Intermediate Edition

Math+Science Connection

Building Understanding and Excitement for Children

November 2018

Sabold Elementary School Title I

Parent Resource

INFO BITS

Fractions everywhere

Your youngster might be familiar with using fractions when she divides up an apple or a pizza, but a fraction can represent part of a group, too. Challenge her to find this kind of fraction using household objects like socks or crayons. If she has 10 pairs of socks, and 3 pairs have polka dots, she could say that $\frac{3}{10}$ of her socks are polka-dotted.

Science comic strips

Drawing can help your child visualize science concepts. Suggest that he create comic strips about science topics he studies, such as plant growth or moon phases. The panels of a comic strip on plants might include a character planting carrot seeds, watering them with a hose—and munching on a freshly picked carrot!

Book picks

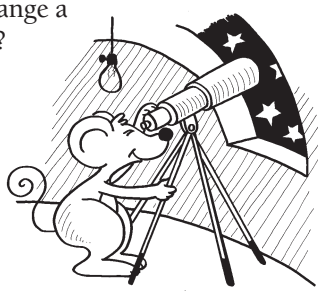
With cute rhymes, *The Best of Times* (Greg Tang) offers clever strategies for learning each set of multiplication facts.

How does a bionic leg work? Is there a flying car in your child's future? She'll learn about these and other inventions in *Super Cool Tech* (DK).

Just for fun

Q: How many astronomers does it take to change a light bulb?

A: Zero! Astronomers like it dark.



It's an algebra "mystery"

When 3 + 7 = ___ becomes 3 + x = 10, it's now an algebra problem! Encourage your youngster to put on his detective hat and solve the mystery of x with these ideas.

Hidden treasure

Get 20 small "treasures," such as jacks or game tokens. While your child closes his eyes, put some of the items (perhaps 14) into a brown paper bag. Have him open his eyes, count the remaining treasures (6), and make up an equation to figure out how many are still in the bag (6 + x = 20, so x = 14). Dump out the bag, and let him count to check his answer.

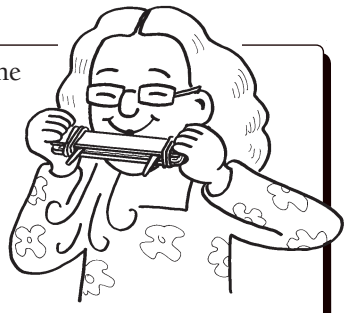
Mysterious stories

Make up algebra stories for each other. *Example:* "Jack was an unusual cat. He had 18 lives, which was 2 times as many as his dad, Mack, had. How many lives did Mack have?" Your youngster should use x for Mack's lives and write the equation (2 x x = 18). Since x = 9, Mack had 9 lives.

Secret equations

Ask your child to number separate slips of paper 0–12. Take turns picking two slips and writing an equation (addition, subtraction, multiplication, or division) involving those numbers. (*Example:* Draw 3 and 5, and write 15 ÷ x = 3.) Return the slips. After four rounds, trade papers, figure out what x equals in each of the 4 equations, and add up the 4 numbers. The player with the highest total wins.

Make your own harmonica



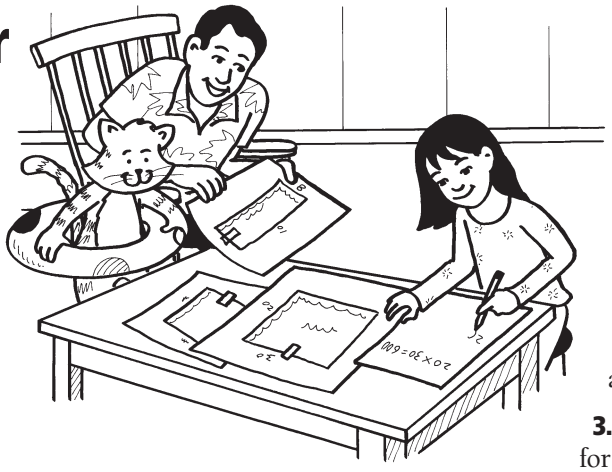
Your child will see how vibrations cause sound as she plays music on this homemade harmonica.

Have your youngster cut a strip of paper the length of a craft stick but slightly narrower. Help her make a "sandwich" by placing the paper between two craft sticks and secure the ends with rubber bands.

Now break a toothpick in half, and slide in one half between the sticks next to each rubber band.

Let your youngster blow in and out on the middle of her harmonica. The air she blows causes the paper strip to vibrate. It bumps into the craft sticks, making musical sounds!

Area and perimeter



What's the difference between *area* and *perimeter*? Area is the amount of space inside a shape, and perimeter is the distance around it. This activity will help your youngster "dive in" and practice calculating both.

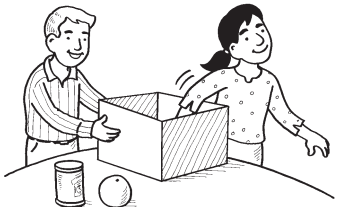
1. Imagine you're each designing a rectangular swimming pool. Take turns saying the length and width for your pool, and have your child predict whose will be longer and whose will be wider.

2. She can draw each pool and label it with its measurements. Then, she should find the area (multiply length times width) and the perimeter (add the lengths of all the sides). For instance, an 8-ft. by 10-ft. pool will have an area of 80 square feet (8 x 10 = 80) and a perimeter of 36 feet (8 + 8 + 10 + 10 = 36). But a 4-ft. by 5-ft. pool would have an area of 20 square feet (4 x 5 = 20) and a perimeter of 18 feet (4 + 4 + 5 + 5 = 18)—it's shorter and wider.

3. Now pick new measurements for your pools. With practice, your youngster will get better at calculating area and perimeter—and her predictions should get more accurate, too.

MATH CORNER Look, Ma, it's 3-D!

Solid shapes, or 3-D objects, have attributes just like their flat 2-D "cousins" do. Play this game with your youngster to help her identify attributes of 3-D shapes.



Secretly pick a 3-D object, like an orange (sphere), a soup can (cylinder), or a party hat (cone). Put the item in a box, and let your child reach in and examine it without looking.

Have her tell you about the object, such as that it has 1 face (flat surface) and 1 curved surface. Now she should name the shape (cone) and guess the object (party hat).

Then it's her turn to select an item for you. She might choose a die (cube) or a remote control (rectangular prism). Keep picking objects for each other to describe and identify—soon, she'll be comfortable using math vocabulary for 3-D shapes.

Q & A Need for speed?

Q: *When I was in school, our math tests were always timed. But now, my son says, there's no time limit on some of his math tests. Doesn't he need to solve math problems quickly?*

A: Your child's teacher knows it's important for students to think about the strategies they are using to solve problems, rather than just memorize facts and formulas. She uses tests to find out what students know, and if they're in a hurry, they may make mistakes—even though they know how to do the math.

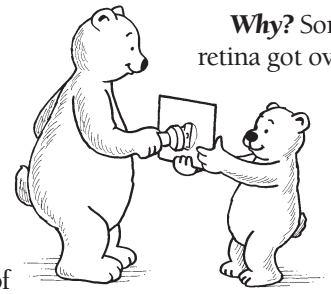
Your son does need to recall basic facts and choose problem-solving strategies efficiently. This is especially helpful as he moves on to longer and more complex problems. But there's no need for him to rush through his work. Taking an untimed test or having plenty of time to do math homework lets him try different strategies, show his work as he solves problems, and double-check his answers.

SCIENCE LAB I see an *afterimage*

Has your child ever seen a dark spot after looking at a bright light? This is called an *afterimage*—your youngster can learn what causes it with the following demonstration.

You'll need: scissors, cardboard square (6 inches or larger), transparent tape, flashlight

Here's how: Cut a dime-sized hole in the center of the cardboard. Have your child cover the hole with three layers of tape. In a dark room, your youngster should hold the cardboard straight out in front of him while you shine the flashlight through the hole (toward him). Tell him to stare at the tape-covered hole for 30 seconds and then look away at a blank wall.



What happens? He'll see an afterimage the same shape as the hole in the cardboard.

Why? Some cells in your youngster's retina got overstimulated and became less sensitive to the light. When your youngster looked at the blank wall, those cells saw the dark shape (the afterimage), and the rest of the cells in his retina saw the wall normally.

OUR PURPOSE

To provide busy parents with practical ways to promote their children's math and science skills.

Resources for Educators,
a division of CCH Incorporated
128 N. Royal Avenue • Front Royal, VA 22630
800-394-5052 • rfecustomer@wolterskluwer.com
www.rfeonline.com