

Math+Science Connection

Beginning Edition

Building excitement and success for young children

May 2010

Sparta Area Schools
Southside School

TOOLS & TIDBITS



Sidewalk math

Here's a fun way to practice math outside.

Use sidewalk chalk to write an addition or a subtraction problem (3 suns + 4 suns = __ suns). Your child can draw the problem (☀☀☀ + ☀☀☀☀ = __), count the suns, and draw the answer (☀☀☀☀☀☀☀☀). Then, have her fill in the number (7).

Soil erosion

Explain *erosion* with this experiment. Let your youngster make a small mound of dirt outside. Then, he can pour water on top (the dirt will *erode*, or wash away). Have him try again, but this time put rocks on the dirt pile. Does that help the soil stay in place?

Book picks

▣ A trip to the beach turns into a fun counting game in *One Is a Snail, Ten Is a Crab* by April Pulley Sayre and Jeff Sayre. Snails, dogs, spiders, crabs, and other animals display their feet for counting in combinations from 1 to 100.

▣ Introduce your child to desert life through Barbara Bash's *Desert Giant: The World of the Saguaro Cactus*. She'll learn why this cactus is important to both animals and people.

Worth quoting

"Behold the turtle. He makes progress only when he sticks his neck out."

James Bryant Conant

Just for fun

Q: What is full of holes but can still hold water?

A: A sponge!



Summer math "camp"

School may be ending, but learning doesn't have to. Combine math with activities like these, and you'll help your child keep up his skills and be ready for school in the fall.

Measurement hunt. Together, make a list of items to look for outside (leaf, flower, branch). As your youngster finds each one, have him use his hand to measure it. Is the flower as wide as his hand? Is the leaf longer than his index finger? How many hands long is a tree branch? He'll learn about the relationships between objects.

Music time. Singing songs is a good way to practice counting. Sing a song to your child ("Row, Row, Row Your Boat"), and ask him to clap to the syllables. Next, he can sing and clap along. Finally, have him replace the words with numbers sung to the tune of the song.

Running and jumping. Ask your youngster to estimate how many jumps it would take to get from the front door to



the car or from your house to his friend's house next door. After he estimates, he can jump to check his answer. Have him estimate time, too. How long will it take him to run once around the house? Check his answer with a stopwatch or a second hand on a watch.

Idea: Just like your child might keep a record of books read over the summer, have him keep a log of math activities. In a notebook, help him enter the date and the activity (kept score while playing Yahtzee, counted my toy trucks). Encourage him to add at least one math activity each day. 🐛

Amazing ants

Ants may not be too much fun at a picnic, but they're fascinating insects for your youngster to watch. Here's how:

- Go outside together, and help your child look for ants. Let her crawl alongside them, and encourage her to make observations. What do the ants look like? What are they doing?
- Have her place different foods in a circle about a foot from an anthill. *Examples:* a crumbled cracker, bits of banana, chopped-up cucumber, a crushed cookie. Eventually, she'll see trails of ants crawling to the foods and carrying them away. Which foods are most popular? *Note:* Put the food on small paper plates or plastic lids so it's easier to see when it's gone. 🐛

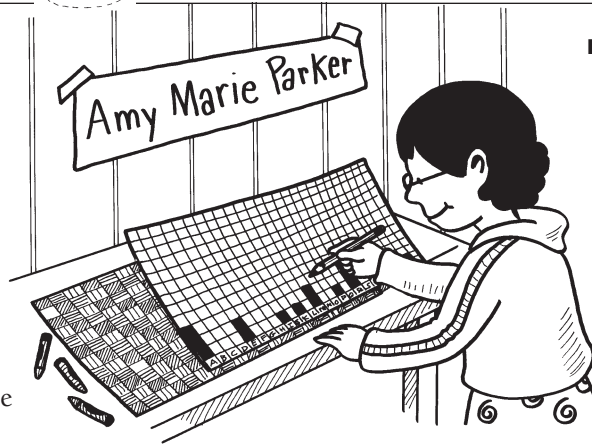


What's in a name?

How does graphing help your youngster picture and use information? Let her use her own name to find out!

Together, make three sheets of graph paper by dividing paper into rows and columns. Or she can print graph paper at www.printfreegraphpaper.com. Then, try these ideas:

■ Let your child write her name over and over, one letter per box, until she has filled a page. Have her color the boxes a different color for each letter. For example, Amy might use purple for A, green for M, and orange for Y. What patterns does she see? (vertical lines, diagonal lines)



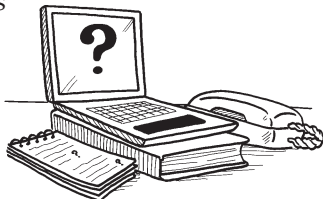
■ Turn a sheet horizontally, and help your youngster write the alphabet across the bottom row of squares. On a piece of scrap paper, have her write her full name (Amy Marie Parker) and count how many times each letter appears. She can graph the data by coloring in the number of squares over the matching letter (example: A = 3 boxes, M = 2, Y = 1).

■ Suggest that your child write her name across one row of boxes. Next, she can write each family member's name on a separate row. Who has the longest name? The shortest?

Q & A Answering questions

Q: My son is always asking me "why" and "how" questions. I know this is a great time to get him interested in science, but I don't always know the answers. What can I do?

A: Show curiosity yourself! Say that you'd really like to know why the grass is green or how airplanes fly, too. Then, help him find the answers. Look in a book, or have him type his question into a kid-friendly search engine like www.askkids.com or www.yahookids.com. Or suggest that he call someone who might know (an older cousin, a neighbor).



Of course, you won't always have time to help your child the minute he asks. Give him a small notepad to use as a "why book." When he asks a question you can't answer, have him jot it down. Together, you can look up the answers on your next trip to the library.

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OUR PURPOSE

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

Solve the shape mystery

Kids love a good mystery! Here's a game that will sharpen your child's geometry skills as he identifies and describes shapes.

On a slip of paper, write "Shape Wanted," along with a description of a shape that is "wanted for questioning." You might write what the shape looks like (the number of edges and corners), what it did, and where it was last seen. *Examples:* "A large shape with four sides and four corners was last seen covering up Sammy's bed." (a blanket) "A 3-D round object is wanted to play an outside game. It was last seen in the hall closet." (a ball)

Give your youngster the description. Ask him to track down the shape and name it (rectangle, sphere). Then, have him make a "Wanted" description for you.



SCIENCE LAB

Making raisins

Your youngster probably likes grapes, and she might like raisins, too. Does she know they're the same fruit? This activity will show her where raisins come from and teach her about evaporation.

You'll need: a bunch of grapes, a plate

Here's how: Have your child rinse off the grapes, pull off the stems, and put them on a plate. Let her set the dish in a sunny window. She should check their progress daily.



What happens? After 3–4 days, the grapes will begin drying out and getting smaller. She can taste them and report whether they taste more like grapes or more like raisins. In about a week, they will turn into raisins.

Why? Grapes contain water. The sunlight makes the water evaporate—or change from a liquid to a vapor. When the moisture is gone, the grapes shrivel up into raisins.