

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

May 2016

District School Board of Pasco County

Title I



TOOLS & TIDBITS

"Reading" traffic signs

What's that octagon?



Why, it's a stop sign! Have your youngster notice the shapes of traffic signs—and recognize what they represent. She could draw her own guide to traffic signs,

labeling the shapes and what they mean. *Examples:* ▲ triangle = yield, ● circle = railroad crossing, and ◆ pentagon = school zone.

Turn cream into butter

For a tasty activity, help your child pour heavy cream into a jar and screw the lid on tightly. Tell him to shake the jar (or take turns shaking) until the cream turns into butter. You can explain that as drops of fat and protein collide, they stick together to form a solid. *Tip:* Let him time how long it takes.

Book picks

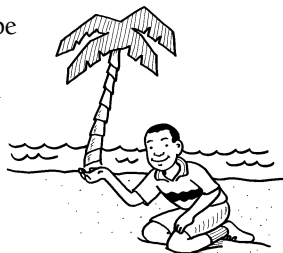
See how twins Matt and Bib put their measurement skills to work in a French kitchen with *Pastry School in Paris: An Adventure in Capacity* (Cindy Neuschwander). Includes activities to do at home.

What's the Matter in Mr. Whiskers' Room? That's the question—and the answer involves lots of fun experiments with matter! A book by Michael Elsohn Ross.

Just for fun

Q: What type of tree can you hold in your hand?

A: A palm tree.



Math is everywhere

Wherever you go this summer, math can go along for the ride.

Encourage your child to enjoy math everywhere with these ideas.

Count around

Ask him to name objects or animals to count during each outing, such as blue cars, purple flowers, or squirrels. He could record his findings in a special "counting notebook." Then, at the end of each week, have him analyze his results. ("I counted 12 purple flowers and 8 yellow flowers. I saw more purple flowers than yellow flowers.")

Make graphs

Heading to the playground? Let your youngster think of something to graph—perhaps the number of boys and girls or people with brown, blond, or red hair. He can make tally marks for each person and turn his data into a bar graph. *Idea:* Suggest that he use sidewalk chalk and rocks to create a 3-D graph. If he has 7 rocks



in the boy column and 4 rocks in the girl column, he'll see at a glance that there were more boys.

Hold scavenger hunts

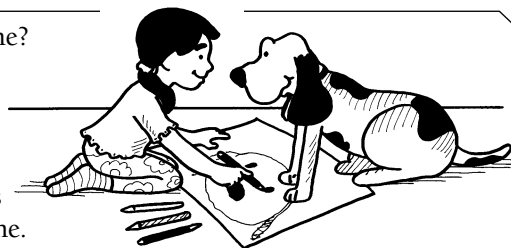
Together, make a list of "math problems" to collect on a walk (4 + 3 twigs, 12 - 5 pebbles, 4 + 0 acorns). Give your youngster a pillowcase for gathering the items. When he has found them all, he can dump out the bag and use the objects to create the problems. He might say them aloud ("4 twigs + 3 twigs = 7 twigs"). Or he could make up a silly story problem for each one. ("The pebble-eating giant had 12 pebbles. He ate 5 for breakfast. How many did he have left for lunch?")

The eyes have it

How are eyes different and the same?

Sit opposite your youngster, and use colored pencils to sketch each other's eyes on paper. If you have a pet, let your child draw its eyes, too. Then together, look closely at various animals' eyes in library books or online.

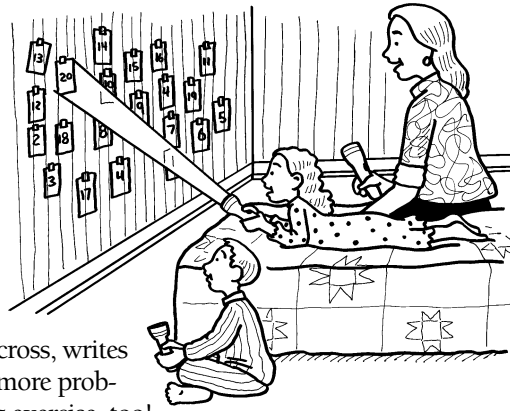
What does she notice? She might say the eyes are different colors and shapes, but that humans and animals all use their eyes to see. Also, help her discover interesting details about eyes. For instance, beavers' eyelids are clear so they can see underwater, and giraffes have several rows of eyelashes to keep dust out.




Facts without flashcards

Here are fun ways to brush up on addition and subtraction facts this summer.

Race to answer. Put a blank sheet of paper and a pencil at one end of a yard or room, and have your child stand at the other end. Shout out a math problem ($2 + 6$). She runs across, writes the equation ($2 + 6 = 8$), and races back. The more problems, the more practice—and she'll be getting exercise, too!
Note: When the sheet is full, check her answers together.

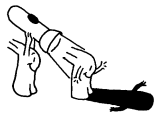


Decorate with math. Encourage your youngster to put math into arts and crafts projects. If she's coloring or painting, she could write number sentences and add silly faces or pretty designs to them. Or she could use markers to write math facts on picture frames or jewelry boxes that she makes.

Shine a light. You and your child will enjoy this bedtime activity. Help her number index cards 1–20 and tape each one to her bedroom wall. Get flashlights, and turn out the lights. Give her an addition or subtraction problem, and she shines the flashlight on the answer. If she gets it right, it's her turn to give you a problem. Or shine a light at a number, and ask her to tell you a fact (for 9, she might say $4 + 5 = 9$). Keep playing until it's time for bed. 

SCIENCE LAB

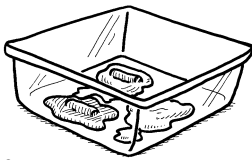
Melting crayons



This experiment is perfect for a hot, sunny summer day.


You'll need: crayon pieces with wrappers removed, 2 plastic containers

Here's how: Have your child divide the crayon pieces between the two containers and place them outside, one in a sunny spot and the other in a shady spot. Ask him to predict what will happen to the crayons. Check back each hour for 1–2 afternoons.



What happens? The crayons in the sun will melt much faster (the ones in the shade may not melt at all, depending on how hot it is).

Why? The sun generates heat that raises the crayons to their melting point. Let your youngster stand in the sun (wearing sunscreen and a hat) and then in the shade to feel the difference for himself.

Idea: Suggest that your child sort the crayon pieces by color into separate containers and place all the containers in the sun. Does the color affect the melting time? 


Q & A

Think like a mathematician

Q: My child came home from school saying that he wants to “think like a mathematician.” I love that he loves math! How can I build on this at home?

A: And we love that you're asking this! It's great to inspire your youngster to think like a mathematician from a young age. You can help by posing math questions, playing math games, and problem solving together.

Try playing “A Lot or a Little?” Name a number, and each person says when that number seems like a lot or a little. If the number is 12, for example, you may say that 12 gallons of ice cream would be a lot, but 12 seconds would be a little.

Also, help him use math to solve problems. Say he's having trouble sharing—suggest that he “think mathematically.” He could set a timer for each person's turn on the computer. Or he might evenly divide the toy trucks so each friend has the same number. 

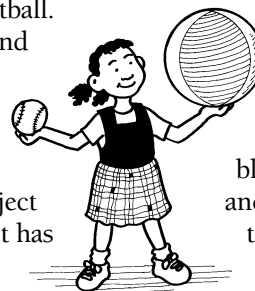


MATH CORNER


How heavy?

Give your youngster hands-on experience in estimating and comparing weights with these suggestions:

- Young children often think that bigger means heavier. Put out a large, light object like a beach ball and a smaller but heavier one, such as a softball. Have your child predict and then test by holding one in each hand. This can lead to interesting conversations about size and weight. How could an object be smaller but heavier? (It has a greater mass.)



- Without your youngster seeing, put small objects of different weights (toothpicks, sticky note pad, stones) inside separate plastic eggs or brown lunch bags. Show her the closed eggs or sealed bags. Her job is to line them up from lightest to heaviest. Help her use a kitchen or postal scale to check her results.

- What weighs more, water or air? To test this, help your child blow up and knot one balloon. Fill another balloon with water, blow it up to the same size, and knot it. (She'll learn that water weighs more.) 

OUR PURPOSE

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

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