G-E-T Elementary Curriculum

Align, Explore, Empower

Scope and Sequence

Math - Grade 2

Unit 0	*Establishing a Mathematical Life*
~ 4 Weeks	

In this unit, students will establish routines including discussing and visualizing numbers from 1 to 20. Students will review Make a Ten and Doubles +1 and Doubles -1. Students will review odd and even. Students will learn Doubles +2 and Doubles -2. Students will work on telling time, counting money, and estimating.

This unit includes the following:

- Learning math games
- Representing numbers from 1-20
- Relationship between addition and subtraction (e.g., 8+4=12 then 12-8=4)

The students will:

Unit 0 Mastery Standards:

- Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.

- Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Unit 1	*Addition and Subtraction Within 200*	~ 8 Weeks

In this unit, students will use place value knowledge to add and subtraction numbers using place value strategies. Students will work on telling time, counting money, story problems, and estimating.

This unit includes the following:

- Extending base-ten understanding to hundreds
- Computing sums and differences within 1,000 using place value and the relationship between addition and subtraction
- Fluently add and subtract within 200.
- Solving story problems involving addition and subtraction

The students will:

Unit 1 Mastery Standards:

- Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
  a.100 can be thought of as a bundle of ten tens — called a “hundred.”
  b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). 2.

- Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

- Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
  Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Unit 1 Practice Standards:

- Use addition and subtraction within 100 to solve two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Unit 2	*Length and Shapes*	~ 7 Weeks

In this unit, students will work on measuring length as well as identifying attributes of shapes. Students will continue working on telling time, counting money, estimating, and solving story problems.

This unit includes the following:

- Using rulers to measure lengths to the nearest whole-number unit.
- Recognizing and drawing shapes with specific attributes.
- Relating addition and subtraction to length.

The students will:

Unit 2 Mastery Standards:

- Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- Estimate lengths using units of inches and feet
- Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
- Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Unit 2 Practice Standards:

- Estimate lengths using units of centimeters and meters.
- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Unit 3	*3-Digit Addition and Subtraction*	~ 8 Weeks

In this unit, students will use place value knowledge to add and subtraction numbers using place value strategies. Students will work on telling time, counting money, story problems, and estimating.

This unit includes the following:

- Extending base-ten understanding to 1,000.
- Computing sums and differences within 1,000 using place value.
- Solving story problems involving addition and subtraction

The students will:

Unit 3 Mastery Standards:

- Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
- Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- Explain why addition and subtraction strategies work, using place value and the properties of operations.
- Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Unit 3 Practice Standards:

- Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

- Use addition and subtraction within 100 to solve two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Unit 4	*Graphing*	~ 2 Weeks

In this unit, students will represent and interpret data. Students will work on telling time, counting money, story problems, and estimating.

This unit includes the following:
- Drawing and using picture graphs.
- Drawing and using both horizontal and vertical bar graphs and relating the scale to a number line diagram.
- Building line plots to display data.

The students will:

Unit 4 Mastery Standards:

- Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Unit 4 Practice Standards:

- Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.

- Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems4 using information presented in a bar graph.

Unit 5	*Equal Shares and Arrays*	~ 4 Weeks

In this unit, students will work with equal groups of objects to gain foundations for multiplication. Students will reason with shapes and continue to work on telling time, counting money, story problems, and estimating.

This unit includes the following:

- Continuing to use fraction language to describe partitions of shapes into each shares.

The students will:

Unit 5 Mastery Standards:

- Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Unit 5 Practice Standards:

- Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

- Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

- Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.