

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

September 2018

Title I

Prince William County Public Schools

TOOLS & TIDBITS

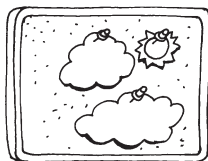


Math talk

“Let’s add 3 flowers to the vase.” “We have zero light bulbs left.” Help your child become familiar with math words and phrases by weaving them into regular conversation. This also shows him that math is an important part of daily life. More examples: *half, equal, more than, less than, first, second, length, height, combine, take away.*

Make a weather board

Have your youngster decorate a bulletin board or a space on the refrigerator to show the weather. She could cut out weather symbols from construction paper (sun, clouds, raindrops, snowflakes, lightning bolts). Each day, she can hang up a background to match the sky (blue, gray) and add symbols that show what’s going on outside.



Book picks

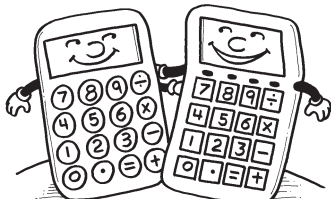
▣ *Billions of Bricks* (Kurt Cyrus) is a rhyming story that encourages your youngster to count the bricks at a construction site.

▣ A little moth teaches a curious kitten named Oscar about sources of light and explains what causes day and night in *Oscar and the Moth: A Book About Light and Dark* (Geoff Waring).

Just for fun

Q: What did one calculator say to the other?

A: You can count on me.



Begin with number sense

Get your youngster off to a terrific start to the school year math-wise with activities that build her *number sense*. What’s number sense? It’s the basic understanding of what numbers mean and how to work with them. Try these suggestions.

Set up games

When you play board or card games, involve your child with the setup. There’s likely to be math on the table! For instance, tell her that each person needs 1 token or 12 cards. She will practice counting, one-to-one correspondence (one object for each number)—and character traits like helpfulness and cooperation.

Count your exercises

Here’s a way to combine counting and physical activity. Have regular “family fitness moments” where each person does 10 jumping jacks, 15 sit-ups, or other exercises. The key? Your youngster counts aloud to keep track of your “reps” (that’s



“repetitions” in exercise talk). *Idea:* To work on writing numbers, she could keep a family exercise log.

Do math on-the-go

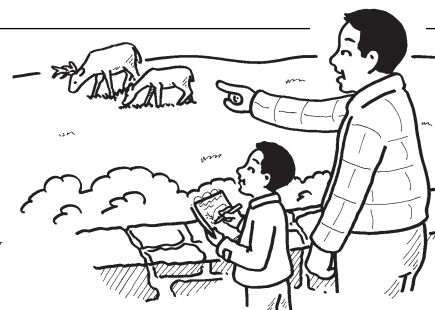
Insert math into everyday moments when you’re out with your child. Trying to find her new friend’s home? Ask her to read the house numbers until she comes to the right one (say, 127). Need 4 avocados for tonight’s guacamole? Ask her to count them at the grocery store. It won’t be long until your youngster understands how numbers relate to real life. 🦋

My “life list” of animals

Encourage a lifelong interest in animals with this simple idea. Suggest that your child begin—today!—to keep a “life list” of all the animals he sees.

He can jot down the name of each animal he notices, whether he’s outside playing, walking in a park, or on the way to school. He might add details like the animal’s color, body covering (fur, scales, feathers), and what group it belongs to (mammals, reptiles, birds).

Not sure of the animal’s name or group? He could draw a sketch or take a photo. Then, look it up together online or in a library book. 🦋



What can I measure with?

How many jelly beans long is a paper towel? How many pretzel sticks wide is your youngster's backpack? Using familiar objects to measure things around the house will prepare your youngster to use standard measurement units like inches and centimeters. Here's how.

1. Show your child why it's important to measure with same-size units. Each of you can get used crayons (worn down to various lengths) and measure the same book by taking turns



lining up your crayons from one end to the other. Let your youngster count his crayons and then yours—the number will probably be different. Ask him why (the crayons aren't all the same size).

2. What would happen if the crayons were all equal in length? Now have your youngster measure the book a few times with new crayons to find out. (He'll use the same number of crayons every time.)

3. Give your child a strip of cardboard to create a ruler using a unit of measurement he picks. Perhaps his ruler will be 12 jelly beans or 6 pretzel sticks long. Now take turns naming a household item and predicting how many long it is using the unit he chose. He can use his ruler to check the estimates.

MATH CORNER Ways to make a number

Here's an activity that lets your child see how many ways there are to express the number 6, the number 12—or any number.

Together, go through old magazines, and cut out pictures with various numbers of objects. Mix up the pictures in a bag, pull one out, and ask, "How many?" The simple answer might be "6 bananas." But what other way could your youngster express that number of bananas? Take turns coming up with answers, such as:



- 2 groups of 3 bananas
- 3 groups of 2 bananas
- 1 banana + 5 bananas
- 9 bananas – 3 bananas

When you run out of possibilities, pull out another picture, and start over. *Tip:* Let your child glue each picture onto a sheet of paper and write the options as you go. He'll have a record of all the ways to make that number.

OUR PURPOSE

To provide busy parents with practical ways to promote their children's math and science skills.
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SCIENCE LAB Let's have a magnet race

Hold a "race" with your youngster so she can discover how magnets "pull" items across the floor.

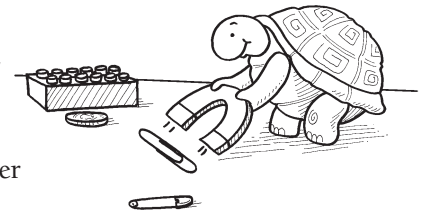
You'll need: masking tape, magnets, small household objects (metal paper clip, plastic paper clip, building block, safety pin, eraser, penny)

Here's how: Mark a start line and a finish line on the floor with tape. Each player selects any object and places it at the start line. On "Go," players hold their magnets close to—but not touching—their items and try to move them to the finish line.

What happens? Some objects will follow a magnet while others won't.

Why? The invisible force from a magnet attracts objects like metal paper clips because they're made of iron, a magnetic metal. It won't attract items made of plastic or ones that don't contain iron.

Tip: As you race with different objects, have your youngster sort them into piles of magnetic and nonmagnetic. What can she tell you about how they're alike or different?



Q & A That isn't how I learned math!

Q: *It seems like my daughter isn't being taught math the same way I was. Why has it changed?*

A: If you talk to people from different generations, you'll probably find they were all taught math in different ways—and today's generation is no exception.

Your daughter is learning concepts rather than just memorizing facts. She's also using different approaches like drawing pictures or acting out problems. And she's being prepared for more advanced math. For

example, if she can explain why $6 + 4 = 10$, she'll be able to talk herself through solving $60 + 40 = 100$.

Ask your child to teach you to solve problems she brings home. This reinforces what she's learning and shows you more about today's math. Also, try to attend math nights or

send any questions you have to her teacher. The more comfortable you are with how your daughter is learning math, the more you'll be able to support her.

