

Math+Science Connection

Beginning Edition

Building excitement and success for young children

September 2011

TOOLS & TIDBITS



Measure your hug

How big is your child's hug? Let her find out

by holding yarn from hand to outstretched hand. Cut the yarn, and then have her measure it. She might use markers ("My hug is 9 markers long"), or you could help her with a tape measure. *Idea:* Do this each year, and she can watch her hug grow!

Night critters

Here's an activity that lets your youngster observe bugs that are active at night. Hang a white sheet from a tree or clothesline. Go outside together after dark, and shine a flashlight on the sheet. As bugs land, your child can observe them. How many different kinds does he see?

Book picks

▣ In *Pigs Will Be Pigs: Fun with Math and Money* (Amy Axelrod), a family of hungry pigs eats all their groceries. Then, they search the house for money to go out to dinner. Youngsters can help them solve math problems along the way.

▣ From green buds in spring to white snow in winter, your child will love exploring the colors of the seasons in *Red Sings from Treetops: A Year in Colors*. A Caldecott Honor Book by Joyce Sidman.

Worth quoting

"The art and science of asking questions is the source of all knowledge."
Thomas Berger

Just for fun

Teacher:

Name six wild animals.

Eddie: Two lions and four tigers.



Math all day

From the time your child gets up until he goes to sleep, math can be part of his daily life. Show him fun ways to use math all day long.

Morning. Help your youngster tell the time when he wakes up. Talk about what time he has to leave for school and how many minutes he has to get ready. That will help him develop a sense of *elapsed time*. He can also check the temperature in the newspaper or read your thermometer if you have one hanging outside. Or he might help you count money for his lunch or your cup of coffee.

Afternoon. Let your child be the scorekeeper or banker when you play board games. Make a game out of counting the times you each dribble a basketball before shooting a basket. ("Who can dribble the most times?" "The fewest?") Or have him divide the cookies evenly when he has friends over for snacks.

Shape poetry

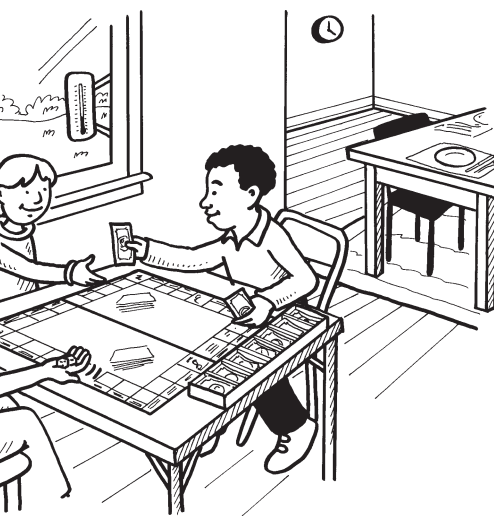
A round ball. A rectangular calculator. An oval mirror.


Encourage your youngster to find different-shaped objects and write about them in "shape poems." First, have her list a few objects. For each one, she can write the name ("picture frame"), the shape ("square"), and phrases describing it ("four sides," "four corners," "holds a picture").

Then, she can use the words to write a poem. On a piece of construction paper, have her draw the object's shape and carefully cut it out. Finally, she can copy her poem onto the shape.

Example:

Four sides, four corners,
It's called a square.
And guess what?
My picture is there!



Evening. While you're making dinner, your youngster can set the table. He'll practice counting, create patterns (fork, plate, spoon, fork, plate, spoon), and learn that the number of settings has to match the number of people. At cleanup time, try posing fun math challenges. ("Can you put away 3 red toys, 4 blue toys, and 5 green toys?" "Can you stack $9 + 4$ blocks on the bottom shelf?") When it's bedtime, ask him how many pages are in his book. Better yet, pick out a math story to read before lights-out! 



Blending in

Why are animals all different colors? Your youngster can explore one reason with these fun activities that will teach her about *camouflage*.

Spot animals. Take a walk outside to notice creatures in their surroundings. You might point out a brown deer near a tree trunk or a green frog in the grass. Explain that some animals blend into the background to disguise themselves and stay safe. *Note:* You could also read books on the topic, like *What Color Is Camouflage?* (Carolyn Otto) or *Hiding in Forests* (Deborah Underwood).



Play hide-and-seek. Have your child close her eyes while you hide five stuffed animals around the house so they are camouflaged. A blue parrot might be tucked into a blue sofa cushion, or a white polar bear might go in the bathroom sink. After your child finds them all, she can hide stuffed animals for you to find.

Make pictures. Suggest that she draw or paint a forest, an ocean, a jungle, or a desert. She should add animals, making sure to include at least one that's camouflaged. For example, she might hide a brown bear in the woods. Can you find her camouflaged animal? Now make a hidden-animal picture for her.

Q & A Problem solving

Q: I've heard that parents can help their children become better "math thinkers." How can we do that in our family?

A: People think of math as just being about numbers, but it's also about problem solving. Encourage your children to be good problem solvers, and they'll be lifetime math thinkers!



Start by letting your youngsters come up with solutions to everyday problems. For example, if they're putting away leftovers and ask which container to use, have them figure it out themselves. Through trial and error—"This container is too small" or "This container is just right"—they'll see that they can find their own solutions.

Also, ask your children lots of questions, and give them time to think about their answers. You can encourage them to talk through their ideas, too. This will help them build reasoning skills. Plus, they're apt to see that there can be more than one right answer.

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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SCIENCE LAB

Ice race

How fast does an ice cube melt? It depends on where it is! Let your child learn about states of matter and temperature with this experiment.

You'll need: 3 ice cubes, 3 bowls, a timer (watch, cell phone, stove clock)

Here's how: Have your youngster place each ice cube in a separate bowl and put one bowl in the refrigerator, one on the kitchen counter, and one in the sun. Ask him which cube he thinks will melt the fastest. The slowest? Help him time how long it takes each cube to melt.

What happens? The cube in the sun will melt the fastest, and the one in the refrigerator will take the longest.

Why? Higher temperatures speed up the melting process.

Idea: Put the bowls of melted ice into the freezer, and have your child predict whether they will turn back into ice cubes. (When the water refreezes, he'll see that they take the shapes of the bowls they're in.)



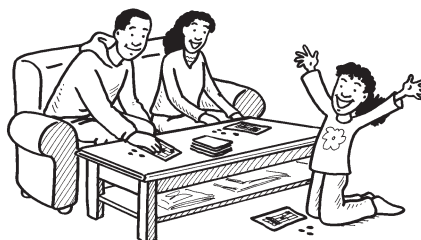
MATH CORNER

Math bingo

Here's a fun way to build math skills as you turn any night into family bingo night.

First, have each player create a bingo card with three rows and three columns. In each box, players should randomly write one number between 0 and 20. Then, give each person markers (buttons, pennies), and try these games:

- On separate index cards, write number words (zero through twenty). Shuffle the cards, and stack them upside down. Hold



up one card at a time. If a player has the matching numeral on her bingo card, she puts a marker on that square and says the number. The first one to fill her card wins.

- Write addition and subtraction problems on index cards. (*Note:* Make sure the problems can be answered by the numbers 0–20.) Call out the problems,

and players mark the square if they have the answer. The first to get three in a row yells, "Bingo!" Check her card against the problems, and play again.