

# Math Skills Made Fun for Children

by Alka Burman

Children who have early experiences with numeracy will have better outcomes when they learn math concepts in school. Strategies used need to be motivating and engaging, and should follow a child-centered approach. Providing opportunities to explore and manipulate real materials will allow children to become comfortable with numeracy and math.

## ACTIVITIES TO SUPPORT EARLY NUMERACY SKILLS

In the beginning we can engage children with simple experiences with quantity, size and measurement. Exploring words like 'big,' 'little,' 'narrow,' 'wide,' 'light' and 'heavy' will allow children to discover how these words relate to one another. You can also apply simple strategies to explore with quantities using measurement-related materials, giving children opportunities to make decisions and predictions about quantity, measurement and space. Mathematical concepts like 'big/little,' 'narrow/wide' or 'light/heavy' can be translated into a child's home language using activities and experiences that reinforce them.

### Classification Activities

Classification is a pre-number concept that can be reinforced through experiences in the early learning environment. Children can group and sort toys according to their attributes or explore with materials in the art area. As children learn to sort and classify, they learn about the attributes of things and also talk about these attributes as they apply mathematical language.

### Pre-counting

Children need to learn to match sets before they will understand counting. One-to-one matching activities will be most effective in teaching pre-counting

skills. Once children realize that a number is a tag for a particular object, and they have had plenty of experience with this concept, they will achieve number conservation and will learn to count effectively. Performing the task of attaching an assigned tag or number to many different types of items in the room will make the skill concrete. Simple tasks give children plenty of opportunities with matched sets and then, later, with actual counting. For example, have children set up a table in the dramatic area where everyone has a plate, a spoon and a cup; invite them to count out sets of materials at the art table by giving everyone a pair of scissors, a piece of paper and a glue stick; or have them help you in the cloakroom by making sure everyone has their own shoes, coat and hat.

## LAYING THE FOUNDATION FOR MATH

The learning environment can provide a variety of activities to introduce language that will help to support and create the foundation for numeracy and math. By looking for opportunities to support children in developing their numeracy skills, we can help them to become problem solvers, to use mathematical communication, and to develop their reasoning abilities and number sense.

**Problem Solver:** The interactions in the learning environment can be set up to encourage children to become problem solvers. The problem solvers in the classroom are children who frequently ask ques-



tions, investigate to come up with an answers, try to come up with new solutions, and use math in everyday situations (e.g., We have 10 blocks in the bin. Can you bring half of them here?)

**Mathematical Communication:** The learning environment can be set up in ways that encourage children to engage in mathematical communication. Children who use mathematical communication use numbers, words and mathematical symbols to explain a situation; talk about how they arrived at the answer; can listen to other ways of explaining and alter their thinking; use pictures to explain a problem, and write about math (e.g., How many hotdogs do we need for the bar-b-que?)

**Reasoning Abilities:** The learning environment can foster children's ability to think logically, to seek out similarities and differences, to make choices based on similarities and differences, and to talk about relationships between things (e.g., The two bags feel different. One is heavy and one is light. Why?)

**Number Sense:** The learning environment can provide experiences that help children to understand the size of numbers; to know how to use these numbers in arithmetic, estimation, measurement and classification; to use numbers to find solutions; to understand the value of numbers, and to apply math to other concepts in life (e.g., Your shoe is a size 2 and your sister's is a size 6. Whose shoe is a bigger size?)

## MATHEMATICAL LANGUAGE IN THE HOME

Using simple words and concepts in the home will get children to engage with numeracy concepts every day and will increase their comfort with math. Simple words can be added to everyday vocabulary to teach children numeracy concepts.

**Tall/Short** – Look how tall this tree is, and that one is short.

**Empty/Full** – You didn't drink your milk, so your glass is still full. I'm done, so my glass is empty.

**Nothing/Something** – There is nothing in this box. There is something in that box.

**Big/Small** – Do you want a big lunch? Do you want a small lunch?

**First/Second/Third** – I was done first, you were done second, and she was done third.

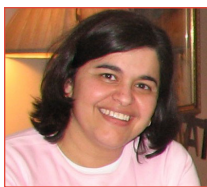
**Many/Few** – There are many more toys to put away. There are a few more toys to put away.

**Under/Over** – Your toy car is under the bed. You threw your ball over the fence.

**Front/Back** – Go to the back of the yard. Let's stand in front of the house.

**Heavy/light** – This box is heavy. That box is light.

**Today/Yesterday/Tomorrow** – There is school today. My birthday was yesterday. Tomorrow I am going to the zoo.



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