

# Mathematics Grade 1



## QUARTER 1

### Processes of Mathematics

*(These processes are the structure for delivery of mathematics content objectives.)*

Objectives – The students will be able to:

- a. Select and apply appropriate strategies to solve a problem. (Problem Solving) (3.7.A.1.a-h)
- b. Justify solutions to problems with logic and evidence. (Reasoning and Proof) (3.7.B.1.a-d)
- c. Represent mathematical concepts in a variety of ways including visual, concrete, and abstract. (Representation)
- d. Write about and discuss mathematical concepts. (Communication) (3.7.C.1.a-h)
- e. Connect mathematical concepts to related concepts and/or connect mathematical concepts to real-world applications. (Connections) (3.7.D.1.a-d)

### Algebra, Patterns, and Functions

Objectives - The students will be able to:

- a. Read a calendar to identify the days of the week and months of the year and recognize numerical patterns on the calendar (1.3.A.1.a).
- b. Represent and analyze repeating patterns using no more than three different objects in the core of the pattern. (1.1.A.2.b)
- c. Transfer a repeating pattern from one medium to a different medium using no more than three different objects in the core of the pattern. (1.1.A.2.c)
- d. Identify patterns in real world situations. (1.1.A.2.d)
- e. Identify missing elements within a numeric or non-numeric pattern.

### Number Relationships (Number Development)

Objectives - The students will be able to:

- a. Rote count to 100. (1.6.A.1.j)
- b. Rote count forward and backward starting with numbers other than 1. (1.6.A.1.k)
- c. Subitize quantities regular and irregular to 6 (then to 10). (1.6.A.1.c)
- d. Use the numbers of 5 and 10 as anchors in relationships to other numbers. (1.6.A.1.d)
- e. State a number that comes before and after a given whole number or between two whole numbers through 100.
- f. Identify two sets as equal or not equal and partition a set into equal and unequal subsets.
- g. Build and describe models of even and odd numbers using concrete materials and discuss the models. (2.6.B.1.a)
- h. Locate points on a number line up to 100. (1.1.C.1.a)
- i. Read, write, and represent whole numbers up to 100 and beyond using models, symbols, and words. (1.6.A.1.e)
- j. Compare and order whole numbers up to 99 using terms such as: greater than, less than, equal to. (1.1.B.2.a, 1.6.A.1.h)

- k. Estimate quantities up to 50 and use the term “about”. (1.6.A.1.l)
- l. Locate and sequence ordinal positions first through tenth.
- m. Construct a set by combining subsets to illustrate a total using a ten-frame and the part-part-total model.
- n. Model addition by combining sets of concrete objects and describe the results using words and pictures.
- o. Model subtraction by separating sets of concrete objects
- p. Explain the meaning of the equal sign in a number sentence.
- q. Identify the concept of inverse operation for addition and subtraction. (1.6.C.1.c)

### **Computational Fluency (Basic Facts, Strategies At Work 3)**

Objectives-The students will be able to:

- a. Apply invented and acquired strategies to recall basic facts that add and subtract 0. (1.6.C.1.a)
- b. Apply invented and acquired strategies to recall basic facts that add and subtract 1. (1.6.C.1.a)
- c. Apply invented and acquired strategies to recall basic facts that add and subtract 2. (1.6.C.1.a)

## **QUARTER 2**

### **Processes of Mathematics**

*(These processes are the structure for delivery of mathematics content objectives.)*

Objectives – The students will be able to:

- a. Select and apply appropriate strategies to solve a problem. (Problem Solving) (3.7.A.1.a-h)
- b. Justify solutions to problems with logic and evidence. (Reasoning and Proof) (3.7.B.1.a-d)
- c. (Representation): Represent mathematical concepts in a variety of ways including visual, concrete, and abstract. (Representation)
- d. Write about and discuss mathematical concepts. (Communication) (3.7.C.1.a-h)
- e. Connect mathematical concepts to related concepts and/or connect mathematical concepts to real-world applications. (Connections) (3.7.D.1.a-d)

### **Computational Fluency (Basic Facts, Strategies At Work 3)**

*\* Continued from 1<sup>st</sup> quarter*

Objectives - The students will be able to:

- a. Apply invented and acquired strategies to recall basic facts that add and subtract 0. (1.6.C.1.a)
- b. Apply invented and acquired strategies to recall basic facts that add and subtract 1. (1.6.C.1.a)
- c. Apply invented and acquired strategies to recall basic facts that add and subtract 2. (1.6.C.1.a)

### **Statistics (Analyze and Interpret Data)**

Objective - The students will be able to:

- a. Collect data by conducting surveys. (1.4.A.1.a)

- b. Collect data on tally charts. (1.4.A.1.b)
- c. Interpret data contained in tables. (1.4.1.A.1.b)
- d. Interpret data contained in picture graphs using a variety of categories with one to one intervals. (1.4.B.1.b)
- e. Interpret data in single bar graphs. (1.4.B.1.c)

### **Number Relationships and Computation (Fractions)**

Objectives - The students will be able to:

- a. Read, write, and represent fractions as part of a single region using symbols, models, and pictures with denominators of 2, 3, or 4. (1.6.A.2.a)
- b. Read, write, and present halves, thirds, and fourths as part of a set using pictures and words. (1.6.A.2.b)

### **Geometry**

Objectives - The students will be able to:

- a. Identify and draw open and closed figures and use the terms: inside, outside, and on.
- b. Identify, name, and compare triangles, circles, squares, rectangles, and rhombi by their attributes using concrete models. (1.2.A.1.a)
- c. Create models of triangles, circles, squares, rectangles, and rhombi with varied materials. (1.2.A.1.b)
- d. Combine and subdivide squares, triangles, and rectangles. (1.2.A.1.c)
- e. Identify and compare solid geometric figures (cube, sphere, cone, pyramid, and cylinder). (1.2.B.1.a)
- f. Sketch triangles, circles, squares, rectangles, and rhombi. (1.2.B.1.a)
- g. Identify and draw congruent figures. (1.2.D.1.a)
- h. Name and classify different sized and positioned two-dimensional figures.
- i. Use direction, locations, and position words, right and left. (1.2.E.1.a)
- j. Apply spatial reasoning to problem solving situations. (1.2.E.1.b)
- k. Identify and demonstrate slides and flips using manipulatives. (1.2.E.1.c)
- l. Demonstrate symmetry in simple geometric figures and pictures by building, cutting, paper folding, and drawing a line of symmetry. (1.2.E.2.d)

## **QUARTER 3**

### **Processes of Mathematics**

*(These processes are the structure for delivery of mathematics content objectives.)*

Objectives – The students will be able to:

- a. Select and apply appropriate strategies to solve a problem. (Problem Solving) (3.7.A.1.a-h)
- b. Justify solutions to problems with logic and evidence. (Reasoning and Proof) (3.7.B.1.a-d)
- c. (Representation): Represent mathematical concepts in a variety of ways including visual, concrete, and abstract. (Representation)
- d. Write about and discuss mathematical concepts. (Communication) (3.7.C.1.a-h)
- e. Connect mathematical concepts to related concepts and/or connect mathematical concepts to real-world applications. (Connections) (3.7.D.1.a-d)

## **Computational Fluency (Basic Facts, Strategies At Work 3)**

Objectives - The students will be able to:

- a. Apply invented and acquired strategies to recall basic facts that make ten (this includes addition and subtraction). (1.6.C.1.a)

## **Measurement**

Objectives - The students will be able to:

- a. Tell time in intervals of hours, half hours, quarter hours, and three quarter hours using an analog clock. (1.3.A.1.b)
- b. Compare the same time on analog and digital clocks. (1.3.A.1.b)
- c. Measure different lengths using non-standard units.
- d. Measure the distance around a figure by counting linear units.
- e. Measure the area of a figure by counting square units.
- f. Choose the appropriate tool to measure length, weight, capacity, and temperature to solve problems.
- g. Estimate and measure the capacity of different sized containers using non-standard units.
- h. Measure length of objects and pictures of objects to the nearest inch. (1.3.B.1.a)
- i. Identify and compare units of capacity using cups and gallons. (1.3.B.1.a)
- j. Compare and order objects by relative weight and actual weight in pounds using various scales. (1.3.B.1.c)
- k. Describe the attributes of length, weight, and capacity. (1.3.B.1.d)
- l. Read a thermometer to tell temperature to the nearest ten degrees. (1.3.A.1.d)

## **Algebra, Patterns, and Functions**

Objectives - The students will be able to:

- a. Represent and analyze numeric patterns using skip counting by multiples of 2, 5, 10, and 25 starting with any whole number to 100 using manipulative and/or the one hundred chart. (1.1.A.1.a)
- b. Represent and analyze numeric patterns using skip counting backward by ten starting with a multiple of ten using manipulatives and the one hundreds chart. (1.1.A.1.a)
- c. Represent and analyze growing patterns kinesthetically. (1.1.A.2.a)

## **Number Relationships and Computation (Place Value)**

Objectives - The students will be able to:

- a. Sort objects into sets of ten(s) and ones through 99.
- b. Identify sets, 10-99, as sets of ten(s) and the appropriate number of ones.
- c. Write numerals for sets of tens and ones.
- d. Identify the place value of a digit of a whole number up to 99. (1.6.A.1.g)
- e. Express whole numbers up to 99 using expanded form. (1.6.A.1.f)
- f. Use concrete materials to compose and decompose quantities up to 100. (1.1.B.1.a)

## QUARTER 4

### Processes of Mathematics

*(These processes are the structure for delivery of mathematics content objectives.)*

Objectives – The students will be able to:

- a. Select and apply appropriate strategies to solve a problem. (Problem Solving) (3.7.A.1.a-h)
- b. Justify solutions to problems with logic and evidence. (Reasoning and Proof) (3.7.B.1.a-d)
- c. (Representation): Represent mathematical concepts in a variety of ways including visual, concrete, and abstract. (Representation)
- d. Write about and discuss mathematical concepts. (Communication) (3.7.C.1.a-h)
- e. Connect mathematical concepts to related concepts and/or connect mathematical concepts to real-world applications. (Connections) (3.7.D.1.a-d)

### Computational Fluency (Basic Facts, Strategies At Work, 3)

Objectives - The students will be able to:

- a. Apply invented and acquired strategies that double (addition) and half (subtraction). (1.6.C.1.a)

### Number Relationships and Computation (Addition and Subtraction of Whole Numbers)

Objectives - The students will be able to:

- a. Find the missing number (unknown) in a number sentence using operational symbols (+/-) with whole numbers to 20 using pictures and manipulatives. (1.1.B.2.b)
- b. Add no more than three whole number addends with sums to 18.
- c. Add two two-digit addends with sums less than 99 without regrouping.
- d. Subtract whole numbers with no more than two digits in the minuend or the subtrahend without regrouping.

### Number Relationships and Computation (Money)

Objectives - The students will be able to:

- a. Identify, name, and state the value of a quarter, dime, nickel, and penny in oral and written form.
- b. Demonstrate the value of a given set of same currency up to \$1.00. (1.6.A.3.a)
- c. Demonstrate the value of a given set of mixed currency up to \$1.00. (1.6.A.3.a)
- d. Compare the value of two sets of mixed currency and the cost of two items up to \$1.00. (1.6.A.3.c)
- e. Identify and state the value of a one-dollar bill.
- f. Name different combinations of coins equal in value to \$1.00.
- g. Determine the amount of money needed to match a price through \$1.00.
- h. Solve addition and subtraction problems involving money up to \$1.00.

### Statistics (Organize and Display Data)

Objectives - The students will be able to:

- a. Organize and display data to make picture graphs in vertical and horizontal formats. (1.4.A.1.c)
- b. Organize and display data to make single bar graphs in vertical and horizontal formats. (1.4.A.1.d)

## **Probability**

Objectives - The students will be able to:

- a. Distinguish a possible outcome from an impossible outcome using examples from daily life and concrete materials. (1.5.A.1.a)
- b. Play games that use spinners, number cubes, etc. to develop an understanding of the terms: impossible, unlikely, and likely.
- c. Make predictions for everyday events using the terms likely, unlikely, and impossible.