

Math+Science Connection

Intermediate Edition

Building Understanding and Excitement for Children

May 2020

Nazareth Area Intermediate School

Title I Math

INFO BITS

Compare the weights

Ask your youngster which he thinks weighs more: a mug or a water bottle. To find out, he can hold one in each hand and compare. Encourage him to try other objects, too: shampoo vs. a pair of socks, or toothpaste vs. a roll of paper towels. Some things might compare as he expected, but others may surprise him.



Thumbs up!

Humans are one of the few species with opposable thumbs, or thumbs that move in a different direction than the other fingers on that hand. Suggest that your child try to button a coat, put on a hat, and write her name—with and without using her thumbs. She'll see that opposable thumbs make grasping things much easier.

Book picks

📖 Zachary has to think fast when he forgets his math show-and-tell. Read about measurement in *Zachary Zormer: Shape Transformer* (Joanne Reisberg).

📖 Using *Beginning Birdwatcher's Book: With 48 Stickers* (Sy Barlowe), your youngster can learn to identify common bird varieties.

Just for fun

Q: What's the shortest month?

A: May, because it has only three letters!



A backyard carnival

Step right up and play some math games! Let your child organize these carnival activities to keep her math skills sharp this summer.

Ping-Pong sums

On the bottoms of 12 empty cups, have your youngster write random 2- or 3-digit numbers. Then line up the cups (right side up) at the end of a table. Each player tries to bounce 2 Ping-Pong balls, one at a time, into the cups until she lands both. She adds the numbers on the cups for her score. After 5 rounds, the player with the highest score wins.

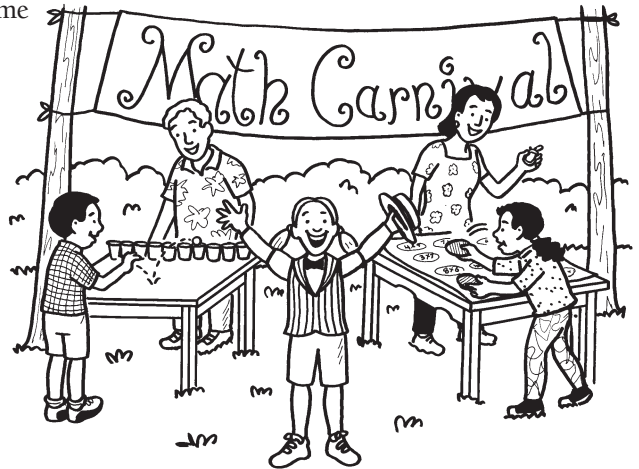
Times tables race

Ask your child to draw 20 circles on a poster board and cut 20 circles out of construction paper. She should write a multiplication problem (3×7 , 8×6) in each poster board circle and the answers (21, 48) on the paper circles. Time each player as she races to place all the

answers on the matching problems. The fastest player wins.

"Golf" fractions

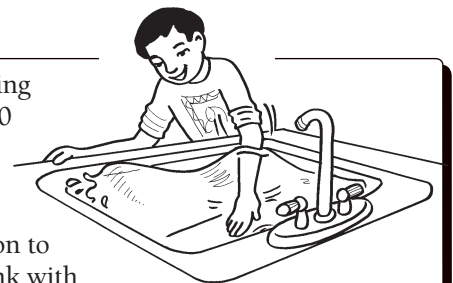
Let each player make a 9-hole golf scorecard. For each "hole," roll 2 dice and form a fraction by putting the smaller number on top of the bigger number (roll 1 and 3, and create $\frac{1}{3}$). Roll again for another fraction (say, $\frac{3}{6}$), and add them together on your scorecard: $\frac{1}{3} + \frac{3}{6} = \frac{5}{6}$. Whoever gets the lower sum wins each hole—because low score always wins in golf. 🎲



Model a tsunami

Have your child imagine 18 adults standing on top of each other. They'd reach about 100 feet. That's the same height as a typical tsunami—a huge wave caused by an underwater earthquake or volcanic eruption.

Your youngster can try this demonstration to see how a tsunami starts. Have him fill a sink with water and submerge his hand so his fingers almost touch the bottom of the sink, with his arm propped against one side. When the water settles, he can move his hand back and forth rapidly underneath the water's surface, keeping his arm steady. This time a wave rises at the opposite side of the sink—like in a tsunami. 🎲



Logic puzzles

Challenges that require your child to think logically help to develop his math thinking. Try these brainteasers.

Magic square. Have your youngster write the numbers 1–9 on separate sticky notes. Then challenge him to form a square (3 notes across and 3 down) so the numbers in each row, column, and diagonal add to 15. He can arrange and rearrange until he solves the magic square! (*Hint: Start by placing 5 in the middle spot and any even number in the top left corner.*)



one to push another. (*Hint: The least possible number of moves is 7.*)

Triangle transformation. Let your child arrange 6 pennies so they're touching each other in a triangle—1 on top, 2 in the middle, and 3 at the bottom. Now he should slide 1 penny at a time until all 6 are in a straight line. The catch? He may only slide a penny into a position where it touches 2 other pennies. Also, he can't pick up a penny or use



PARENT TO PARENT

Menu math

Recently when our family went out to eat, our kids were getting antsy waiting for their food. We distracted them by using a little math and our menus.

I started by asking how much the most expensive meal would cost. My son picked the priciest appetizer, entree, and dessert, and added the prices on a napkin. Then he wondered what combinations we could order for about \$15. We rounded the prices and soon had several options, like a house salad (\$4), lasagna (\$9), and chocolate pudding (\$2).



This is now our go-to game to play when we dine out, and we even play if we're eating in. Using a grocery circular or take-out menu, we pose math questions about the food we're eating around the kitchen table.

OUR PURPOSE

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

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SCIENCE LAB

Baseball (and basketball) science

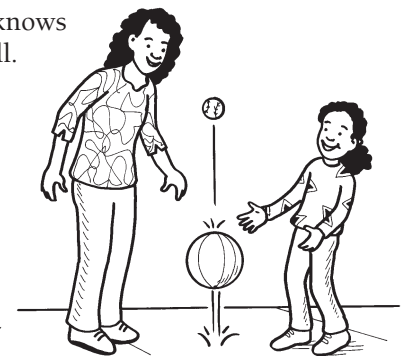
Your youngster probably knows that a basketball bounces higher than a baseball. But what happens if she drops both balls together? Science has a surprise in store.

You'll need: baseball, basketball

Here's how: Have your child drop the baseball and then the basketball on a sidewalk, noticing how high they bounce. Then she should hold the baseball so it sits on top of the basketball and drop them together, again observing the results.

What happens? When dropped together, the baseball will bounce much higher than before, likely soaring over her head. The basketball, however, won't bounce as high as it did when bounced alone.

Why? This happens because energy is transferred from the basketball to the baseball. The basketball doesn't bounce as high because instead it shared most of its energy with the baseball, making the baseball bounce higher than it did on its own.



MATH CORNER

Let's clap for math vocabulary

What do the words *quotient*, *x-axis*, and *eighteen* have in common? They're all math words. Here's a group game to give your child practice with math vocabulary.

Players sit in a circle. At the same time, everyone slaps their hands on their legs twice and claps their hands once. When everyone claps, your youngster says a math word that starts with A, like *angle*. Going clockwise around the

circle, the next person says a math word beginning with B on the next clap, like *bar graph*, and the next player continues with C (*calculate*).

If a player can't think of a word, the next person gets a chance. No one is out—just keep going for a fun cooperative activity! Can you go through the math alphabet more than once?

