Intermediate Edition

Math+Science Connection

Building Understanding and Excitement for Children

February 2019

Nazareth Area Intermediate School
Title I Math

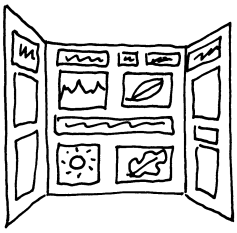
INFO BITS

Clocks with hands

An analog clock helps your child understand elapsed time. Have him use one when he's getting ready in the morning. Ask how long it took him to eat breakfast or how many minutes are left until the bus comes. He'll develop a sense of what 5 minutes, 15 minutes, or 30 minutes looks like on a clock.

Go to a science fair

Visit your school district's website for announcements about upcoming middle and high school science fairs. Then, plan to attend one with your youngster. Seeing what big kids do will get her excited about science, and she may discover experiments to try at home.



Web picks

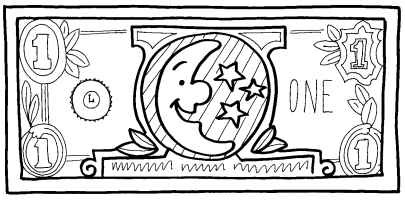
Your child can practice math facts by playing games like Archery Arithmetic or Marlan's Magical Maths Mission at *mathsframe.co.uk*.

Visit *earthcam.com/events/animalcams/* to watch live feeds of meerkats, otters, eagles, lions, and other animals.

Just for fun

Q: How is the moon like a dollar?

A: They both have four quarters.



The shape of things

Whether your child is eating hexagon-shaped soup crackers or spots a sign with an acute angle, she can explore geometry. Share the terms in the box below as you try these ideas.

Name me

Take turns giving each other clues to figure out a mystery shape. If your child chooses a trapezoid, she might say: "I'm a quadrilateral. One pair of my sides is parallel. I can have two acute angles and two obtuse angles, or two right angles, one acute angle, and one obtuse angle. What am I?"

Find me

Take your youngster and her friends on a search for shapes and their attributes. Give them each a list, such as: "Triangle, obtuse angle, quadrilateral, perpendicular line." Challenge them to find the items and sketch them on their lists.

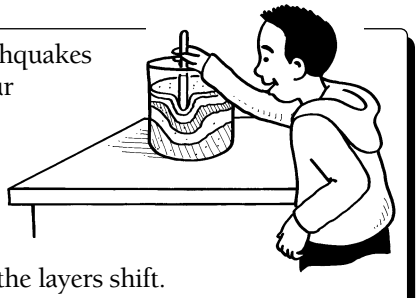
Draw me

Ask your child to draw a building, an object, or a landscape using as many different shapes and attributes as she can think of. She might draw the Eiffel Tower with lots of triangles and parallel and perpendicular lines. Have her label each shape.

Geometry vocabulary

- **quadrilateral:** a shape with four sides
- **parallelogram:** a quadrilateral with two pairs of parallel sides
- **right angle:** a 90° angle
- **acute angle:** an angle that measures less than 90°
- **obtuse angle:** an angle that measures greater than 90°
- **parallel lines:** lines that never cross
- **perpendicular lines:** lines that intersect (or meet) at 90° angles

Rocks reveal the past



Colorful rock layers tell scientists when earthquakes occurred. Enjoy the following activity with your youngster to see how this works.

Have your child layer colored sand in a clear bowl by pouring in one color at a time. Ask him to pretend the layers of sand are layers, or *strata*, of rock. Now let him slide a butter knife down the side of the bowl and watch the layers shift.

An earthquake creates breaks in the strata. One layer of rock continues to form higher than the spot where it began. Scientists know how long rocks take to form, so a break reveals when an earthquake took place.

Note: No colored sand? Combine $\frac{1}{4}$ cup sugar with 3–4 drops food dye.

Play with place value

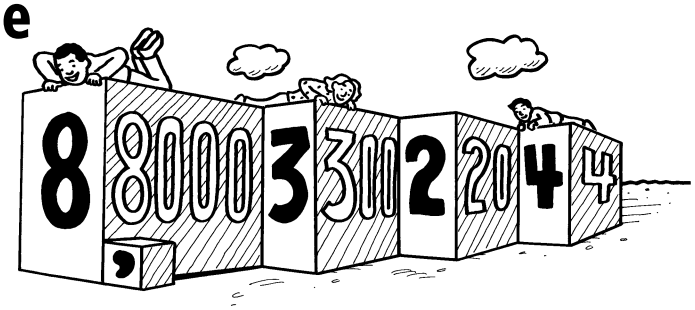
Understanding that the 8 in 8,324 is worth 8,000, the 3 = 300, the 2 = 20, and the 4 = 4 is what place value is all about. As your youngster plays this game, he'll pay attention to the value of each digit.

Materials: 4 index cards, paper and pencil, coin

1. Have your child write "ones," "tens," "hundreds," and "thousands" on separate index cards. Shuffle the cards, and stack them facedown.

2. To play, each person writes a four-digit number like 4,365 or 7,134 on his own paper.

3. Next, your youngster draws an index card (say, "hundreds") and tosses a coin.

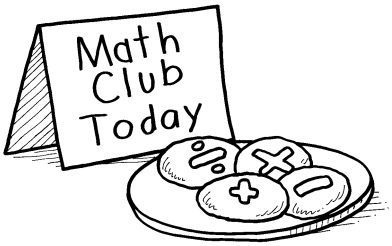


4. Take turns calling out the value of the hundreds place in your number. So a player with 4,365 would say 300. If the coin landed on heads, the person with the highest value scores a point. For instance, 4,365 beats 7,134 because 300 is greater than 100. But if the coin landed on tails, the player with the lowest value gets the point. (In a tie, no one gets a point.)

5. Play until all four index cards have been drawn. Write new 4-digit numbers, and start a new round. The first player to 10 points wins.

PARENT TO PARENT Start a math club

When my teenage daughter and her friends decided to start a book club, it gave me an idea for my younger daughter, Julie. Since she likes math, I thought she could start a math club. She was excited about the idea and immediately called her two best friends.



The girls met at our house last week to plan activities for their weekly meetings. For example, they're going to play games involving math, such as Yahtzee, Uno, and Set. They also want to have a Sudoku contest. Plus, they're talking about filming math videos. Their plan is to put on a play that helps little kids understand concepts like fractions or division. I can't wait to see what they come up with!

OUR PURPOSE

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

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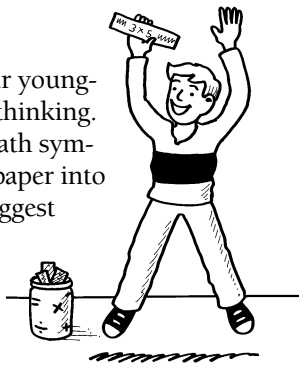
MATH CORNER My multiplication jar



A "multiplication jar" will give your youngster practice with solving problems—and explaining his thinking.

Let him decorate a clear jar by writing numbers and math symbols in permanent marker. Now he can cut construction paper into strips and write a multiplication problem on each one. Suggest problems with fun instructions ("Do 3 x 5 jumping jacks"), multiple steps ("6 x 2 x 7 = ___"), and double digits ("25 x 4 = ___").

Each day, have him pull out a slip, solve the problem, and explain how he got his answer. For the jumping jacks problem, he might do 3 sets of 5 jumping jacks and call out the number after each set ("5, 10, 15—the answer is 15").

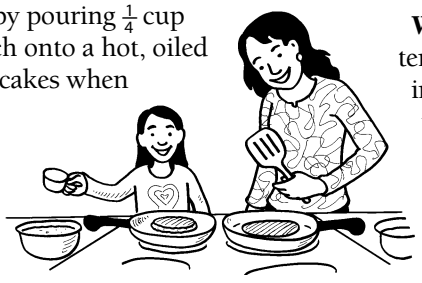
SCIENCE LAB Fluffy pancakes—or not?

A chemistry lesson is only one breakfast away! Help your child make pancakes two ways and observe a chemical reaction.

You'll need: pancake ingredients (see recipe to the right), measuring cup, spoon, 2 bowls, stove, skillet, spatula

Here's how: Together, make two batches of pancake batter, but omit the baking powder (the leavening) in one. Cook two pancakes by pouring $\frac{1}{4}$ cup batter from each batch onto a hot, oiled skillet. Flip both pancakes when bubbles pop on one.

What happens? Bubbles form in the batter with baking powder, and the pancake becomes fluffy. The other batter doesn't have bubbles, and the pancake is flatter and denser.



Why? The milk in the batter causes the acid and alkali in baking powder to react with each other, forming small carbon dioxide bubbles. The bubbles make the pancakes light and fluffy.

Pancake recipe

Stir 1 cup milk, 1 egg, and 1 tbsp. vegetable oil. In a separate bowl, mix 1 cup flour, 2 tbsp. sugar, 1 tbsp. baking powder, and 1 tsp. salt. Combine the wet and dry ingredients.