

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

January 2013

Sweetbriar Elementary School

TOOLS & TIDBITS



3-2-1 Blast off!

Give your child practice counting backward with this idea. Have him tape together empty toilet paper tubes and tissue boxes into a homemade rocket ship. Then, ask him to count down from 5 to blast off! Next, he can count down from 7 or 10. Counting backward will help him understand number relationships (for instance, 7 is more than 6, and 6 is more than 5).

Nighttime walk

Since it gets dark before your youngster's bedtime now, take a walk outside to enjoy the wonders of the night together. Encourage her to notice the shape of the moon, count the stars she sees, or try to spot constellations. Then, be silent, and ask her to describe the nighttime sounds she hears.

Book picks

Introduce your little one to multiplication and division in *The Lion's Share* (Matthew McElligott), a clever tale of "halving cake and eating it, too."

All the Water in the World (George Ella Lyon) tells about the water cycle in playful words and pictures. It also explains that we have a limited supply of water—and we have to take care of it.

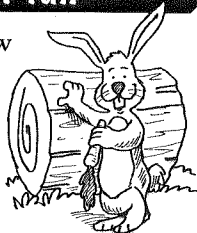
Worth quoting

"Snowflakes are one of nature's most fragile things, but just look at what they can do when they stick together." *Vesta M. Kelly*

Just for fun

Q: How do you know carrots are good for your eyes?

A: Because you never see a rabbit wearing glasses!



Subtraction strategies

As your child learns to subtract, it will help her to know there's more than one way to find the answer. Show her these strategies, and she's sure to find subtraction easier—and more fun!


Act it out. Suggest that she use favorite toys or objects to demonstrate a problem. For $5 - 3 = \underline{\quad}$, she could line up 5 barrettes and take away 3 of them. If she counts the ones left, she has her answer (2).

Draw a picture. Another idea is to sketch the problem. For $9 - 4 = \underline{\quad}$, she might draw 9 houses and cross out 4 of them. How many houses are left? (5)

Make a number line. Have your youngster draw a line and write the numbers 1–20 along it. To solve a problem like $14 - 7 = \underline{\quad}$, she would place a "counter" (bingo chip, pebble) on 14 and move it down by 7 numbers. She'll see that the answer is 7.




Simplify the math. Encourage her to think of ways she could adjust the numbers to make the problem friendlier. For $19 - 14 = \underline{\quad}$, she might add 1 to each number, making the problem $20 - 15 = \underline{\quad}$. Since that answer is 5, she will know that $19 - 14$ is also 5.

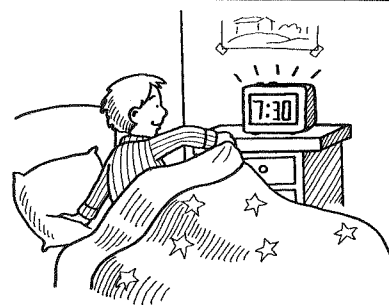
Turn it into addition. Help your child see that she can use what she knows about addition to solve subtraction problems. If the problem is $11 - 8 = \underline{\quad}$, she could think, "I know that 8 plus 3 equals 11. So 11 minus 8 must equal 3." 

What time is it?

Get your youngster ready to tell time with these ideas:

● Ask him to look around for as many "timekeepers" as he can find. He might locate a digital alarm clock, an analog wall clock, an oven or a microwave timer, a watch, a cell phone, a stopwatch, or an hourglass from a board game. Show him how you use each one to tell time.

● Mention the time regularly, and tie it to something he knows. For instance, you might say, "It's 8:30 a.m. That's almost time for school." Put a clock in his room, and encourage him to read the numbers at different points in the day. Eventually, he will associate the numbers on a clock with the activities he does. 



MATH CORNER

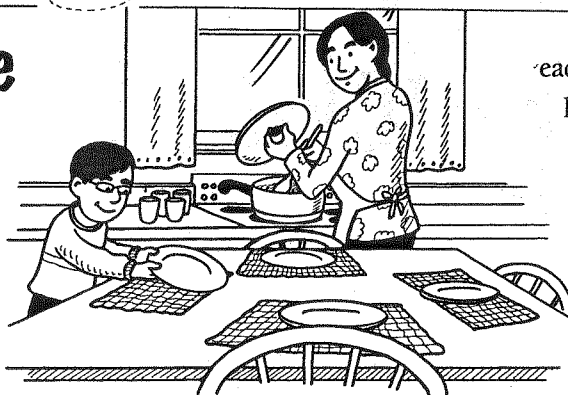
One-to-one

"1, 2, 3, 4... there are four books by my bed."

When your youngster matches numbers to objects as he counts, he is practicing an important early math skill: one-to-one correspondence. Try activities like these to work on this at home.

Set the table

Make it his job to set the table for dinner. As he puts out the items, have him count (1 plate, 2 plates, 3 plates). He will make one-to-one matches—since



each person needs one. *Idea:* During playtime, suggest that he set the table for his stuffed animals.

Play a game

Ask your child to label 10 index cards 1–10 and add the matching number of stickers on the flip side (4 stickers on the "4" card).

To play, he can pick a card and count out that number

of small objects (erasers, beads). If there's one for each sticker, he got it right.

Count the snack

On a sheet of construction paper, let him draw 20 circles and number them 1–20. Then, have him count his snack into the circles. For instance, he might have 12 grapes and 6 cheese cubes. When he finishes putting them in the circles, he will have counted 18 pieces.

SCIENCE LAB

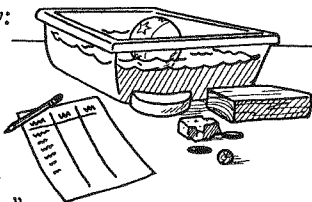
Will it float?

Dropping things in water to see if they'll float is not only fun, it's a science lesson.

You'll need: paper, pencil, a sink or plastic tub full of water, and objects of different sizes, weights, and materials (examples: apple, wood block, rock, plastic ball, marble, soap bar, coins)

Here's how:

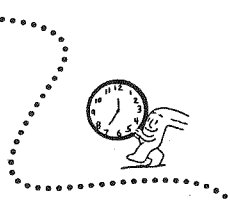
Have your child make a record-keeping sheet with three columns ("Object," "Prediction," "Result"). Then, let her choose one item, predict whether it will sink or float, and drop it in the water to see. She should repeat the experiment and record the results for each item.



What happens? Some objects will float, and others will sink.

Why? Floating and sinking have to do with density. When an object is denser than water, it sinks. If it's less dense than water, it floats.

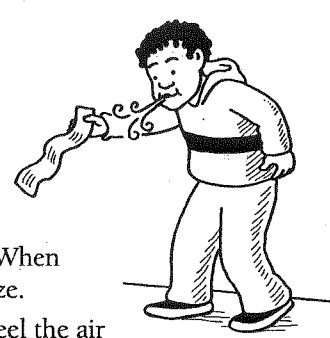
Idea: Ask her to separate the objects into two piles based on whether they sink or float. What is similar about the items in each pile?



Feel the air

Your child may know that air is all around him. But how can he prove it's really there when he can't see it? Here are three ways:

1. Have him place his hands on his rib cage. Then, tell him to breathe in and exhale out deeply. As he breathes in air, his rib cage fills up and gets bigger. When he breathes the air out, it goes back to its regular size.
 2. Ask him to blow on the palm of his hand. He'll feel the air even though he sees nothing.
 3. Let him hold a piece of crepe paper and blow on it. What happens? (It moves.)
- Idea:* Have him blow on the streamer at the top, in the middle, and at the bottom. He'll notice that blowing at the top makes the crepe paper move the most (because air flows down).



Q & A More math, please!

Q: I often read about children who don't like math. In our house it's the opposite—my daughter loves math and always wants me to give her math problems. What should I do?

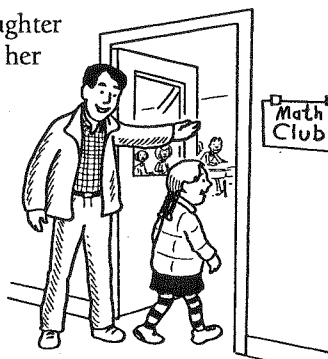
A: It's great that your daughter enjoys math. Check with her teacher to see if there are after-school activities she could join, like math club or chess club. The school might even participate in math competitions.

Also, ask her teacher for number games you

can play together or math websites she could try at home or at the library.

Then, when you're in the car or waiting at appointments, give her challenges like "Double this." Ask her to start at 1

and keep doubling numbers (1, 2, 4, 8, and so on). Or take turns giving each other number patterns (3, 6, 9) and asking what the next number would be (12). Building on her enthusiasm for math will show you're interested in her education—and in her!



OUR PURPOSE
 To provide busy parents with practical ways to promote their children's math and science skills.
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 a division of CCH Incorporated
 128 N. Royal Avenue • Front Royal, VA 22630
 540-636-4280 • rfeustomer@wolterskluwer.com
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