Cognitive Development COMPONENT 2: MATHEMATICAL THINKING AND EXPRESSION

EFFECTIVE STRATEGIES TO SUPPORT CHILDREN'S DEVELOPMENT AND LEARNING cont.

- Provide experiences breaking apart or combining 2- and 3-dimensional shapes to make new shapes, such as breaking apart a square graham cracker to make 2 small rectangles.
- Point out patterns in the environment, such as patterns in a quilt, a butterfly wing, or piece of native cloth.
- Set up patterns with children using common objects such red apple, green apple, red apple, green apple, or sock, shoe, shoe, sock, shoe, shoe. Have the children indicate what would come next in the patterns.
- Play pattern games with the children, such as clap, clap, tap your toe, clap, clap, tap your toe.
- With children's help, measure and weigh objects in the room or objects that are brought in, such as pumpkins.
 Compare the measurements.
- Measure using various non-standard objects, such as blocks, crayons, beans, or paper clips ("How many steps does it take to walk from the front door to your cubby?").



- Measure the children's height at the beginning of the year and periodically throughout the year. Make a chart to display their measurements and growth.
- Cut a paper plate, familiar picture, or the front of an empty cereal box into puzzle pieces children can put together.
- Give children experiences with various measuring devices, such as rulers, balance scales, measuring tape, calculators, and measuring cups. Use correct names for measuring *tools* while using them. Keep these tools readily accessible to children.
- Give children opportunities to put objects in order according to size, weight, and length, and recognize when an object is out of order.
- Provide opportunities for children to participate in gathering data about a question, such as "What kind of pets do you have?" Children can place a picture or toy animal on a graph to indicate the type of pet they have. Ask questions about the graph once it is complete, such as "What kind of pet do most of our children have? Which pet do the least number of children have?"
- Model problem-solving strategies (talk out loud about the thinking process while solving a problem).
- Make a large graph by drawing lines on a large sheet of paper or an inexpensive, white shower curtain. Graph often with children, making graphs of things such as children's likes and dislikes of food or activities, types of shoes children are wearing (Try using real objects on the graph or have the children stand on the graph themselves).