

Math+Science Connection

Intermediate Edition

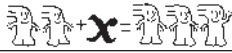
Building Understanding and Excitement for Children

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Swanson Rd Intermediate School

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INFO BITS



Fold to make shapes

Have your child fold a piece of paper several times in different directions, open it, and lay it flat. Ask her to color the shapes created by the fold lines. Which shapes did she make? Can she fold another piece of paper so all the shapes are triangles? Squares? She'll need to think logically about how shapes are related.



Patterns of motion

Encourage your youngster to look for patterns of motion everywhere he goes. At the playground, he could swing back and forth. On the beach, he might watch waves go in and out. Together, think of more patterns, like sunrise and sunset or a basketball bouncing up and down. Now have him draw what those patterns of motion look like.

Book picks

📖 Your child will realize how important—and fun—math really is when she reads *The Great Number Rumble: A Story of Math in Surprising Places* (Cora Lee).

📖 *Mr. Ferris and His Wheel* (Kathryn Gibbs Davis) tells the true story of the American engineer who invented the popular carnival ride.

Just for fun



Q: Which stars wear sunglasses?

A: Movie stars!

Summer math camp

Bring summer camp home with these cool ideas that will inspire your child to practice multiplication, division, and fractions.

Multiplication hikes

Let your youngster collect natural objects like rocks or shells—and see how they “multiply”! To display his treasures, he could arrange them in equal groups. He might make 5 groups of 6 shells each or 3 groups of 8 rocks each, then say the multiplication problems he sees ($5 \times 6 = 30$ or $6 \times 5 = 30$, $3 \times 8 = 24$ or $8 \times 3 = 24$).



Division tag

After dark, play this version of flashlight tag. Have your child number a dozen sheets of paper 1–12 and tape each to something in the yard (tree, chair). Now ask him to list 20 division problems, each with an answer between 1 and 12. One player calls out a problem while another runs to “tag” the answer with a flashlight. If he's right, he gets another problem. If not, he gives a problem to the next player.

Poolside fractions

Help your youngster measure and cut a pool noodle into fractional pieces: one 12-inch, two 6-inch, three 4-inch, four 3-inch, and six 2-inch. Then, have him use a marker to write “1” on the biggest piece. He can figure out which fraction ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, or $\frac{1}{6}$) to label the others by comparing them to 1. Take turns stacking smaller pieces and adding the fractions. *Example:* $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$. Check your answers against the “1” piece to see if you're right. 📦

Discover plant parts

What's in a salad? Leaves, roots, stems, seeds, flowers, and fruits! With this activity, your youngster can learn about the parts of plants she eats.

When you bring home groceries, have her get a notebook and label a page for each of those plant parts. Then, she could look closely at fruits and vegetables to decide which part they are and list them on the correct page. *Examples:* spinach (leaves), carrots (roots), asparagus (stems), peas (seeds), broccoli (flowers), and apples (fruit).

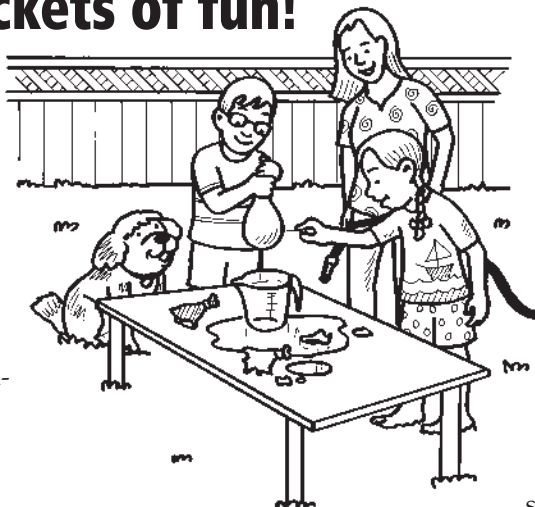
Finally, let your child use the produce to make her own healthy salad. 📦



Liquid volume: Buckets of fun!

Water balloons and sandcastles say “summer.” Here’s how your child can use them to measure liquid volume.

Water balloons. Compete to create the largest water balloon. Take turns stretching a balloon around a faucet and turning on the water. The object is to get the balloon as big as possible without bursting it. Now each person should use a pin to carefully pop her balloon over a large measuring cup. On a



sheet of paper, your youngster could record each measurement—and announce the winner!

Sandcastle. Can your child discover the ideal “recipe” for building a sandcastle? Have her fill a bucket with sand, using a measuring cup to keep track of how much the bucket holds. Then, she should slowly pour in water from a measuring cup and record how much she adds before water pools on top of the sand. Finally, she can turn the bucket over and lift it up. Does her castle hold together? If not, she could repeat the activity, using more or less water. 📦

Q & A My math station

Q: With summer about to start, how can I keep my son excited about math and practicing the skills he’s learned this year?

A: Help your child set up a math station on a table or in a large cardboard box turned on its side. Together, stock it with tools and games that make math fun.



For instance, include a ruler, a calculator, pencils, regular paper and graph paper, and a protractor. He might make graphs to display, use the protractor to create abstract art with different angles, and create a “problem of the day” for family members to solve.

Also, get your son math- or logic-related games to put in his station. You can find these at yard sales and thrift stores, or ask for hand-me-downs from relatives. Examples include Yahtzee, Sequence, Set, Mancala, and Monopoly. 📦

OUR PURPOSE

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

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MATH CORNER

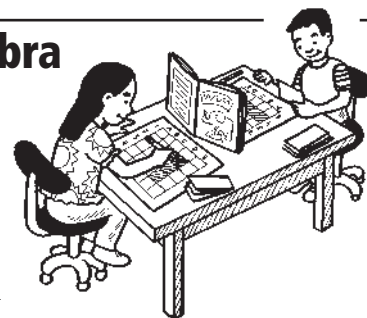
Sunken-ship algebra

This graph-paper version of Battleship introduces your youngster to algebra as she solves for x to sink your “ships.”

Set up: Have each player draw a 5 x 5 grid with columns labeled A–E and rows numbered 1–5. Set up a divider (perhaps a book standing up) so players can’t see each other’s boards. Now each person makes a “ship” by secretly shading in a line of three squares (vertical or horizontal). On separate index cards, let your child write six equations, each with a missing number (examples: $56 + x = 86$, $x - 12 = 10$), and stack them facedown.

Play: Take turns calling out coordinates. If your youngster says “A, 5,” and part of your ship is in column A, row 5, she gets an equation card. If she solves it correctly, she “sinks” that part of your ship, and you cross it out. If your ship isn’t in the coordinates she chose or she gets an equation wrong, her turn ends.

Win: Be the first to sink your opponent’s entire ship. 📦



SCIENCE LAB

“Why is the sky blue?”

Since your child was little, he has probably asked you why the sky is blue. This experiment will help him discover the reason on his own.

You’ll need: tall (clear) jar or glass, water, $\frac{1}{2}$ tsp. measure, milk, spoon, flashlight

Here’s how: Have your youngster fill the jar about $\frac{3}{4}$ full with water, add $\frac{1}{2}$ tsp. milk, and stir. Then, as he shines the flashlight straight down into the liquid, he can look through the side of the jar and observe the color.

What happens? The water appears blue.

Why? When the flashlight beam bounces off the milk particles, blue is reflected. On Earth, sunlight shines through our atmosphere and bounces off particles of air and dust. Again, blue is the color most likely to be reflected and to scatter around—

making our sky look blue. In outer space, there is no air and little dust to bounce off of, so it’s dark. 📦

