Intermediate Edition

Math+Science Connection

Building Understanding and Excitement for Children

March 2018

Nazareth Area Intermediate School

Title I Math

INFO BITS

All-day math

Does your child realize he does math all day long? Challenge him to carry a notepad for a day and write down each time he uses math (buys lunch, tells time). *Idea:* Show him how you use math by keeping your own list (measuring laundry detergent, paying bills).

Animal track detective

Which animals have been scurrying around your neighborhood? Encourage your youngster to investigate by looking for tracks, or footprints. She can draw the tracks and practice math skills by measuring their lengths and widths. Then, help her use a library book or a website to find out who they belong to!

Book picks

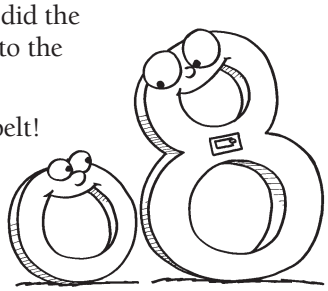
Lines, Bars and Circles: How William Playfair Invented Graphs (Helaine Becker) is the true story of the man who created the world's most popular kinds of graphs.

A baby elephant must quickly learn many important survival skills from its herd. *How to Be an Elephant: Growing Up in the African Wild* (Katherine Roy) describes an elephant's journey from the moment it's born.

Just for fun

Q: What did the zero say to the eight?

A: Nice belt!



Put numbers in their places

Hands-on activities like games and art projects can build your child's understanding of place value. Try these.

Number toss

Have your youngster fill four plastic zipper bags with uncooked rice and seal tightly. Then, she can write the numbers 0–9 on pieces of paper and tape them to the floor. On each turn, throw the bags, and use the digits they land on to say the largest possible four-digit number. For example, if your child hits 4, 1, 8, and 3, she'd say 8,431. The person with the biggest number wins each round.

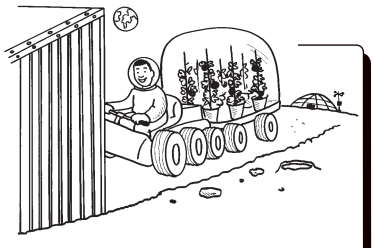
Guess the digits

Play this version of Hangman with numbers instead of letters. Your youngster picks a three- or four-digit number and draws a blank for each digit. Now, ask questions to figure out the digits ("Is the digit in the 10s place greater than 5?"). For each wrong guess, your child draws one part of a stick figure. Guess the number before the figure is complete! Then, trade roles.

Circle collage

Ask your youngster to assign a color to each place in a four-digit number. *Example:* red = thousands, yellow = hundreds, blue = tens, green = ones. Write any four-digit number, and have her cut out and label construction paper circles to represent it. For instance, if your number is 5,642, she would cut out 5 red circles labeled "1,000," 6 yellow ("100"), 4 blue ("10"), and 2 green ("1"). Encourage her to glue the circles randomly on paper to create a colorful collage.

My space colony



One day, humans may live on other planets. Have your youngster pretend he's an engineer who's been asked to design a colony on a world that's very different from Earth. He'll practice thinking about the needs of living things—and coming up with creative ways to meet those needs.

First, ask your child to select a planet and determine what people would require to survive there. He might say oxygen, water, food, and shelter.

Now, he can imagine what his colony will look like and draw his ideas. If his planet doesn't have oxygen, he could include a capsule where plants grow to produce it. Or if the planet is close to the sun, he could design an underground colony with tunnels and bunkers to keep people cool.

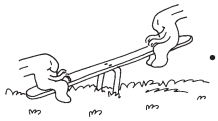
Code the alphabet

Encourage your youngster to try his hand at early computer programming with this variation on Braille. As he creates his code, he will also learn about the alphabet created for people with visual impairments—and what it is like to use it.

In Braille, raised dots stand for letters, and people run their fingers over the dots to read. Let your child use an empty egg carton and small balls or plastic eggs to create his own alphabet code.

To make A, he might put 1 ball in the bottom left corner and leave the other cups empty. He'll need to make a key for his code as he creates it. Then, take turns spelling simple words and closing your eyes to read each letter with your hand.

Note: Your child can find the Braille alphabet at *braillebug.afb.org/braille_print.asp.*



PARENT TO PARENT Learning math terms

My daughter Kayla struggles with vocabulary. And since she's learning so many new math words this year, like *liter* and *quotient*, this problem was affecting her math work.

I talked to Kayla's teacher, and he thought it would help to post the words where she could see them. He suggested that she write each word on an index card and illustrate it with a drawing or an example.

Kayla and I talked about what each word reminds her of. Since her favorite water bottle holds 1 liter, she drew a picture of the bottle on her *liter* card.

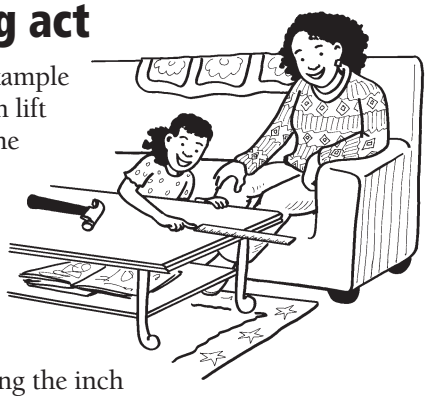
We hung the cards on the refrigerator so she could see the words every day. Once she masters a word, we take it down and add it to a pile on the counter. By associating the math words with something meaningful to her, she has been able to remember them more easily.

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

SCIENCE LAB A real balancing act



A seesaw is a familiar example of a lever. It's a type of simple machine that can lift weight on one end when you push down on the opposite end. This experiment will show your child what makes a lever balance.

You'll need: 12-inch ruler, low table, hammer

Here's how: Let your youngster lay the ruler on a table with the zero end at the edge. Now have her slowly slide it off the table, noting the inch mark at the edge when the ruler falls. Next, have her try this with a hammer, placing the wooden handle at the edge of the table.

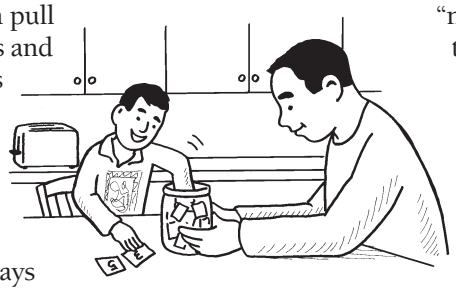
What happens? The ruler should fall off at the 6-inch mark. But your child can slide the hammer past the middle before it falls.

Why? Like a seesaw, the ruler or hammer balances at its *fulcrum*—this is the point where the forces are equal at each end. For the ruler, or a seesaw with children of equal weight, that's in the middle. For the hammer, or a seesaw with kids of unequal weight, the fulcrum is near the heavier end.

MATH CORNER That's (not) odd!

What happens when you add two odd numbers? Let your youngster find out for himself with this activity.

Ask him to write odd numbers (1, 3, 5, 7, 9) on slips of paper and put them into a jar. He can pull out any two slips and add the numbers together. Is the answer odd or even?



Have him try this again and again—he'll always get an even answer! Can he figure out why this works?

The reason: Adding two even numbers always gives an even answer, and every odd number is 1 digit more than an even number. Add the odd numbers' even "neighbors" together, and then add the "extra" 2 digits to make the sum even. For example, 3 + 5 = 8. Since 3 is 1 digit from 2 and 5 is 1 digit from 4, add 2 + 4 = 6 and then add 2 for the digits you dropped (6 + 2 = 8).