

MATH CURRICULUM

KINDERGARTEN

Goal

The kindergarten mathematics program emphasizes counting, comparing, sorting, and ordering objects. Students learn about numbers, quantities, and shapes. They examine patterns and explore measurement. As they work and play, kindergarten students experience a variety of ways to solve simple problems.

While learning mathematics, students should be actively engaged and using concrete materials. Students should also be encouraged to correctly use the concepts, skills, symbols, and vocabulary associated with mathematics.

Number Sense and Operations

- 1. The student will understand the relationship between numbers and quantities.**
 - a. Compare sets of at least 10 objects to determine which set is equal to, more than, or less than the other.
 - b. Count, recognize, represent, and order numbers (up to 20).
 - c. Recognize patterns from counting by number groups to 100 (e.g. 2s, 5s, 10s).
 - d. Identify ordinal positions of objects in a set (first through tenth).
 - e. Estimate the number of objects in a group and verify the results.
 - f. Count in sequence to 100.
- 2. The student will solve simple addition and subtraction problems.**
 - a. Use objects and drawings to model and solve addition and subtraction problems to 10.
 - b. Determine the number of objects in a set when one object is added or subtracted.
 - c. Create and solve story problems.

Patterns, Relations, and Algebra

- 1. The student will sort and classify objects.**
 - a. Identify the attributes of objects as a foundation for sorting and classifying.
 - b. Sort and classify objects by color, shape, size, number, and other properties.
- 2. The student will describe, analyze, and generalize a variety of patterns, relations, and functions.**
 - a. Identify, describe, and extend a repeating pattern found in common objects.
 - b. Create repeating patterns.

Geometry

1. The student will identify and describe geometric figures.

- a. Identify and draw plane geometric figures (e.g. square, rectangle, circle, and triangle).
- b. Compare and sort plane figures based on observable attributes (e.g. number of sides, number of corners).

2. The student will compare and order objects using appropriate vocabulary.

- a. Compare the size and shape of plane geometric figures (e.g. circle, triangle, square, and rectangle).
- b. Identify and describe geometric objects in the environment using directional and positional words (e.g. next to, top, bottom, etc).

Measurement

1. The student will select and use appropriate units and instruments for measurement.

- a. Identify instruments used to measure: length (ruler), time (clock: digital and analog), calendar (day, month, season), and temperature (thermometer).
- b. Recognize and compare the attributes of length, volume/capacity, weight, area, and time using appropriate language (e.g. longer, taller, shorter, heavier, lighter, more, less).
- c. Explore length, weight, and volume of objects using standard and nonstandard units.

2. The student will measure quantities in real world applications.

- a. Identify coins and their value (penny, nickel, dime and quarter).
- b. Compare orientation in time (e.g. yesterday, today, tomorrow, days, hours, minutes, weeks, months, years, seasons).
- c. Compare temperatures of different objects (e.g. hot water, cold water, ice cubes).

Data Analysis, Statistics, and Probability

1. The student will collect, sort, organize, and draw conclusions about data using concrete objects, pictures, numbers, and graphs.

- a. Describe ways to sort and/or group given sets of objects or data.
- b. Collect and record information using tallies, picture graphs, or other strategies.
- c. Describe and compare observable quantities of collected data (e.g. favorite pet).