Beginning Edition

Math+Science Connection

Building Excitement and Success for Young Children

October 2018

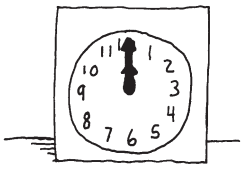
Title I

Prince William County Public Schools

TOOLS & TIDBITS

Telling time

Let your youngster practice writing and telling time by drawing a clock for each part of her day. She might draw a digital clock saying 7:00 a.m. and write "Wake up" next to it, and an analog clock showing 12:00 for "Lunch." Then, help her read a real clock when she does each activity.



Marshmallow science

With your child, microwave a marshmallow for 30 seconds to see what happens. It gets bigger! Explain that air is the "secret" ingredient that makes marshmallows puffy. When air gets hot, it moves around faster—that's what made his microwaved marshmallow inflate. *Safety note:* Tell your youngster not to use the microwave alone.

Web picks

At *mathcats.com*, your youngster can join the "cats" to balance objects on a scale, solve brainteasers, do math crafts, and more.

Let your child explore space science at *nasa.gov/kidsclub*. Includes a printable International Space Station activity book.

Just for fun

Q: Which clown wears the biggest shoes?

A: The one with the biggest feet.

See that shape!

Where could your youngster find a triangle in real life? How many sides does a hexagon have? These ideas will help your child recognize and compare everyday shapes.

Create a collage

Give your youngster old catalogs or magazines, and have him cut out pictures of items that are all different shapes. Now he can glue the pictures on construction paper and tell you about the shapes he found. "The yield sign is a triangle." "The cheeseburger is a circle!"

Play "Shape War"

This card game lets your child learn how many sides each shape has. On index cards, help him draw and write the names of different shapes, one per card: triangles, squares, rectangles, trapezoids, pentagons (5 sides), hexagons (6 sides), and octagons (8 sides). Shuffle the cards, and deal them in facedown stacks to each player. Flip over your top card, and count the sides of the shape—the high number wins the cards. (In a tie, play a second card.) Collect all of the cards to win.

Make a block sorter

Suggest that your youngster sort his blocks by shape. Have him gather one block each with a circle, square, rectangle, and triangle on its *face* (its flat side). Help him trace around each face on a shoebox lid and cut out the shapes. Put the lid back on the shoebox so he can drop his blocks into the matching holes. As he sorts, encourage him to make connections between flat and solid shapes. ("The cube has six square faces.")

Where did I put those acorns?

A fun way to learn about animals is to pretend to be one! With this acorn hunt, your child will do just that.

Go outside together, and look for squirrels gathering acorns. Does your youngster know that some species of squirrels hide all their nuts in one spot, while others hide them in multiple places?

Now, let your child gather a dozen acorns and put them in a bag. Indoors, hide the nuts for each other to find. Try both storage strategies. Why does your youngster think the squirrels might prefer one or the other?

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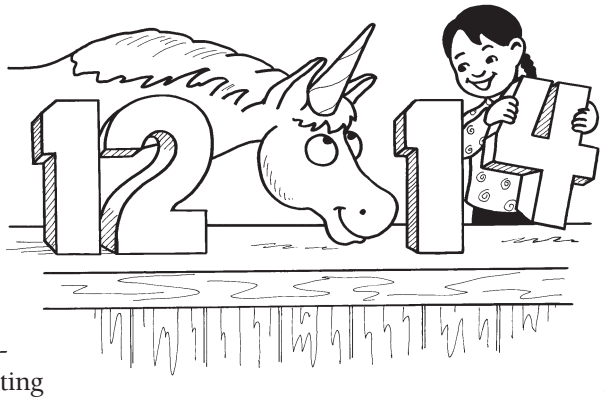
Counting on

If you ask your child to count to 5 or 10, she'll probably start with the number 1. Help her learn to start at 3 or 6 instead—she'll practice *counting on*, an important part of number sense.



"Unicorn" counting

This game encourages your youngster to think about which number comes next, the first step in counting on. Together, count to 20, taking turns saying the numbers. The catch? On any turn, you may say "Unicorn" rather than the next number. For instance, if your child says 12 and you say "Unicorn," she must think, "What number comes after 12?" When she realizes it's 13, she'll know to say 14 next.

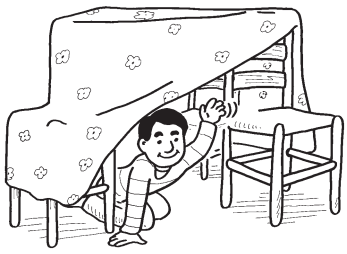
Roll and count

A roll of the dice determines which number your youngster will count *from* and *to*. First, have your child roll 1 die. This is the number she'll start counting at (say, 3). Then, she should roll 2 dice and add them together (perhaps 5 + 4 = 9). The total indicates which number to count to. So she would count from 3 to 9—by saying, "3, 4, 5, 6, 7, 8, 9." Now it's your turn to roll and count.

SCIENCE LAB Engineer a play fort

Building forts out of chairs and sheets is a childhood tradition. Encourage your youngster to think like an engineer and make the sturdiest fort possible.

He might start by simply placing a sheet over several chairs. He can go in and out of his fort a few times to test it. What happens? The ceiling may sag, or the sheet might slip off the chairs.



How could your child improve his design? Maybe he'll put another chair in the middle to support the ceiling. Or perhaps he will place heavy books on the chairs to keep the sheet in place.

Now let him enter and exit the fort again. If the sheet still sags or falls down, he can redesign—and retest—until his fort is sturdy enough to play in!

OUR PURPOSE

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

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PARENT TO PARENT Different strategies, same solution

In school, my son is learning to find different ways to solve the same math problem. At dinner one night, he asked if he could give us a problem and see how everyone came up with solutions.

Andy chose 24 + 24. I was surprised by how many ways we found to solve it—and by the "heated" debate that followed! Andy added the tens (2 tens + 2 tens = 4 tens, or 40) and then the ones (4 + 4 = 8) to get 48. My teenage daughter Lisa insisted it was easier to think in terms of money. She said 1 quarter is worth 25 cents, 2 quarters equal 50 cents, and 24 is 1 less than 25, so the answer is 48. And I said that 24 + 10 = 34, 34 + 10 = 44, and 44 + 4 = 48.

It was fun to debate about different strategies. And now we've decided to make "Dinner Problem of the Day" a nightly event.

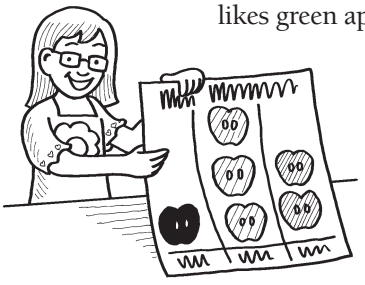
MATH CORNER Apples: Taste and graph

Find out which apple wins the popularity contest with this taste test and colorful apple-print graph.

Materials: red, yellow, and green apples; paper and pencil; poster board; red, yellow, and green paint

1. Slice apples, and have your child set them out for everyone to taste.

2. Your youngster can ask each person which color apple they like best and record their answers.



3. Help her create a graph by dividing poster board into three columns labeled "Red," "Yellow," and "Green."

4. Cut apples in half, and let her dip the cut sides into paint to stamp an apple print for each person's vote. (Stamp a green apple in the green column if Mom likes green apples best.)

5. Encourage her to use her graph to report on the data. How many more people liked red apples than yellow ones? Which two colors got the same number of votes?