M.2.5.1 ▲ demonstrate and use the concept of commutative property of addition with whole numbers from 0 through 100. e.g.,  $5 + 6 = 6 + 5$  (2.1.2.K6a)
- M.2.5.2 demonstrate and use the concept of zero property of addition. e.g.,  $4 + 0 = 4$ . (2.1.2.K6b)
- M.2.5.3 demonstrate and use the concept of associative property of addition. e.g.,  $(3 + 2) + 4 = 3 + (2 + 4)$  (2.1.2.K6c)
- M.2.5.4 demonstrate and use the concept of symmetric property of equality applied to basic addition and subtraction facts. e.g.,  $10 = 2 + 8$  is the same as  $2 + 8 = 10$ ;  $7 = 10 - 3$  is the same as  $10 - 3 = 7$  (2.1.2.K6d)
- M.2.5.5 ▲ generate and solve real-world problems and performs various computational procedures with whole numbers from 0 through 100 using place value models and the concepts of these properties to explain reasoning: commutative property of addition and zero property of addition. e.g., group 17 students into a 9 and 8, add to find the total, then reverse the students to show  $8 + 9$  still equals 17; "the order you add items does not change the answer;" "adding zero does not change the sum." (2.1.2.A1a, b, A2a, b)

**M.2.6 Students will model, recite, and explain their understanding of basic facts and computation of whole numbers. Students will ...**

- M.2.6.1 compute with efficiency and accuracy using various computational methods including mental math, paper/pencil, concrete objects, and appropriate technology. (2.1.4.K1)
- M.2.6.2 **▲N** state and use with efficiency and accuracy basic addition facts with sums from 10 through 20 and corresponding subtraction facts. (2.1.4.K2)
- M.2.6.3 **▲N** identify and generate a family of basic addition and subtraction facts given one fact. e.g., given  $9 + 8 = 17$ , the other facts are  $8 + 9 = 17$ ,  $17 - 8 = 9$ , and  $17 - 9 = 8$ . (2.1.4.A2, 2.1.4.K8)
- M.2.6.4 find an unknown addend and/or subtrahend using basic addition and subtraction fact families. e.g.,  $7 + \underline{\quad} = 12$  or  $12 - \underline{\quad} = 7$ . (2.2.2.K3)
- M.2.6.5 read and write horizontally and vertically the same addition or subtraction expression. (2.1.4.K9)
- M.2.6.6 **▲N** compute with efficiency and accuracy real-world two-digit whole number addition and subtraction problems with and without regrouping **\*addends to 99**. e.g., the class collected 64 cans and 28 boxes of food for the food drive-how many in all? (2.1.4.A1a)
- M.2.6.7 **▲N** compute with efficiency and accuracy real-world addition and subtraction problems using monetary amounts to 99¢ with and without regrouping using cents notation and money models (\$). e.g., extra milk costs 25¢. If three students want an extra carton, how much will it cost?  $25¢ + 25¢ + 25¢ = \underline{\quad}$ . (2.1.4.A1b, 2.1.4.K7)
- M.2.6.8 **N** compute with efficiency and accuracy computational procedures to add or subtract three-digit whole numbers with and without regrouping **\*sums to 999**. (2.1.4.K7)

## **M.2.7 Students will recognize, describe, and explain pattern types and attributes. Students will ...**

- M.2.7.1 ▲ recognize and use a written description of the following pattern types and attributes. (2.2.1.K2a-h)
- skip count by twos, fives, tens, and twenty-fives through 100 and threes through 36 (2.1.4.K3, 2.2.1.A1a-e)
  - whole numbers that increase or decrease. e.g., 11, 22, 33...; 98, 88, 78...
  - whole numbers 0-100 as odd or even (2.1.2.K5)
  - geometric shapes
  - measurements e.g., 1", 3", 5"...; 5lbs, 10lbs, 15lbs...
  - calendar. e.g., Sunday, Monday, Tuesday
  - money and time e.g., \$5, \$10, \$15...; 1:15, 1:30, 1:45
  - things related to life. e.g, seasons, temperature, weather
  - things related to size, shape, color, texture, movement. e.g., snapping fingers, clapping hands, stomping feet, or over, under, behind using a bean bag toss (kinesthetic patterns)
- M.2.7.2 ▲ identify and continue a pattern presented in various formats including numeric (list or table), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), or written. (2.2.1.K3, 2.2.4.A1)...  
Generalize these patterns using concrete objects and a written description to model a whole number pattern. e.g., counting by twos: XX, XX XX, XX XX XX...; counting by 25s: O, OO, OOO... by laying out quarters. (2.2.1.A3, 2.2.1.A1a-e)
- M.2.7.3 recognize multiple representations of the same pattern. e.g., the ABB pattern could be represented by clap, snap, snap... or red, blue, blue... or square, circle, circle... (2.2.1.A2)
- M.2.7.4 find and determine the value and numerical pattern that involve addition and subtraction of whole numbers from 0 through 100 using a horizontal and vertical function table. e.g., using a T-table; if a set of numbers is 2, 4, 6, 8, 10.. "the rule is add two." (2.2.3.K2-3, A2)

## **M.2.8 Students will use symbols and whole numbers to solve addition and subtraction equations. Students will ...**

- M.2.8.1 find the sum or difference in one-step equations: (2.2.2.K2a, b)
- whole numbers from 0 through 100. e.g.,  $32 + 19 = \underline{\quad}$ ;  $\underline{\quad} = 79 - 46$
  - up to two different coins. e.g., nickel + penny =  $\underline{\quad}$ ¢
- M.2.8.2 ▲ describe, compare, and explain two whole numbers from 0 through 1,000 using the terms and symbols for: is equal to, is less than, is greater than. (2.2.2.K4, 2.2.2.K1)
- M.2.8.3 generate, represent, and solve real-world problems using symbols and whole numbers from 0-30 with one operation (addition or subtraction) and one unknown. e.g., give the total number of students in class today, the students write: 14 boys and 9 girls =  $\underline{\quad}$  students. (2.2.2.A1, A2a, b)

**M.2.9 Students will identify and investigate properties of geometric shapes and 3-D solids. Students will ...**

- M.2.9.1 ▲ identify and investigate the properties of a plane figure including a circle, square, rectangle, triangle, and ellipse using concrete objects, drawings, and appropriate technology and the terms "turn = rotation, slide = translation, flip = reflection" (2.3.1.K1, 2, 5)
- M.2.9.2 ▲ identify, and investigate the properties of 3-D solids including cubes, rectangular prisms, cylinders, cones, and spheres and use the terms face, edge, base, angle, vertices. (2.3.1.K3)
- M.2.9.3 solve real-world problems by applying the properties of plane figures. e.g., which shape could be used to completely cover the lid of a pencil box with no overlapping? (2.3.1.A1, A2, A3)
- M.2.9.4 recognize whether a shape has a line of symmetry. (2.3.1.K6)
- M.2.9.5 demonstrate how plane shapes and 3-D solid figures can be combined and separated to make a new plane shape or solid figure and name each. (2.3.1.A1, A2, A3)

**M.2.10 Students will estimate and measure using standard and non-standard units. Students will ...**

- M.2.10.1 select, use, and explain appropriate measurement tools and units of measure for length, weight, volume, and temperature for a give situation. (2.3.2.K3, 2.3.2.A2)
- M.2.10.2 ▲ accurately state or measure the following and describe tools used for each: (2.3.2.K3, K4)
  - length to the nearest inch and foot and also investigates centimeter and meter
  - time to the nearest 5 minute interval using analog and digital clocks (2.3.2.K2)
  - elapsed time e.g., The play starts at 1:00 pm and lasts for 2 hours and 15 minutes. What time will the play be over?
  - number of minutes in an hour and days in each month (2.3.2.K5)
  - weight in ounces and pounds; estimating weights of two concrete objects using a balance (2.3.2.A1)
  - volume to the nearest cup, pint, quart, and gallon
  - temperature in F to the nearest five degrees
- M.2.10.3 solve real-world problems by using estimation using standard and non-standard units to check whether measurements or calculations are reasonable. e.g., Is it reasonable to say that you measured your thumb and it is 2 feet long? I estimated that the stapler is 20 paper clips long. Then I lay out 4 paper clips next to the stapler. I realize that since I am half done, my estimate is too high; so I adjust to 8 paperclips for an answer. (2.3.2.A3, 2.3.2.K1)

**M.2.11 Students will know and demonstrate the use of cardinal points and directions.** Students will ...

M.2.11.1 ▲ know and use cardinal points (north, south, east, west). (2.3.3.K1)

M.2.11.2 follow directions to move objects from one location to another using appropriate vocabulary and the cardinal points (north, south, east, west).

**M.2.12 Students will use and interpret data.** Students will ...

M.2.12.1 ▲ recognize, list, and state outcomes of a simple event in the terms impossible, possible, certain, likely or unlikely. (2.4.1.K1, K2)

M.2.12.2 make predictions about, organize, display, and read data in a clear, organized, and accurate manner including title, labels, categories, and whole number intervals using these displays: (2.4.2.K1a-f, 2.4.1.A1)

- pictographs
  - frequency tables (tally marks)
  - horizontal and vertical bar graphs
  - Venn diagrams
  - line plots
  - surveys
- (see teacher-created examples of each)

M.2.12.3 ▲ find and use the term "**mode**" for a data set using concrete objects.

M.2.12.4 recognize appropriate conclusions from data collected. (2.4.2.A1,A2, A3, A4)