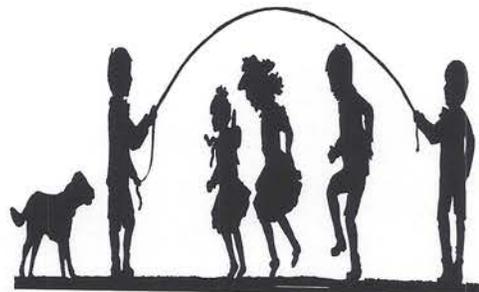


MATHEMATICAL CONCEPTS

The young child needs experiences to explore a wide variety of manipulative materials. This free exploration promotes a sense of discovery, allows the child to solve problems and learn to draw conclusions in his/her own way. An understanding of everyday mathematical concepts allows for an easier transition into the real world. These discovery activities provide the foundation for conceptual development in the child's learning experience.



Problem Solving

All children will experience mathematical problem solving through hands on activities.

Children will:

- experiment and explore with manipulatives.
example: puzzles, sorting tubs.
- assist in setting the table for snack time using appropriate combinations. example: plates, cups, saucers.
- use given clues to identify and guess described objects.
- experience hiding an object and giving clues to find it.

Communication of Mathematical Ideas

All children will communicate mathematically through emergent writing, verbal communication, manipulatives and visual forms of expression.

Children will:

- recognize and identify shapes and colors.
example: Teacher says, "Show me red."
Child responds, "This is red."
- construct a visual using manipulatives such as legos or blocks and convey the sequence used.

Everyday Math

All children will connect mathematical ideas to real-life situations.

Children will:

- understand the concept of a continuous pattern using concrete objects and/or people.
example: line up boy/girl - boy/girl.
- develop the concept that money is needed to purchase items by utilizing the dramatic play area. Children will set up a store in the dramatic play area.
- construct finger puppets to develop the concept of counting visually and verbally.

Numeration

All children will explore numeration.

Children will:

- match objects using one-to-one correspondence.
example: 1 cup per student at snack time.
- associate numerals and numbers to appropriate quantities.
- respond correctly when asked to be first/last in line.
- understand that the number of a set of objects is retained no matter how the objects are placed (Conservation of Number).
- visually grasp the number of objects in a set without counting or pointing to each object.
- count by rote to 5.
- identify a described set from a series of 3 sets.
example: teacher says, "Find the set that has 3 objects."

Geometry

All children will develop knowledge of spatial sense and geometric shapes.

Children will:

- compare objects by single characteristic. example: color, size, shape, or texture.
- interpret spatial relationships through drawings, pictures, and photographs.
- use pattern blocks to construct familiar objects from a picture.
- identify parts of a whole. Example: cut object in half and put parts together to make the whole.
- begin to demonstrate position of objects and self in space:

| | | | |
|---------|-------------|------|---------|
| over | front | off | around |
| under | back | on | through |
| inside | behind | up | top |
| outside | in front of | down | bottom |
- demonstrate the ability to seriate a set of 4 objects from smallest to largest or largest to smallest.
- discriminate objects by size. Example: smaller, larger.

Measurement

All children will develop measurement concepts.

Children will:

- recognize differences in the height and weight of self as compared to others.
- experiment with solids and liquids using appropriate measurement materials.
- experiment with standard and non-standard units of measurement. example: rulers, measuring tape, string, and wooden cubes.
- identify a container as empty or full. example: sand and water table center.
- compare time intervals.