

Math+Science Connection

Intermediate Edition

Building Understanding and Excitement for Children

November 2013

Title I / Learning Assistance Programs
Stanwood-Camano School District

INFO BITS



Cost of a pie

How much does it cost to make an apple pie? Let your child figure it out. Have him take a recipe to the store, find prices for each ingredient, and do the math. *Example:* If apples are \$1.60 per pound, and there are 4 to a pound, they would cost 40 cents each (the unit cost). If he needs 6, that would be \$2.40.



An eye for science

Good scientists notice details. To boost your youngster's observation skills, encourage her to draw pictures of things she studies in science class. *Examples:* The shapes of different types of clouds, the pattern on the bark of a tree. Drawing will help her see details that she might otherwise miss.

Book picks

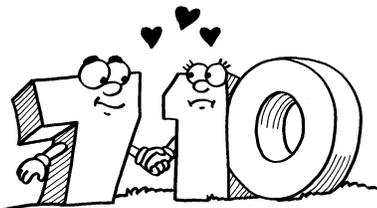
▣ In photos and words, *Piece = Part = Portion* (Scott Gifford) explains how fractions, decimals, and percents can all represent the same quantities—in different ways.

▣ *The Earth Science Book: Activities for Kids* (Dinah Zike) is filled with fun ideas for exploring everything from matter and weather to fossils and parts of the earth.

Just for fun

Q: Why couldn't 7 and 10 get married?

A: They were under 18!



Learning multiplication facts

Multiplication is a big part of math for your youngster now. Try these activities to help her learn the multiplication facts and develop the quick recall she'll need for using them in school.

Answer sheet

On separate sticky notes, have your child write multiplication problems (7×8 , 3×9), put them on construction paper, and write the answers underneath (56, 27). To practice, she solves the problem and lifts the flap to check her answer. *Idea:* At first, she might make separate sheets for each times table. When she knows them, she could mix up the problems on other sheets.

Matching cards

Play a multiplication version of Go Fish. Deal five cards to each player, and stack the remaining cards facedown (face cards removed, ace = 1). The object is to match the cards in your hand. Take turns asking a question like "Do you



have a 2 x 3?" If someone has a 6, she hands it over, and the first player lays down the pair. If not, she has to "go fish"—draw a card, then discard one. When one person is out of cards, whoever has the most pairs wins.

Muffin-tin toss

Ask your youngster to number the cups of two muffin tins, 1–12 each, with masking tape. Then, she can stand a foot away and toss a button into each tin. She multiplies the numbers they land in to get her score ($7 \times 6 = 42$). Now it's your turn. 🎲

Taste test

There's more to tasting food than your sense of taste! These experiments will show your child why:

- Secretly add red and yellow food coloring to unflavored seltzer water to turn it orange. Then, put out cups of different-colored fruit drinks, including the seltzer. Ask your youngster to sip and describe each one. He will probably say the seltzer tastes like orange. That's because our sense of sight affects how we expect things to taste.
- Have your child close his eyes and pinch his nose. Give him tastes of foods to identify. *Hint:* Use foods with similar textures, such as fruit and vegetable baby foods. Let him unpinch his nose and try again. He'll see that smell and taste are linked—when he can't smell the food, it's harder to know what it is. 🎲



Find the angle

Once your child starts looking, he'll see lines and angles everywhere. Get him going with these ideas.

Count the angles. Have your youngster count all the angles he can find in a room at home. Right angles will be the easiest (they're the ones shaped like an L)—he will find them in any square or rectangular object. But where are angles that are obtuse (larger than a right angle) or acute (smaller than a right angle)?



Simon Says. Together, brainstorm ways to turn your body into lines and angles. For instance, make parallel lines by putting both arms straight up. Then, play a game of Simon Says with the motions. *Example:* "Simon says be an obtuse angle."

Create a play mat. Ask your child to make a play mat for a younger sibling or cousin. On poster board, he could use a ruler and protractor to lay out parallel and perpendicular streets. He might include traffic circles with streets coming out at various angles. Suggest that he decorate the mat and give it to a little one who can drive his toy cars on it. *Tip:* Challenge your youngster to use different-size angles (40-degree, 23-degree, 102-degree, 147-degree) in his drawing. 

SCIENCE LAB Bathtub boats

A chemical reaction produces fun in this acid + base experiment and boat race.

You'll need: empty water bottle with a cap, a push pin, baking soda, 3 sheets of toilet tissue, marbles, vinegar



Here's how: With the pin, poke a hole in the bottle cap. Have your youngster sprinkle baking soda on each sheet of toilet paper. Then, she should roll up the papers and put them into the bottle. Let her add a few marbles (to weigh down the bottle), fill $\frac{3}{4}$ full with vinegar, and screw on the top. Now she can put her "boat" in a bathtub full of water.

What happens? The boat takes off!

Why? When the baking soda (a base) and vinegar (an acid) mix, a chemical reaction produces carbon dioxide gas. The gas escapes through the hole in the cap and propels the boat forward.

Idea: Turn the experiment into a race. Together, make several bottles and release them at the "starting line." Or have a submarine race. Add more marbles to each bottle, and release your submarines. The last one to surface wins. 



MATH CORNER

Toss and subtract

Heads or tails? In this game, your youngster will practice subtracting fractions, as the player with the biggest difference wins. Here's how.



1. Player one tosses a handful of coins twice and writes down the fraction of heads she gets each time. For example, if she tosses 12 coins and gets 7 heads on her first toss and 5 on her second, she would write $\frac{7}{12}$ and $\frac{5}{12}$. To figure out her score, she should subtract the smaller fraction from the larger one: $\frac{7}{12} - \frac{5}{12} = \frac{2}{12}$, or $\frac{1}{6}$.
2. The next player takes a turn using the same coins.
3. The person with the biggest difference—the biggest fraction—between her two fractions wins the round and scores a point.
4. For the next round, use a different number of coins so the denominator (the bottom number) changes.
5. High score after 10 rounds wins. 

Q & A Math homework? Help!

Q: I don't understand my son's math homework. How can I help him?

A: You will best help your son by providing support, and fortunately you can do that whether or not you understand the math!

If he keeps a math journal in class, have him share it with you. Reading his entries and looking at his sketches and problems will help you see what he is working on.



Also, ask him to explain his homework to you. As he puts it in his own words, his understanding will grow. And have him tell you how he got the answers to a few questions. You might say, "What method did you use to solve that?"

If he gets stuck while doing his homework, suggest that he look at sample problems in his textbook, call a friend, or ask his teacher for help the next day. 

OUR PURPOSE

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

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