

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

February 2013

Sweetbriar Elementary School



TOOLS & TIDBITS

How far?

Help your child turn distances into math problems that she can solve. If you're walking to a play date, you could say, "It's 4 blocks to Lexi's house. We've gone 2. How many more blocks do we have?" When she answers (2), ask how she knows. She might say, "I know 4 minus 2 is 2, so there are 2 blocks left."

See your breath

Your youngster probably thinks it's fun to exhale and see his breath on a cold day. Ask him why he thinks that happens. (The water vapor in his breath condenses into tiny drops of water and forms a little cloud.) *Note:* If it's not cold in your area, have him exhale onto a mirror—he'll see the cloud form there.

Web picks

Find a wide variety of math games by grade level at ixl.com/math. Includes activities for counting, addition, subtraction, patterns, and more.

At urbanext.illinois.edu/woods/45.html, your child can take a virtual walk in the woods and learn about what grows and lives there. (Also offered in Spanish.)

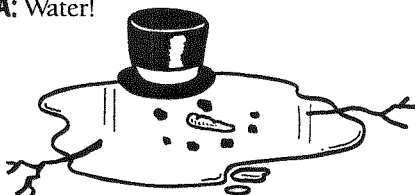
Worth quoting

"Math, it's a puzzle to me. I love figuring out puzzles." *Maya Lin*

Just for fun

Q: What do you call an old snowman?

A: Water!

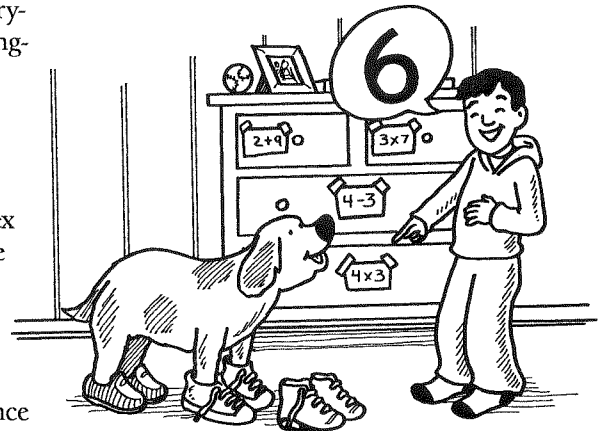


Math around the house

Your house is filled with everyday opportunities for your youngster to practice math. Here are three ideas to try.

Answer before opening

Help your child write math facts like $2 + 9$ or 3×7 on index cards (one per card) and put the answers on the backs. Then, he can tape each one to a drawer, cabinet, or door. Every time he opens a door or drawer, he has to answer the math fact first. Once he has those facts down, have him change the cards to new ones. *Tip:* Encourage other family members to join in the game and say the answers, too, when they open doors or drawers.



and spoons will help him understand the relationships between measurements (for instance, $\frac{1}{2}$ cup is more than $\frac{1}{4}$ cup).

Begin to multiply

Counting pairs is a first step to doing multiplication. Tell your child to put out 3 pairs of shoes. Then, ask him how many total shoes there are (6). How does he know? ("There are 3 pairs of 2 shoes, so that's 6.") He has just multiplied $3 \times 2 = 6$! Let him count other pairs, such as legs on his action figures or gloves in the closet.

The survey says...

Encourage your child to take her very own survey. As she sets it up, polls family or friends, and reports her results, she'll work on data skills like the ones she's learning in school. Try these steps:

1. Have her write a question ("What is your favorite winter activity?") and possible answers (sledding, drinking hot chocolate, ice-skating, making a gingerbread house).
2. Let your youngster decide who to survey. Then, she can conduct her poll by phone, by email, or in person.
3. Suggest that she make a picture graph to show her results. She could draw a picture for each option and a smiley face next to it for each person who chose that answer. Which picture has the most smiley faces? The fewest?



Bounce a ball

Experimenting with balls is a fun way for your child to do scientific investigations and use math skills, too. Here are two questions to pose:

● **Which is the bounciest ball?** Let her gather various balls (tennis, Ping-Pong, golf, baseball, beach) and predict which one will bounce the highest. Tape a yardstick to the wall, and have her drop each ball next to it to measure the height of the first bounce. Next, she can predict which ball will bounce the most times, and then drop each ball and count. Finally, she could use a stopwatch to time which ball bounces the



longest. How do her predictions compare to her results? *Note:* Make sure she drops the balls from the same height for each experiment.

● **What's the best surface for bouncing?** This time, have your youngster choose one ball and think of surfaces for bouncing it. She might try a carpet, tile floor, wood floor, and sidewalk. Again, ask her to make a prediction first—on which surface will the ball bounce the most times (or the highest, or the longest)? Then, she can test the ball to find out.

Idea: Encourage your child to think about her results with open-ended questions, such as “Does the size of the ball make it bouncier?” or “Does the material make a difference?”

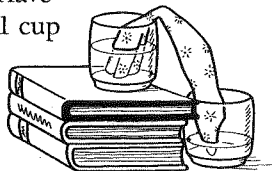
SCIENCE LAB

Watch the water “travel”

Your youngster will be fascinated by this illustration of water “traveling”—and he’ll learn a lesson about plants and trees.

You’ll need: 2 juice glasses, measuring cup, water, books, paper towel

Here’s how: Have your child pour 1 cup of water into one glass and leave the other glass empty. He should place the glass of water on a stack of books and put the empty one on the counter next to it. Let him roll the paper towel into a tube and put one end into the glass of water and curve it so the other end is in the empty glass. Ask him to observe the results after 10 minutes and then 20 minutes. He can feel the paper towel and measure the water in each glass.



What happens? Some of the water travels up the paper towel and transfers into the second glass.

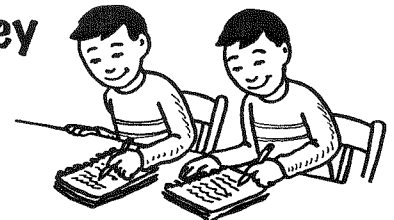
Why? *Capillary action* causes liquid to travel upward through narrow tubes. This is how water moves from the roots of a tree or plant to its leaves.



PARENT TO PARENT

The value of money

Even though our twins are young, I wanted them to start learning about the value of money. I mentioned this to my sister, who is a kindergarten teacher, and she said this is also a great way to help them with math.



She suggested that we give them each an allowance and a notebook to keep track of how they spend and save their money. Now, each week, they put the amount of their allowance at the top of a page. Then, they write down the amount they will save (\$1.00) and the name and amount of anything they bought. For instance, last week Derek wrote, “baseball cards, \$2.00,” and Devin had “toy car, \$1.00.”

At the end of the week, I help them add the amount they spent and saved and subtract it from the amount they started with. They put that amount at the top of the next page, add their new allowance, and begin again. I think that watching where their money goes is helping them to learn about the value of money—and I’m glad they’re learning to keep their own “ledgers,” too.

MATH CORNER

Know your numbers

Making this game will give your child practice in writing and sequencing numbers, and playing it will help her learn to recognize them. Here’s how.

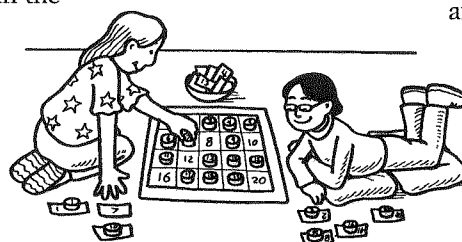
Materials: 20 slips of paper, bowl, cardboard, marker, 20 plastic bottle caps

Let her number the slips of paper (1–20) and put them in the bowl. To create the game board, have her draw a grid on the cardboard (with five horizontal lines and six vertical lines) and number the boxes

1–20. Finally, help her write a number (1–20) on the top of each bottle cap and put each one in its matching space on the game board.

To play, take turns choosing a number slip and finding the bottle cap with the same number. Place the cap on the paper in front of you. When all the matches are made, put the caps back on the board, and play again. *Tip:*

Collect more caps, and make a larger board and more number cards—even a 10 x 10 grid for 100!



OUR PURPOSE

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

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