

# Numbers and Operations

- Count everything! Touch the objects as you say the corresponding numbers.
- Count incorrectly or lose track of which objects you have already counted. Encourage children to help you find your errors.
- Read counting books with your child frequently. Together, check each page to see whether the number of pictured objects matches the numeral on the page. After the objects on a page are counted, hide some of them with a small piece of paper or your hand. Ask children to decide how many objects are hidden.
- Ask children to help set the table, distributing the same number of each object to each place, or ask them to tell how many more they need of something to have a particular number.
- Concentrate on either the number 5 or 10. Ask children to use their fingers to talk about parts of 5 (2 fingers on one hand and 3 fingers on the other hand, 1 finger on one hand and 4 fingers on the other). In a similar manner, ask children to talk about the parts of 10 (for example, 3 fingers have rings and 7 fingers do not, 2 thumbs and 8 other fingers).
- Play games with 5 objects and 10 objects. For example, suggest that children toss 5 to 10 pennies, 5 to 10 puffballs. They should count and tell how many pennies land “head-up”. They can identify how many puffballs land in a plastic cup target and how many land outside of the cup.

## Geometry and Spatial Sense

- Encourage children to build towers with blocks. Talk about the blocks that make the best towers and the specific shapes that do not work well.
- Help your child understand geometric vocabulary by using objects. For example, explain, *A cylinder is like a can. A sphere is like a ball, and a square is like the side of this box.*
- Invite children to make particular three – dimensional shapes (cubes, cylinders, or spheres) with play dough or clay.
- Take photos of block constructions that children have made. Ask them to rebuild the constructions by using the photo as a guide.
- Play “Look, Draw, and Fix.” Draw a picture by using squares, circles and triangles. Ask children to look at it. Then hide the picture and ask the children to draw it from memory. Then uncover yours and ask the children to fix their pictures if they do not match the one you drew.
- Encourage children to work puzzles. Use words like *turn, slide* or *flip* to help them decide where to place their puzzle pieces.

# Measurement

- Use measurement vocabulary and talk aloud as you make common measurements around the house, in the store, or while traveling. For example, you might explain,

*It should take about 20 minutes to get to the store. It is about 15 miles from home, and we can travel on the highway.*

*I need three cups of flour for the cake. I will need to buy enough at the grocery store.*

*We need to buy a tablecloth for the kitchen table. I think we should buy one that is about 5 square feet.*

- Invite children to estimate how many cups will fill the bowl, how far it is from their bedroom door to the front door, how long it will take to finish cleaning up their toys, how many tiles it will take to cover the entryway, how heavy the book bag is, or how tall they will be a year from now.
- Model the measuring you do in a typical day. Talk aloud as you model the use of a variety of measuring tools when you cook, make household repairs, drive, build, sew and so on.

# Patterns

- Identify patterns everywhere:

Clothing – plaids or repeated stripes, colors, and shapes

Tiles- repeated or growing squares in the kitchen, bathroom, or hall

Books- repeated or growing patterns on the cover or pages;  
repeated words or phrases

Behavior- repetitions in daily routines; clothing worn in various types of weather; walking, exercising, dancing, or marching patterns.

- Encourage children to create and extend patterns with blocks or other toys. After they make a pattern, ask them to describe it (for example, a child could make a pattern of colored blocks and describe it as “Orange, blue; orange blue; orange, blue; etc.” a staircase growing pattern can be described a “one block, two blocks, three blocks, four blocks, “and so on or as “one block, one more, one more, one more,” and so on.
- Algebra includes the concept of change. Create books with your child about how much he or she has grown. A variety of title can be used, for example, *I Was Two, but Now I Am Three* or *I used to Be a Baby, but Now I Am Big!*

## Data Analysis

- Ask children to sort their toys, clothes, or shoes into two groups according to a common attribute like color (for example, red and not red), shape (for example, box and not box), or size (for example, big and not big) or according to another attribute (for example, laces or not laces, or stripes and not stripes). Decide which group has the most objects by matching an item from one group with an item from the other group.
- Make charts that show family job responsibilities, practice session, or homework assignments. Use checks or color coding to show when a job is complete.
- Invite children to put their drawings on a bulletin board or on the refrigerator in an organized way. Label the different sections (for example, *Jennifer's Picture of Winter*, *Jennifer's Pictures of Our family*, *Jennifer's Pictures of Our Dog*, and so on).
- Make grocery lists together. Organize the items by groups (for example, cereals, dairy products, breads, meats, and so on).
- Make a photo album together. Label and organize the pictures as your child suggests.
- Organize a coin, stamp, or trading card collection.
- Help your child survey relatives or friends to find out what they like to eat, want for birthday presents, wish. Report the findings to interested relatives or friends.