

# Math+Science Connection

Beginning Edition

Building excitement and success for young children

April 2012

Cuyahoga Falls Elementary Schools

## TOOLS & TIDBITS



### Math tic-tac-toe

Make a tic-tac-toe game with addition or subtraction problems in each square (3 + 6, 5 - 3). To play, take turns doing a math problem and marking an "X" or "O" on top. The winner is the first with three in a row (across, down, or diagonal). Let your youngster make a new board, and play again.

### Find changes

Encourage your child to look for evidence of a storm after it ends, such as tree branches on the ground or worms on the sidewalk. Ask her what she thinks caused these changes. *Idea:* Have her divide a piece of paper in half and draw a storm on one side and "after the storm" on the other.

### Web picks

At [cookie.com/kids/games/mathgames.html](http://cookie.com/kids/games/mathgames.html), children will find all kinds of games. They can search for the missing numbers in math stories, shop for groceries and total the cost, and more.

Can't get to the Exploratorium science museum in San Francisco? The museum's website is the next best thing. Check out [exploratorium.edu/science\\_explorer](http://exploratorium.edu/science_explorer) for experiments and activities to do at home.

### Worth quoting

"Weeds are flowers, too, once you get to know them." A.A. Milne

## Just for fun

**Q:** What animal needs oil?

**A:** A mouse, because it squeaks!



## Solving story problems

Mrs. Starr's class took 6 balls outside for recess. When the children came in, they had only 4 balls. How many were left outside?

Math problems like these can be fun for your child to solve because they tell a story. Try these ideas to help her enjoy word problems.

### Set the stage

Seeing the story "live" can help your youngster work out the problem. Ask her to step outside with 6 balls and walk back in with only 4. How many did she leave on the front porch? Have her count and tell you the answer in words ("I left 2 balls outside").

### Draw the scene

Another idea is to let your youngster draw a picture of the problem. In one frame, she could sketch the school and put 6 balls on the playground. In the next frame, she could draw 4 balls inside the school. Have her figure out how many balls are missing and then draw



a final frame for the answer (2 balls hidden in the playground grass). *Tip:* Have her write the equation at the end ( $6 - 4 = 2$ ).

### Think it through

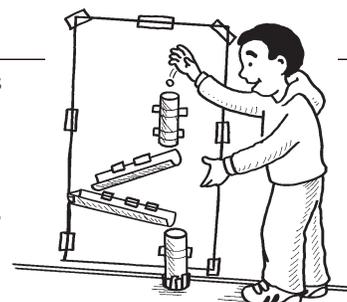
Ask questions that will encourage your youngster to think through the problem. You might have her tell you the story in her own words and help her along with questions like, "What do you know?" and "What do you need to find out?" Then, ask her what is happening in the problem, and have her describe the action. 

## Marble run

Building and playing with a marble track lets your youngster experiment with angles, distances, and motion. Here's how to get started.

Gather materials like paper towel and toilet paper rolls, wrapping paper tubes, cereal boxes, scissors, tape, and marbles. Help your child tape a piece of poster board to a wall. Then, have him make his marble track by taping together toilet paper rolls or sections of wrapping paper tubes and forming ledges out of cereal box pieces. Encourage him to be creative by adding twists and turns as he goes.

Now he can drop in marbles to see how they move. Suggest that he change the angles of the pieces and try again. Do the marbles go faster or slower? 



# The world of bugs

Here's a fascinating fact: At any one time, there are more than 10 quintillion bugs alive on earth! Your youngster can explore some bugs in his corner of the world with these activities.

**Go on a hunt.** Encourage your child to look under rocks, in logs, or around leaves on the ground. Take along a magnifying glass so he can get an up-close look. *Idea:* Have him take a "bug census." He can draw a picture of each type he sees and make a tally mark for the number he finds.

**Build a "bug motel."** Let your youngster decorate the outside of a shoebox with doors, windows, and a sign and put leaves



and twigs inside. Then, he can carefully catch bugs for a stay at his motel. Have him observe them and release them back into nature. *Idea:* Put in two plastic caps, one with plain water and one with sugar water. Which one do the bugs prefer?

**Collect and display.** Since bugs don't live very long, it's easy to find dead ones to collect. Your child could glue each one he finds onto a cotton ball and then glue the cotton balls onto a shoebox lid. Suggest that he look up the bugs in a library book or online to identify and label them.

*Note:* Be sure your youngster doesn't pick up bugs that sting or bite.

## SCIENCE LAB Ocean in a bottle

Let your youngster create her own "ocean." She'll learn a lesson about density—and wind up with a cool decoration for her room.

*Materials:* empty 2-liter soda bottle (or clear jar), water, blue food coloring, cooking oil



*Here's how:* Have your child fill the bottle about  $\frac{1}{2}$  full with water and add a few drops of blue food coloring. She should screw the lid on tightly and shake to turn the water blue. Open the bottle, and let her add oil until the bottle is  $\frac{3}{4}$  full. Screw the top back on, and have her lay the bottle on its side and rock it gently.

*What happens?* The rocking action will create waves. As the liquid settles, the oil will float to the top.

*Why?* The oil is less dense than water.

*Idea:* To make the "ocean" into a room decoration, let your child add glitter and small plastic sea creatures and shells. Then, put glue around the inside of the cap, and close tightly.



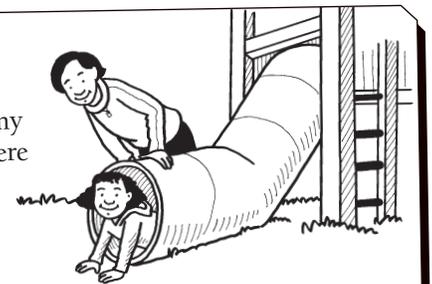
## PARENT TO PARENT

### Which way?

Recently I volunteered at my daughter Ava's school during recess. As we were watching the children on the jungle gym, one of the teachers mentioned that this is a good time to help build "spatial awareness."

I asked her what she meant, and she said encouraging kids to move in different directions helps them recognize "position" words. For example, she said, you might suggest that they crawl *through* a tunnel or use the swings *next to* the tree.

Now when I take Ava to the park, we play games involving directions. Sometimes we play Mother, May I? where players ask permission to move ("Mother, may I move 4 giant steps *forward*?"). Other times, Ava and her friends play Follow the Leader, and the leader has to announce which way she's going. I know Ava is having fun at the park, and I'm happy that she's learning at the same time.



## MATH CORNER

### Learning my numbers

Help your child recognize numbers up to 20 and understand what they stand for. Here are two ways:

- Have your youngster fold a sheet of construction paper in half, in half again, and unfold it. In one box he can write a number (3). In the second one, he can make the corresponding number of dots. In the third, he can draw or cut out magazine pictures of 3 things (3 bikes, for example), and in the fourth, he can write the

number word (three). *Tip:* Let him make a sheet for each number, 1–20, and keep them in a folder.

- Divide a piece of poster board into a grid with 20 boxes, and ask your child to write a number in each box, 1–20. Then, let him press the matching number of thumbprints (using an inkpad or paints) into each box. *Tip:* When he's finished, hang the poster in your house.



## 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  
540-636-4280 • rfeustomer@wolterskluwer.com  
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