

Math+Science Connection

Beginning Edition

Building excitement and success for young children

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Sparta Area Schools
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TOOLS & TIDBITS



Hole-punch addition

Write an addition sentence on an index card ($4 + 3 = \underline{\quad}$). Using a hole punch, your youngster can punch the correct number of holes under each number (4 holes under the 4 and 3 holes under the 3). Ask her to count the holes to solve the equation. Then she can write the solution (7) in the blank.

Penny trick

Let your child line a bowl with aluminum foil, put an old penny in the center, and cover the coin with water. Have her remove the penny after a week—she'll see a hole in the foil! A chemical reaction called *corrosion* causes the metals in the penny and foil to break down where they touched.

Web picks

Young animal and nature lovers will be thrilled by this National Geographic site. Your child can learn fascinating facts about dolphins, grow a virtual garden, and more, at <http://littlekids.nationalgeographic.com>.

Do math with pumpkins and measure small and big fish. The PBS math site (www.pbs.org/parents/earlymath) includes games to play online as well as math activities to do away from the computer.

Worth quoting

"Colors are the smiles of nature."

Leigh Hunt

Just for fun

Alicia: I know what the score will be before this game even starts.

Beth: Really? What?

Alicia: Zero to zero!



Fraction fun

"You get half, and I get half!"

When you hear your child dividing crayons up with her friend, she is learning about fractions. Practicing with fractions now will get her ready for more advanced math later. Here are activities to try.

Paper folding

Ask your youngster to fold a sheet of paper in half. How many parts does it have now? (2) Explain that each side is 1 of 2 parts—or $\frac{1}{2}$. Next, have her fold another sheet like an accordion, into 3 equal parts. She can make each section a different color with her crayons. Talk about how each color is 1 of 3 parts—or $\frac{1}{3}$. Two colors represent 2 parts, or $\frac{2}{3}$.

Measure and pour

Turn snack time into a fraction lesson. Have your child use a glass measuring cup to pour $\frac{1}{2}$ cup of juice into one glass and $\frac{1}{2}$ cup of juice into another glass.

Helloooooo

In a tunnel or a bare room, kids love to make their voices echo. Let your youngster make an echo anytime with this idea.

Begin by explaining how an echo works: sound waves "bounce back" when they hit a hard, solid object like the side of a wall. Then, get two long cardboard tubes (from wrapping paper, for instance) and something that makes noise, such as a ticking watch or kitchen timer.

Hold one tube at an angle to a wall and hold the ticking object at the other end of the tube. Your child should hold the other tube with one end aimed at the same spot on the wall as your tube and the other end against his ear. As the ticking sound bounces against the wall, he'll hear it through his tube! *Note:* If he can't hear it, adjust the angle of your tube.



Then, she can pour them both back into the measuring cup—she'll see that two $\frac{1}{2}$ cups make 1 cup.

Write fractions

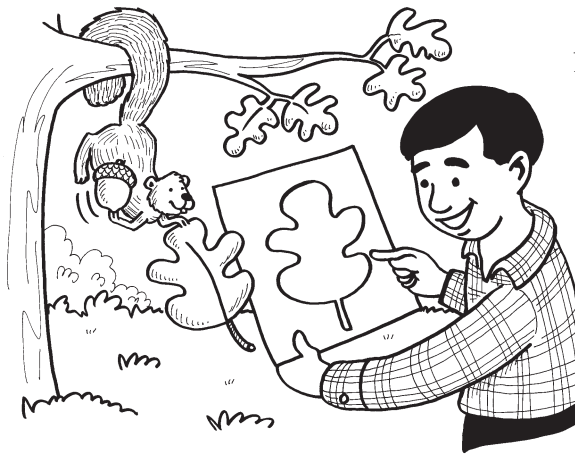
Have your youngster draw 3 houses and circle 1 of them. Help her write a fraction for the circled house: $\frac{1}{3}$. You can explain that the 1 on top of the line represents the "part," and the 3 on the bottom represents the "whole." She can learn to write more fractions with more sets. For example, she might draw 4 hearts, circle 3 of them, and write $\frac{3}{4}$ to represent the circled hearts.



Autumn leaves

Take advantage of cool fall days to enjoy science fun with your youngster. Help him collect a variety of leaves from the ground. Then, try these three suggestions:

1. Classifying is an important science skill. Ask your child to put the leaves in different piles by color (red, yellow, orange). Or he might place those with rounded edges in one pile and those with jagged edges in another. Finally, he can arrange the leaves from smallest to largest.
2. Have him pick three leaves of different shapes and trace around each one on a separate piece of paper. How many of



The rubbing will help him see features of the leaf like the veins and stem. Explain that the veins and stems carry minerals and water to the leaves and take food back from the leaves to other parts of the tree.

his leaves match each shape? Then, go outside together and see if he can match the shapes to the trees they came from.

3. Let your youngster place a leaf between two pieces of paper. Have him rub the top paper with the side of a crayon (wrapper removed). The leaf will appear on the paper!

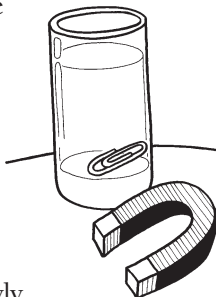
SCIENCE LAB

Magnet magic

What's invisible but can push and pull objects? Your child will find out with this experiment.

You'll need: a glass, water, a paper clip, a strong magnet (a bar or horseshoe-shaped one found at a dollar store or toy store)

Here's how: Have your youngster fill a large glass with water and drop in a paper clip. Let her hold the magnet against the side of the glass to attract the paper clip and slowly move the magnet up the glass.



What happens? The paper clip will travel with the magnet.

Why? The magnetic force attracts the paper clip because paper clips are made of metal, a magnetic material. The invisible magnetic force passes through the glass and the water to move the paper clip.

MATH CORNER

Place value

Why does the digit 2 mean 20 in the number 423 and 200 in the number 240? It's all about *place value*! Here are two ways your youngster can work on this important math skill at home.

Roll a number. Let your child roll a die three times and write the digits on a piece of paper (5 3 2). Then, you roll the die three times and write your numbers (3 4 3). Have him read the numbers you each created (532, 343) to see which is higher. Explain that the first digit tells us how many hundreds there are, the second digit is for tens, and the third digit is for ones.

Make a hanger. Tie three pieces of string to the bottom of a clothes hanger. Ask your youngster to write a three-digit number, thread a matching number of cereal rings onto each string (for 476, thread 4, 7, and 6), and knot the ends. Help him point to each column and say the number aloud: "Four hundred seventy-six." He'll hear that each digit has a place value (hundreds, tens, ones).



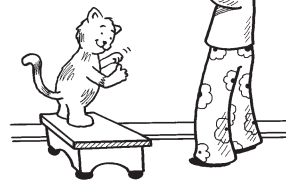
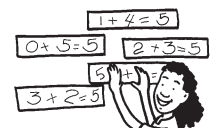
PARENT TO PARENT

A wall of math

My daughter's teacher thought she needed extra practice with her math facts and mentioned an idea for a "math wall." He said we could have Meredith write math facts and post them on her bedroom wall.

Meredith loves art projects, so I suggested that she use different-colored construction paper, markers, and glitter glue. She cut the paper into wide strips and used a pencil to write math facts that she's learning in school. For example,

she wrote all the number sentences equaling 5 ($0 + 5 = 5$, $1 + 4 = 5$, $2 + 3 = 5$, $5 + 0 = 5$, $4 + 1 = 5$, $3 + 2 = 5$).



I checked to make sure her equations were right, and then she went over the pencil with marker or glitter glue. She was excited when we hung them on her wall. Now Meredith makes a new set each week for us to hang up. She loves to read her number sentences—and she's learning her math facts!

OUR PURPOSE

To provide busy parents with practical ways to promote their children's math and science skills. Resources for Educators, a division of Aspen Publishers, Inc. 128 N. Royal Avenue • Front Royal, VA 22630 540-636-4280 • rfeustomer@wolterskluwer.com www.rfeonline.com ISSN 1942-910X