

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

October 2017



Region #12 Elementary Schools
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TOOLS & TIDBITS

Math stories

To improve your youngster's understanding of word problems, have him retell them in his own words. For extra fun, he can change the names to people he knows: "Dad and Jack read 4 books on Sunday and 2 on Monday. How many books did they read in all?" ($4 + 2 = 6$)

Put on a science show

Let your child share science she is learning with the whole family by staging a show.



She could

demonstrate experiments, perhaps talk-

ing through a tin-can-and-string telephone or melting ice cubes. Then, she can explain the *phenomena*. (She'll like that big word!) She might tell how *sound waves* traveled through the string or describe *liquids* and *solids*.

Web picks

At mathgames.com, your youngster will use number patterns, counting, or subtraction to protect the queen bee in Math Buzz, solve puzzles in Age of Math, and much more.

Check out the Wonder of the Day question at wonderopolis.org, and learn what a polar ice cap is or how stars form. Or let your child pose a question of her own.

Just for fun

Q: What do rhinoceroses have that no other animals have?

A: Baby rhinoceroses!



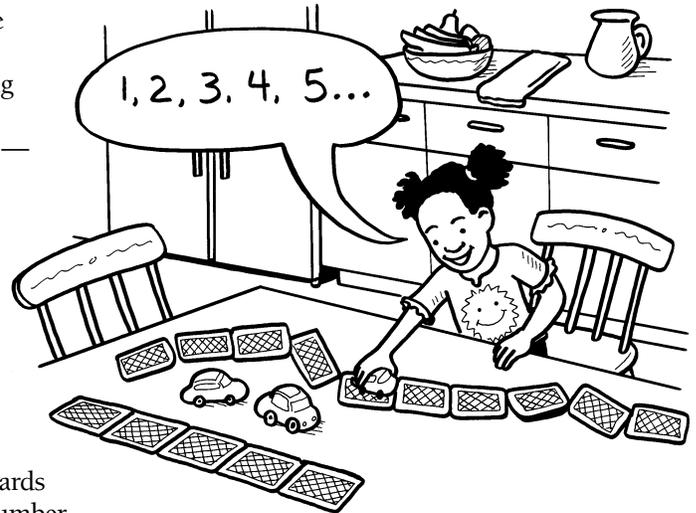
The afternoon commute

Understanding the *commutative property of addition*—changing the order of numbers being added together—helps your youngster master math facts. She'll enjoy driving her "math car" to learn about this important property.

Counting roadways

Suggest that your child create 2 roadways out of playing cards placed end to end (number side down). Maybe 1 road will be made of 10 cards and the other 5.

To find the total number of cards, she can drive a toy car on them, counting the cards on the first road (1, 2...10), then continue counting with the second (11, 12...15) to get the sum (15). Ask her to count again, but this time start with the second road (1, 2...5), then move to the first one (6, 7...15). She'll see the total is the same!



Swapping cars

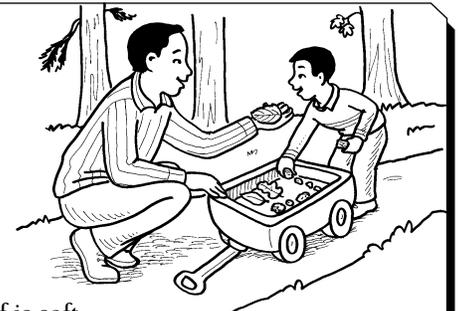
Let your youngster put a piece of masking tape on the tops of 2 toy cars and draw a number of dots on each tape (for instance, 2 dots and 3 dots). Have her put one car on the left and the other on the right. What addition number sentence does that represent? ($2 + 3 = 5$) Now, have her swap (or "commute") the order of the cars. The equation may look different ($3 + 2 = 5$), but the answer is identical. 🦋

Framing nature

Take advantage of the world outside your door to explore natural science with your child.

On a walk, encourage your youngster to gather items that look interesting (leaves, acorns, rocks). Have him lay out his collection. Then, ask him what's the same and what's different about the objects. Perhaps he'll say that an acorn is hard and smooth, a rock is hard and rough, and a leaf is soft and bendable. Or he may notice colors—green and red leaves, brown acorns, and white rocks.

Let him choose his favorites to exhibit. He could glue leaves to paper and frame them or place rocks in a shallow box. 🦋



Shape scavenger hunt

Squares, rectangles, circles, and hexagons—where might they be hiding? See what your child can learn about shapes and their attributes with this idea.

1. Find. Challenge your youngster and his friends to find as many shapes as possible in your home in 5 minutes. They could gather smaller items and quickly sketch pictures of bigger ones.

2. Identify. When time's up, have everyone show what they found and name the shape. One child might have found a plate (circle), a DVD case (rectangle), and an oyster cracker (hexagon).



3. Count. How many circles did each youngster collect? Or how many straight sides did your child find? If he has a circle (0 straight sides), a rectangle (4 sides), and a hexagon (6 sides), he has 10 straight sides altogether. Who found the highest number of straight sides?

4. "Tell." Let each person find a way to show or tell about

his shapes. One child may form his arms into a circle and hop twice to "tell" he has 2 circles. Another youngster might draw a rectangle in the air and do 4 jumping jacks to indicate he has 4 rectangles.

Q & A "That will be 75 cents, please"

Q: My daughter is learning about the value of coins. What's a fun way to practice counting money at home?

A: On the weekend, set up a play deli at lunchtime. Suggest that your child make a list of foods to "sell," such as sandwiches, apples, and grapes. Then, she could decide the cost of each and decorate a menu with prices.



Hand out change for everyone to use as they place their orders. When your daughter orders, she can gather the coins she needs for each item and count them to the "cashier." For example, she might use 1 quarter (25¢) and 1 nickel (5¢) to pay for a 30¢ sandwich ($25¢ + 5¢ = 30¢$). What other coins could she use? (3 dimes, 6 nickels, or other combinations.)

Next, let her be the cashier and count your payment to make sure it's correct.

OUR PURPOSE

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

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www.rfeonline.com
ISSN 1942-910X

MATH CORNER

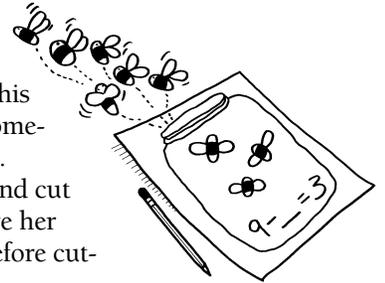
Firefly algebra

Finding the missing number in this delightful early algebra activity is something your youngster will want to do again and again.

Let her draw a jar on a piece of paper, then draw and cut out 10 fireflies from another sheet of paper. *Idea:* Have her paint the fireflies with glow-in-the-dark craft paint before cutting them out.

Put some of the fireflies "in" her jar (say, 9). Ask her to count them. Then with her back turned, remove some fireflies (perhaps 6). When she turns around, she counts the fireflies left in her jar (3). How many flew away? ($9 - 6 = 3$, so 6 flew away.) *Tip:* If you used glow-in-the-dark paint, turn out the lights so she can count the glowing fireflies.

Now it's her turn to control the fireflies. She might start with a few and, while you're not looking, add more. After you count them all, tell her how many fireflies flew into the jar.



SCIENCE LAB

What's in the water?

Protecting our environment starts with learning about it. This simple experiment will teach your child about water pollution.

You'll need: 6 clear glasses, water from 3 sources (examples: tap, stream, pond, bottled), 3 white coffee filters

Here's how: Help your youngster collect 3 water samples and put them into 3 separate glasses. Ask him to compare them—which one is clearest? Have him drape a coffee filter upside down over each empty glass and pour part of a water sample through each filter. Now, let him compare the

filtered samples to the original samples and then examine the coffee filters.

What happens? Water from outdoor sources will look dirtier than tap or bottled water, but when filtered, it gets cleaner. Coffee filters from the outdoor samples will be dirty or gray.

Why? Pollutants from trash get trapped in the filters.

(Since tap and bottled water are treated, they have few pollutants.) Your child can remember this when he's outside—picking up garbage means it won't wind up in rivers and streams!

