

# Ways Parents Can Support Math at Home

## **1. Understanding Numbers**

Numbers are used to describe quantities, to count, and to add, subtract, multiply and divide. Understanding numbers and knowing how to combine them to solve problems helps us in all areas of math.

- Count everything! Count toys, kitchen utensils and items of clothing as they come out of the dryer. Help your child count by pointing to and moving the objects as you say each number out loud. Count forward and backwards from different starting places. Use household items to practice adding, subtracting, multiplying and dividing.
- Sing counting songs and read counting books. Every culture has counting songs, such as “One, Two, Buckle My Shoe” and “Ten Little Monkeys”, which make learning to count – both forwards and backwards – fun for children. Counting books also capture children’s imagination, by using pictures of interesting things to count and to add.
- Discover the many ways in which numbers are used inside and outside your home. Take your child on a “number hunt” in your home or neighborhood.
- Ask your child to help you solve everyday number problems. “We need six tomatoes to make out sauce for dinner and we have only two. How many more do we need to buy?”
- Practice “skip counting”. Together, count by 2’s and 5’s. Ask your child how far he or she can count by 10’s. Roll two dice, one to determine a starting number and the other to determine the counting interval. Ask your child to try counting backwards from 10, 20 or even 100.
- Make up game using dice and playing cards.

## **2. Understanding Measurements**

We use measurements to determine the height, length, and width of objects as well as the area they cover, the volume they hold, and other characteristics. We measure time and money. Developing the ability to estimate and to measure accurately takes time and practice.

- Measure items found around the house. Have you child find objects that are longer or shorter than a shoe or a string or a ruler. Together, use a shoe to measure the length of a floor mat. Fill different containers with sand in a sandbox or with water in the bath, and see which containers hold more and which hold less.
- Estimate everything! Estimate the number of steps from your front door to the edge of your yard, then walk with your child to find out how many there really are, counting steps as you go.
- Compare and organize household items. Take cereal boxes or cans of vegetables from the cupboard and have your child line them up from tallest to shortest.
- Include your child in activities that involve measurements. Have your child measure the ingredients in a recipe, or the length of a bookshelf you plan to build. Trade equal amounts of money. How many pennies do you need to trade for a nickel? For a dime?

### **3. Understanding Geometry**

The ability to identify and describe shapes, sizes, positions, directions and movement is important in many work situations, such as construction and design as well as in creating and understanding art. Becoming familiar with shapes and spatial relationships in their environment will help children grasp the principles of geometry in later grades.

- Identify shapes and sizes. When playing with your child, identify things by their shape and size: “Pass me a sugar cube.” “Take the largest cereal box out of the cupboard.”
- Build structures using blocks or old boxes. Discuss the need to build a strong base. Ask your child which shapes stack easily and why.
- Hide a toy and use directional language to help your child find it. Give clues using words or phrases such as up, down, over, under, between, through and on top of.
- Play “I spy”, looking for different shapes. “I spy something that is round.” “I spy something that is rectangular.” “I spy something that looks like a cone.”
- Ask your child to draw a picture of your street, neighborhood or town. Talk about where your home is in relation to a neighbor’s home or the corner store. Use directional words and phrases like beside and to the right of.
- Go on a “shape hunt”. Have your child look for as many circles, squares, triangles and rectangles as he or she can find in the home or outside. Do the same with three-dimensional objects like cubes, cones, spheres and cylinders.

### **4. Understanding Patterns**

We find patterns in nature, art, music, and literature. We also find them in numbers. Patterns are at the very heart of math. The ability to recognize patterns helps us to make predictions based on our observations. Understanding patterns helps prepare children for the study of algebra in later grades.

- Look for patterns in storybooks and songs. Many children’s books and songs repeat lines or passages in predictable ways, allowing children to recognize and predict the patterns.
- Create patterns using your body. Clap and stomp your foot in a particular sequence (clap, clap, stomp), have your child repeat the same sequence then create variations of the pattern together.
- Hunt for patterns around your house and your neighborhood. Your child will find patterns in clothing, in wallpaper, in tiles, on toys, and among trees and flowers in the park. Encourage your child to describe the patterns found. Try to identify the features of the pattern that are expected.
- Use household items to create and extend patterns. Lay down a row of spoons pointing in different directions in a particular pattern (up, up, down, up, up, down) and ask your child to extend the pattern.
- Explore patterns created by numbers. Write the numbers from 1 to 100 in rows of 10 (1 to 10 in the first row), 11 to 20 in the second row, and so on). Note the patterns that you see when you look up and down, across or diagonally.