

# Math+Science Connection

Intermediate Edition

Building Understanding and Excitement for Children

January 2014



## INFO BITS

### Rhythm of poetry

Read a poem together.

Then, see if your youngster can identify a pattern. Does each line end in the same sound? Does every other line have the same number of beats? Noticing the rhythms will help him hear the math in poetry. *Idea:* Suggest that he use patterns to write his own poem.

### Stick together

Ask your child to fill a glass with water all the way to the top. Then, challenge her to add just a little more water. What happens? (It will form a small mound above the rim of the glass.) Does she know why? (Water molecules stick together in what's called *surface tension*.)



### Book picks

▣ Zachary has to think quickly when he forgets his objects for math show-and-tell. Read about measurement in *Zachary Zormer: Shape Transformer* (Joanne Anderson Reisberg) to find out what he comes up with.

▣ Your youngster will learn about the real-life adventures of a marine biologist in this fascinating biography, *Shark Lady: True Adventures of Eugenie Clark* (Ann McGovern).

## Just for fun

**Q:** Why did the alien leave the party?

**A:** Because the atmosphere wasn't right.



## Let's go shopping

Where's a place you and your child go every week that is filled with numbers? The grocery store! Take advantage of the ready-made math problems to help her learn on the spot—and even save you money. Here's how.

### Estimate cost

Encourage early financial literacy by making your youngster aware of how much things cost. Show her your shopping list, and have her estimate the price for each item and add up the total. Then, while shopping, she can record the actual prices and subtract to find the differences. How close did she come to the real cost of your grocery trip?

### Find the best price

Combine a math lesson with one on value. In the cereal aisle, ask your child to compare prices for a small box vs. the economy size or a name brand vs. store brand. She will need to find the price per ounce and also consider any savings from coupons or store membership. Or



ask her to figure out how much you'll save by getting pudding mix rather than ready-made pudding cups.

### Weigh and compute

Put your youngster in charge of your produce order. Have her select six potatoes and predict their weight. She can weigh them and figure out the price. Or tell her you need 2 lbs. of onions, and ask how many onions she thinks that will be. She could put a few on the scale and add or subtract onions to get the right weight. *Tip:* Let her tell you the weights in both pounds and kilograms. ▣

## Snow-globe science

Whether or not it's snowing outside, your young scientist can create a "blizzard" inside with this fun project.

Have him fill two jars with water and two with mineral or baby oil. Then, he can put a drop of glycerin (available at drugstores) in one water jar and one oil jar. Now it's time to add the "snow" ( $\frac{1}{2}$  tsp. glitter or crushed eggshells) to each jar and seal tightly. One by one, he should shake the four jars and set them down to observe.

Which liquid creates the longest blizzard? The speed of the falling snow depends on the *viscosity* of the liquid. The more *viscous* (or resistant to flow) it is, the more friction there is—and the longer the blizzard lasts! ▣



## Primed!

“Is that a prime or a composite number?” Playing this game can help your youngster remember the difference. Follow these instructions.

**1.** Have your child make a 100s chart by drawing 10 rows of 10 boxes and numbering them 1–100 (1–10 on the first row, 11–20 on the next row, and so on).



**2.** The object is to find the most prime numbers. *Tip:* Go over what a prime number is—a whole number that can be divided only by itself and 1. (All other numbers are composite, except for 1, which is neither prime nor composite.)

**3.** To play, take turns choosing a number on the chart. Circle it in red if it’s prime, or color it in blue if it’s composite. Score 5 points for finding a prime number and 2 points for a composite

number. *Note:* Use scratch paper to figure out if the numbers can be divided by any number other than 1 and themselves.

**4.** When all the squares are taken, high score wins.

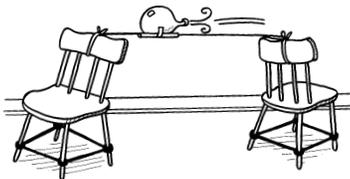
*Idea:* Your child could hang up the game board as a reminder of the prime numbers up to 100. 

## SCIENCE LAB

### Zippering along

With this “balloon zip line,” your child will see one of Newton’s laws of motion in action.

**You’ll need:** two chairs, long piece of string, straw, balloons, twist tie, tape



**Here’s how:** Let your youngster move two chairs to opposite sides of a room. Help her thread the string through the straw and tie an end to each chair. Have her blow up a balloon and close it with the twist tie. Then, she should tape the balloon—on its side—to the straw and slide the balloon to one chair. Now it’s time to remove the twist tie and watch!

**What happens?** The balloon will skim along the zip line.

**Why?** Newton’s third law says that for every action, there is an equal and opposite reaction. When the air rushes out, the balloon takes off in the opposite direction.

*Idea:* Have your child blow up a balloon halfway, or try different-size balloons, and repeat the experiment. She can compare how far the balloons travel. 



## MATH CORNER

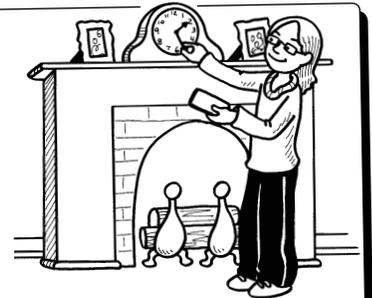
### To the minute

Children this age are expected to be able to tell time to the minute. That’s easy enough on a digital clock, but it’s still important to be able to read an analog clock (one with a face). Try these suggestions.

**How-to.** Show your youngster this idea for telling time on an analog clock: Say the hour (2), count the minutes by 5s (5, 10, 15, 20), and then count the remaining minutes by 1s (21, 22, 23). “The time is 23 minutes after 2, or 2:23.”

**Mixed-up clocks.** Ask family members to set clocks and watches in your home to all different times. Then, have your child correct them to the minute (she can use your cell phone to see the real time).

**Time-teller.** Make a point of regularly asking her the exact time on an analog watch or clock. She’ll get everyday practice telling time to the minute. 



## Q & A

### New math standards

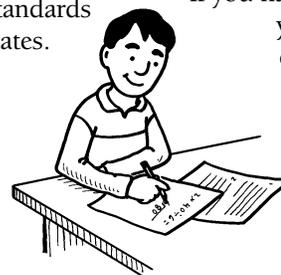
**Q:** *There seem to be a lot of changes in my son’s math this year because of the new Common Core State Standards. As a parent, what do I need to know about these standards?*

**A:** The Common Core State Standards have been adopted by most states. These new learning goals are designed to help children be ready for college and careers.

For math, this means that your son’s teachers will be concentrating on a deeper understanding of concepts. In addition to memorizing

multiplication facts, for example, your child will be expected to explain how he knows that  $12 \times 12 = 144$ . Or he’ll apply it to real life (“There are 144 eggs in 12 dozen”).

If you have specific questions about your son’s math homework or tests, ask his teacher. Also, look for materials on the standards that might come home, or try to attend parent nights or PTA meetings explaining them. For more information, see [corestandards.org/Math](http://corestandards.org/Math). 



## OUR PURPOSE

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

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