

Math+Science Connection

Intermediate Edition

Building Understanding and Excitement for Children

February 2015

Title I / Learning Assistance Programs

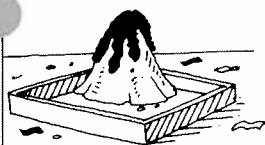
INFO BITS

Mental math

Being able to do math in your head is an important skill. Give your youngster problems containing several steps, such as “What’s $30 + 52$? Now add 12. Subtract 2. What’s the answer?” (92) Start with simple problems so he can gain confidence, and then pose harder ones.

Let’s party!

Have you ever thought of having a science-themed kids’ party? Ask your child about favorite science experiments she’s done at school. Then,



collect the materials you need, and let her invite friends over.

Your youngster and her friends will have a “blast” with the hands-on learning.

Web picks

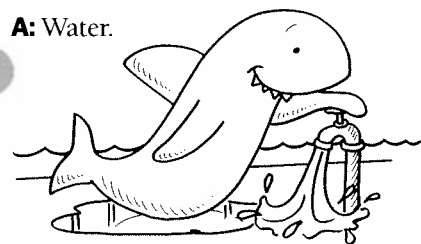
At studyjams.scholastic.com/studyjams, your youngster can get friendly step-by-step help with all kinds of math and science concepts.

The American Museum of Natural History’s website (amnh.org/explore/ology) is filled with “ologies” for your child to explore: marine biology, paleontology, zoology, and more.

Just for fun

Q: What can run but not walk?

A: Water.



Multiply and divide

Multiplication and its opposite—division—are basic building blocks your child will use in all future math classes (and in life). Use these fun ideas to help her practice her math facts.

What’s hidden?

Have your youngster list 5–10 multiplication facts on paper, one right under the other. For example:

$$3 \times 7 = 21$$

$$5 \times 8 = 40$$

Then, she can cut a strip of paper just wide enough to hide one column, such as the first numbers (3, 5) or the products (21, 40).


Cover up a column with the strip. Can your child say what number is missing from each problem? ($__ \times 7 = 21$ would need 3.) Make more sheets with other multiplication or division problems, and hide numbers from each other.

Four-in-a-row

Let your youngster draw a large grid on paper with six columns and six rows. In each square, write a multiplication or




division problem (6×4 , $56 \div 7$). *Tip:* Use problems your child is working on in school or those she struggles with.

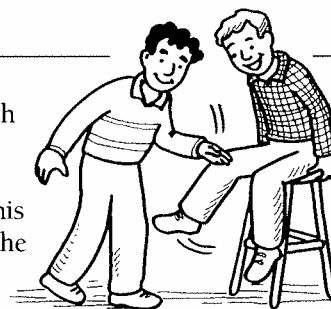
Each player needs 20 markers (for instance, one person could have beans, and another pennies). Then, on each turn, a player chooses a square to solve. If her answer is right, she puts a marker there. Players take turns answering problems and placing markers. The first one to get four in a row—down, across, or diagonally—wins. 

Knee-jerk reaction

Has your child had his reflexes checked at the doctor’s office? He can explore how this works with his friends.

Have one youngster sit on a chair, with his legs dangling down. The other child, using the side of his hand, should gently tap his friend’s leg just below the kneecap. Did he find the spot that will make his friend’s leg kick out? When done right, the tap causes a *knee-jerk reflex* where the thigh muscles quickly stretch and contract, making the leg kick. Let the friends practice on each other.

Fun fact: The reflex seems to happen instantly, which is why we use the phrase “knee-jerk reaction” when someone responds without thinking. 

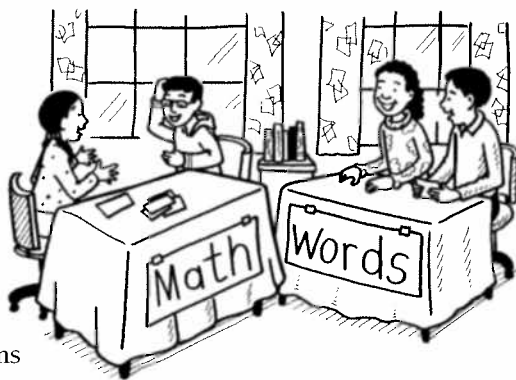


And the word is...

As students learn math concepts, they also need to learn the words to go with them. Play this password game to help your child get more familiar with math vocabulary.

1. On separate slips of paper, write 20 words from your youngster's math homework or textbook. Turn the slips facedown in a stack. Make two teams of two players each.

2. To play, one person picks a word. Set a timer for 60 seconds. Without using the actual word, the player describes it to his partner. If the word is *sum*, he might say, "It's what you get when you add numbers together." He keeps giving clues



Sample math vocabulary

area	array
bar graph	cube
cylinder	decimal point
difference	digits
equal	estimate
factor	fraction
improper fraction	greater than
less than	product
quotient	range
round	sum

until his partner gets the word or the timer rings. Then, it's the other team's turn.

3. When all the words are used, total how many each team got right. The high score wins.

Note: You could also play with science terms. 📦

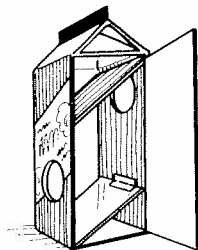
SCIENCE LAB

Periscope power

Ahoy, mate! Your child can build a simple periscope with just a few items.

You'll need: empty milk carton, scissors, tape, two small mirrors

Here's how: Help your youngster carefully cut open one side of the carton. Let her tape one mirror at a 45° angle near the bottom, facing up, and the other at a 45° angle near the top, facing down. Have her cut a peephole in the carton opposite each mirror and tape the side closed. Now, she can crouch by a table, holding the periscope with the bottom hole below the table and the top hole above it, and look through the bottom hole.



What happens? She'll see things overhead—just like submariners peer out of a periscope to see what's going on above them.

Why? The light bounces off the top mirror, to the bottom mirror, and then to her eye. This lets her view images visible through the top hole. 📦

OUR PURPOSE

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

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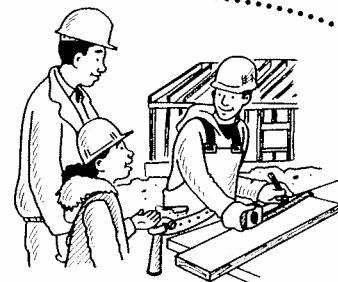
PARENT TO PARENT

Math at work

One day my daughter looked up from her math homework and said, "Dad, I know this stuff pretty well, but I'm going to grow up to be an author, so I'm never going to use it."

I thought about her comment and said, "Emily, why don't we do an experiment? Let's find five grown-ups who all have different jobs. You can ask them each how they use math in their work."

Emily thought that sounded interesting. She asked our friends and family members: a doctor, a builder, a singer, a graphic designer, and a receptionist. She was surprised they all used math—for example, calculating proper doses, cutting wood, understanding contracts, figuring out how to size images, or deciding how much paper to order. Now it's become a game for us when we're out to guess how someone is doing math on the job! 📦



MATH CORNER

Follow the leader

Parallel and perpendicular lines crisscross in this paper-and-pencil twist on follow the leader.

Make a path. Take turns being the leader and the follower. As the follower draws a continuous line on a sheet of paper, the leader gives instructions to go straight or to make a right-angle (L-shaped) turn. For instance, the leader might say, "Go straight. Make a right-angle left turn. Continue straight." *Tip:* Have the follower trace along the side of an index card to

make straight lines and along a corner of the card for turns.

See the lines. After 10 directions, look at the path created. Your youngster can use a yellow highlighter to mark all the lines parallel to the first line drawn. Then, have him use a green highlighter to mark all the lines parallel to the first turn he made. The yellow and green lines will be perpendicular to each other!

Idea: When you finish, pull out a city map. Can your child identify the parallel and perpendicular streets? 📦

