

Math+Science Connection

Beginning Edition

Building excitement and success for young children

April 2011

Prospect Point Elementary School



TOOLS & TIDBITS

Make a train

Here's a fun math game for you and your youngster. Gather Lego blocks (all the same size), and lay down a long piece of yarn between you. Then, take turns rolling a die. On each turn, make a "train" with that number of blocks on your side of the yarn. *Example:* If you roll a 3, use 3 blocks. The first player to reach the end of the yarn wins.

Catching bubbles

Play with bubbles, and learn a science lesson! Have your child try to catch a bubble with dry hands and then with wet hands. Which works better? She'll see that bubbles last longer in wet hands. That's because they pop when they get dry—and if dry hands touch a bubble, they take away some of the bubble's water.

Web picks

Click on your youngster's age, and find a variety of online math games for him to play at www.cyberkidzgames.com. Covers counting, addition, multiplication, and more.

With fun quizzes and colorful cartoon characters, this site will teach your child about his heart, his brain, and other parts of the body. www.aboutkidshealth.ca/En/JustForKids/Body

Worth quoting

"In every walk with nature, one receives far more than he seeks."
John Muir

Just for fun

Mom: That butterfly used to be a caterpillar.

Sammy: I knew it looked familiar!



Let's estimate

What's the difference between a guess and an estimate?

When your youngster makes a guess, he gives a random answer. But when he estimates, he uses what he knows about numbers to make a prediction. Here are ways he can practice estimating—a skill that can help him understand math questions and let him know if his answers are reasonable:



- Draw random dots (say, 30) on a piece of paper, and see if your child can estimate the total. Help him along with questions like "Are there more than 10?" "Are there 100?" After he gives his estimate, have him count and circle 10 dots. Ask him to look at the circle and make a new estimate. He'll see that breaking a larger number into smaller parts can improve his estimates.

- Let your youngster close his eyes and clap when he thinks 30 seconds have gone by. Do it again, but this time announce the 15-second mark. Or ask him how long it will take him to do 5 jumping jacks, and time him. Tell him the result, and ask him to estimate how

long 10 jumping jacks will take. He'll learn to use the information he knows to make better estimates—and he'll develop a sense of elapsed time.

- Point to an office building or apartment house, and ask your child to estimate the number of floors. To check, help him count windows going up. Point to another building, and pose the same question. Suggest that he compare the buildings—if the second one is taller, he should estimate a higher number. You might ask, "Is it a lot taller, or just a little taller?" By guiding his thinking, you'll help him learn how to think through his estimates. 🦋

Living (or not)?

Rocks...trees...tables...pets. Help your child sort living and nonliving things with this simple project.

First, talk about how you know something is alive (a plant needs water, a dog needs food). Then, let your youngster use a camera to take pictures of things she sees throughout a day, such as a book, lamp, squirrel, or spider. Print the pictures, and have her divide them into two piles: living or not living.

Finally, let her display her findings on a poster board. She can draw a line down the middle, write a heading on each side, and glue the photos where they go. *Idea:* Have her label each picture. 🦋



Stormy weather

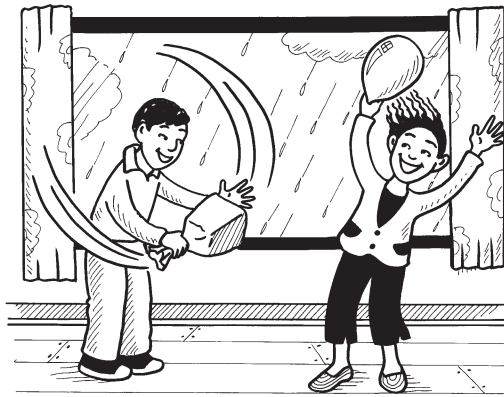
Spring and summer often bring thunderstorms. Use these times to help your child learn about the wonder—and power—of nature.

Observe

When a storm is approaching, let your youngster observe from the safety of your home. She can watch clouds getting darker, spot lightning, and listen for thunder. Suggest that she draw a picture of the storm. She might use silver and gold crayons on black paper to draw lightning and rain against a dark sky.

Make “thunder”...

Have your child blow into a brown paper lunch bag to fill it with air. Help her twist the top closed and then pop the bag



with her hand. The bag will break open, and the air rushing out will make a sound. That’s what happens when hot air expands and we hear thunder.

...and “lightning”

Turn off the lights and let your youngster rub a balloon on her hair for a few seconds. Hold the balloon (now charged with static electricity) to the end of a fluorescent light bulb—the electrical charge will bounce from the balloon to the bulb, and the bulb will light up! In a thunderstorm, clouds become charged with electricity. When that electricity jumps around in the air, we see lightning.

PARENT TO PARENT

Finding patterns

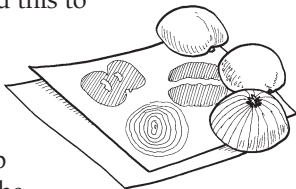
My son Caleb surprised me the other day when he was having a snack and said, “Look, Mom. There’s a pattern in this orange.” When I asked what he meant, he was proud to explain that he was learning about patterns in math. He said a pattern is “something that repeats.”

So we started looking for patterns in other fruits and in vegetables, too. I cut an apple in half, and Caleb noticed how the seeds made a pattern. He also found patterns when I cut open a tomato, an eggplant, and even an onion.

I mentioned this to

my sister, who teaches first grade. She suggested a way that Caleb could “save” the

patterns he finds. She said I could cut some fruits and vegetables in half, and then he could dip the cut pieces into paint and stamp them onto paper. Caleb loved doing this, and now his fruit and vegetable patterns are hanging on our kitchen wall!



MATH CORNER

Recognizing coins

Which coin is which? Here are three ways for your youngster to learn:

1. Lay a penny, nickel, dime, and quarter on a table. Give your child a magnifying glass, and let her examine each coin carefully. Suggest that she look at both sides and the edges. Ask her to describe the pictures she sees, read any words she knows, and say the dates.
2. Let her make “coin rubbings.” She should place white paper on top of a coin and color over it with a crayon. Have her make rubbings of both sides of each type of coin. She can label them with the coin’s name and value (“nickel, 5 cents”).
3. Bury coins in a bucket of sand. Have your youngster reach in with her eyes closed and pull one out. With her eyes still closed, she can feel the coin and try to name it. If she’s correct, she puts it aside. Have her keep fishing and identifying until she has found all the coins.



SCIENCE LAB

Craters on the moon

On a clear night, let your child use binoculars to find craters on the moon. Or show him pictures in library books or online. Then, try this experiment so he can see how craters form.

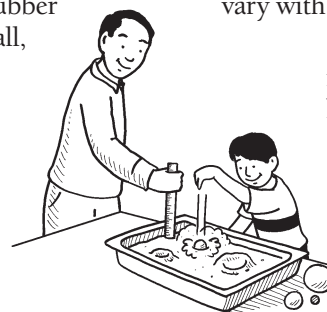
You’ll need: wide container, flour, ruler, round or small objects (rubber ball, pebble, Ping-Pong ball, marble, rock, tennis ball)

Here’s how: Let your child put a layer of flour (about two inches deep) in the container and smooth it flat. This represents the moon’s surface. Hold the ruler

upright in the flour, and let him drop each object, one by one, from a foot high into different parts of the container. Ask him to notice how much flour flies out and how wide and deep each “crater” is.

What happens? Each object will make a crater in the flour. The crater’s size will vary with the size and mass of the item.

Why? Explain that craters form when meteorites—or huge rocks—crash into the moon. The crater’s size depends on the size and mass of the meteorites, just like the size of his craters depends on the objects he dropped.



OUR PURPOSE

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

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www.rfeonline.com
ISSN 1942-910X