February 2016
Building Understanding and Excitement for Children

In the right place

Place value transforms the 5 in 35,069 to 5,000. Let your child try his own transformations with these place-value games.

Cups of numbers
Setup: Have your youngster write the digits 0–9 in order around the rims of six Styrofoam cups. The second cup represents 10s, so on that cup, he writes 0 to the right of each digit (1 becomes 10, 2 becomes 20). The third cup represents 100s (add two 0s to make 100, 200), and so on. When he’s finished, nestle the cups together from 1s to 100,000s (the extra 0s will all be hidden).

Play: Now, say a six-digit number (745,609). Your child rotates the cups to show the number. Ask questions like “What digit is in the hundreds place?” (6) or “What number does the 4 represent?” (40,000) To check his answers, he can pull the cups apart to see the 0s! Take turns giving each other numbers to make—and questions to answer.

Five in a row
Setup: On separate slips of paper, write the numbers 1–9, 10s from 10 to 90, 100s from 100 to 900, 1,000s from 1,000 to 9,000, 10,000s from 10,000 to 90,000, and the phrases “no 1s,” “no 10s,” “no 100s,” “no 1,000s,” and “no 10,000s.” Put the slips in a bag. Each player should make a 5 x 5 bingo board, labeling the columns (left to right) 10,000s, 1,000s, 100s, 10s, and 1s.

Play: Take turns drawing a slip. If it’s 5,000, mark 5 in your 1,000s column. For “no 10s,” mark 0 in the 10s. The first one with five in a row is the winner—and reads the number he formed (say, 75,802).

Map the weather
What weather does your youngster see outside? Suggest that she use this activity to compare the weather she’s experiencing with the weather elsewhere.

First, she could draw or print out a blank U.S. map and make a key (say, blue for sun, gray for rain, white for snow). Have her look online or in a newspaper to find the weather in other states—and color her map to match. She’ll learn about geography and how climate patterns vary throughout the country.

Then, she can make a bar graph to see at a glance which weather is most common across the United States today.
Filter out pollution

With this project, your youngster can see water pollution firsthand—and engineer a solution for filtering it out.

1. Add “pollution” to a pitcher of water. She might put in crumpled pieces of paper, coffee grounds, or scraps of plastic bags.

2. Help your child cut an empty 2-liter clear plastic bottle in half horizontally. The top half will be the filter, and the bottom half will collect the filtered water.

3. To make the filter, she can place a fabric swatch over the mouth of the bottle and secure it with a rubber band. Have her turn the filter upside down, set it inside the bottom half, and fill it with a material that could filter the water (pebbles, sand, dirt, or cotton balls, for instance).

4. Finally, let her pour 1 cup of polluted water slowly through the filter and into the (empty) bottom half. Have her compare the filtered water to the dirty water and make notes. How much pollution got through? What color is the water?

5. Empty the bottom, and try again with different filtering materials. Which one works best?

Parents to Parents

My daughter Genevieve learned her multiplication tables last year, but I noticed she had gotten rusty. My dad is a math teacher, and I remembered how he used to practice multiplication and other skills with us a little each day. So I decided to start the same tradition with Genevieve. Now, on the way to Girl Scout meetings, we’ll give each other problems like 7 x 9 or 4 x 8. Or at the library, I’ll say, “Let’s get three books for each person in our family. How many will that be?” Since there are four in our family, she’ll figure out 4 x 3 = 12.

We do only a few problems at a time, so Genevieve doesn’t feel like it’s extra schoolwork. Instead, it’s a game we play—and she’s getting pretty good at it.