

<b>Mathematics Kindergarten</b>
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## **QUARTER 1**

### **Problem Solving Strategies**

Objective - The students will be able to:

- a. Select and then apply appropriate strategies to solve a problem from visual (draw a picture or diagram, act it out, use manipulatives), numerical (look for a pattern), and symbolic (write a number sentence) perspectives.

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

Objectives - The students will be able to:

- a. Classify and label objects according to common attributes.
- b. Sort and classify objects according to a rule.
- c. Identify, copy, describe, create, and extend non-numeric two and three item repeating patterns including those found in the everyday world.

### **Measurement**

Objectives - The students will be able to:

- a. Recognize time by identifying days of the week and by using terms such as: yesterday, today, tomorrow, morning, afternoon, night, before, and after.
- b. Locate today's date, yesterday's date, and tomorrow's date emphasizing number relationships and patterns.
- c. Name the days of the week and the months of the year.
- d. Compare and describe temperature.

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

Objectives - The students will be able to:

- a. Match objects using one to one correspondence to demonstrate equivalent sets.
- b. Construct and compare equivalent sets up to 10.
- c. Identify a given set more or less
- d. Represent relationships between and among quantities using language such as; more than, less than, fewer than, as many as, one more, one less.
- e. Recognize that the number of objects in a set remains the same when objects are rearranged.

- f. Recognize that the number of objects in a set remains the same when one object is substituted for another.
- g. Demonstrate cardinality by counting objects in a set and stating the last number as the quantity.
- h. Rote counting to 31.
- i. Count backwards from 10.
- j. Count backwards over a decade (count back from 22)
- k. Count on with numbers other than one.
- l. Identify ordinal numbers first through fifth.
- m. Identify the numerals 0 to 10.
- n. Match a numeral to a set, 0 - 10.
- o. Identify that the numeral 0 represents the empty set.
- p. Construct sets to match numerals 0 to 10.
- q. Write the numerals 0 to 10.
- r. Order the numerals 0 to 10.
- s. Use concrete materials to build sets 0 to 10.
- t. Use concrete materials to compose and decompose quantities to 10.
- u. Use the numbers 5 and 10 as anchors in relationships to other numbers.
- v. Subitize quantities regular and irregular to 6 (then to 10).
- w. Represent whole numbers to 10 on a number line using concrete materials and symbols.
- x. Construct sets to show one more and/or one less (1 to 10).
- y. Identify, describe, extend, and create numeric patterns.

### **Statistics (Data Analysis/Interpretation)**

Objectives - The students will be able to:

- a. Compare and describe data from real graphs to answer a question using terms more, less, and same.
- b. Compare and describe data from a picture graph to answer a question using terms, more, less, and same.
- c. Interpret a picture graph both horizontally and vertically

## **QUARTER 2**

### **Problem Solving Strategies**

Objective - The students will be able to:

- a. Select and then apply appropriate strategies to solve a problem from visual (draw a picture or diagram, act it out, use manipulatives), numerical (look for a pattern), and symbolic (write a number sentence) perspectives.

## **Geometry**

Objectives - The students will be able to:

- a. Use position words such as over, under, above, on, next to, below, beside, behind, in front of, left, right, top, bottom, inside, and outside
- b. Sort, match, and regroup everyday objects and geometric figures according to attributes such as shape, color, and size.
- c. Describe plane figures (triangles, circles, squares, and rectangles) and their attributes such as shape, color, and size.
- d. Identify triangles, circles, squares, and rectangles.
- e. Compare, trace, and reproduce triangles, circles, squares, and rectangles.
- f. Identify everyday objects that have the same size and shape.
- g. Recognize the concept of symmetry using pictures.
- h. Use spatial reasoning to solve simple puzzles.
- i. Sort, match, describe, and regroup everyday solid objects and solid geometric figures according to attributes.
- j. Identify solid geometric figures (cube, cone, cylinder, and sphere).

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

Objectives - The students will be able to:

- a. Identify and compare a whole object and part of an object.
- b. Identify and compare a whole object and half of an object.
- c. Rename two halves of an object as a whole object.
- d. Identify half of a set up to ten members.

## **Measurement**

Objectives - The students will be able to:

- a. Measure objects of different lengths using nonstandard units.
- b. Estimate the length of an object using nonstandard units.
- c. Use nonstandard units to measure the distance around a figure.
- d. Measure different lengths using an inch ruler without increments.
- e. Estimate and compare the weight of two objects using hands as a balance scale.
- f. Estimate and compare different capacities using two containers.

## **QUARTER 3**

### **Problem Solving Strategies**

Objective - The students will be able to:

- a. Select and then apply appropriate strategies to solve a problem from visual (draw a picture or diagram, act it out, use manipulatives), numerical (look for a pattern), and symbolic (write a number sentence) perspectives.

### **Number Relationships and Computation (Number Development 10-20)**

Objectives - The students will be able to:

- a. Match a number to a set, 10 to 20.
- b. Identify numerals 10 to 20.
- c. Construct sets to match numerals 10 to 20
- d. Write numerals 10 to 20.
- e. Order the numerals 10 to 20.

### **Number Relationships and Computation (Addition and Subtraction)**

Objectives - The students will be able to:

- a. Count on from a number other than one but less than 10 using manipulatives to solve a problem.
- b. Model addition by combining sets of concrete objects and describe the results using words and pictures.
- c. Model subtraction by separating sets of concrete objects and describe the results using words and pictures.
- d. Find the missing number in an addition or subtraction sentence with quantities less than 10 using pictures and manipulatives.

### **Measurement**

Objectives - The students will be able to:

- a. Compare activities in terms of which takes more or less time to complete.
- b. Tell time to the hour.

## **QUARTER 4**

### **Problem Solving Strategies**

Objective - The students will be able to:

- a. Select and then apply appropriate strategies to solve a problem from visual (draw a picture or diagram, act it out, use manipulatives), numerical (look for a pattern), and symbolic (write a number sentence) perspectives.

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

Objectives - The students will be able to:

- a. Represent numeric quantities using concrete and pictorial representations to model addition expressions with the value of no more than ten.
- b. Represent inequalities by comparing groups of no more than ten objects.
- c. Model and name the value of the missing parts in a part-part-total situation using no more than ten manipulatives.

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

Objectives - The students will be able to:

- a. Identify pennies, nickels, dimes, quarters, and dollars.
- b. Determine the amount of money needed to match a price up to and including twenty cents.
- c. Determine if a number of pennies are sufficient to purchase a priced item up to and including twenty cents.

### **Statistics (Organizing and Displaying Data)**

Objectives - The students will be able to:

- a. Collect data by answering a question.
- b. Organize and display data to make real graphs.
- c. Organize and display data to make picture graphs.
- d. Gather data using tally marks to demonstrate one-to-one correspondence.
- e. Construct a picture graph using collected data in both horizontal and vertical formats.

## **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.
- b. Play games that use spinners, number cubes, etc. to develop an understanding of the terms likely and unlikely.