

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

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TOOLS & TIDBITS

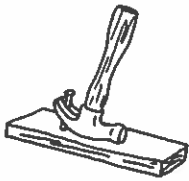
True or false?

Spark your child's math thinking with this

game. Give her an equation with a right answer or a wrong answer. If it's correct ($7 - 2 = 5$), she says, "True." If it's wrong (say, $7 - 2 = 3$), she says, "False" and corrects it. Take turns so she gets to test you, too. *Tip:* Let her use small items (buttons, paper clips) to work out the problems.

Learning about levers

With a piece of wood, a nail, and a hammer, your youngster can explore



a lever—a type of simple machine that uses force to move or lift an object. Hammer a nail into the wood,

and ask him to try to remove it with his fingers. Then, show him how to carefully use the claw end of the hammer to remove the nail. He'll see that a lever makes the job easier.

Web picks

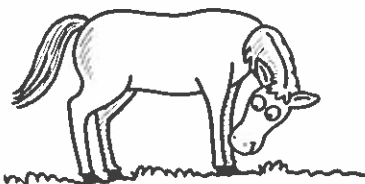
At smartygames.com, your child can do puzzles and mazes or try math games with pirates, Martians, and more.

Enjoy dozens of science activities at peepandthebigwideworld.com about animals, plants, light, and the way things move.

Just for fun

Q: How long should a horse's legs be?

A: Long enough to reach the ground!

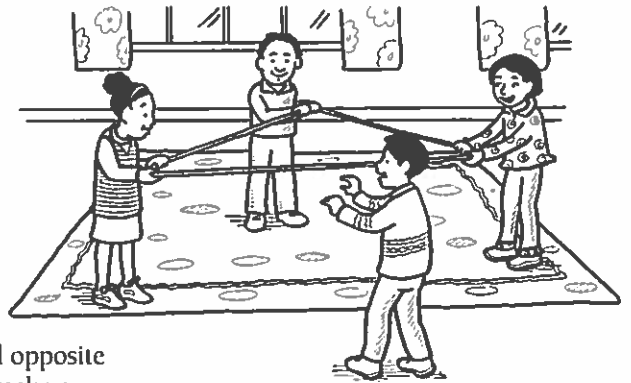


Let's play with shapes

Shapes are the building blocks of our world and of your youngster's understanding of geometry. These activities will let him explore flat, or 2-D, shapes.

Name that shape

This shape-making activity is ideal for a group. Tie a long piece of yarn or string into a circle. Two people should hold opposite sides and stretch the circle to make a straight line. Now a third person pulls out the middle of one side to make a triangle. Keep adding people, and turn the yarn into a square (4 sides), a pentagon (5 sides), a hexagon (6 sides), a heptagon (7 sides), an octagon (8), a nonagon (9), and a decagon (10). With each move, have your child announce the shape formed.




Count the sides

Get your family moving with shape-inspired exercise. First, let your youngster draw shapes (squares, triangles, rectangles, pentagons) on separate scraps of paper. Stack them facedown. Then, take turns naming an exercise (jumping jacks,

squats) and picking a shape from the pile. Count the shape's sides out loud, and everyone does that number of exercises. *Example:* Choose a square (4 sides), and do 4 jumping jacks.


Make and find

Encourage your child to use crayons, pretzel sticks, or craft sticks to create his own shapes. How many sticks will he need to form a pentagon? (It takes 5, or the total number of sides.) What about 1 pentagon and 1 square? (There would be 9 sticks, since $5 + 4 = 9$.) Suggest that he uses shoelaces to make circles. Then, challenge him to find all those shapes around the house. He might locate a triangular wedge of cheese or a round clock face. 

This diet's for the birds!

Here's a fun way to discover how different types of beaks help determine what birds eat.

Find "beaks." Together, look at pictures of birds in books or online. Then, gather materials to represent the beaks. Your child might use a straw for a hummingbird beak, a toothpick for a heron, a spoon for a pelican, and tweezers for a house finch.

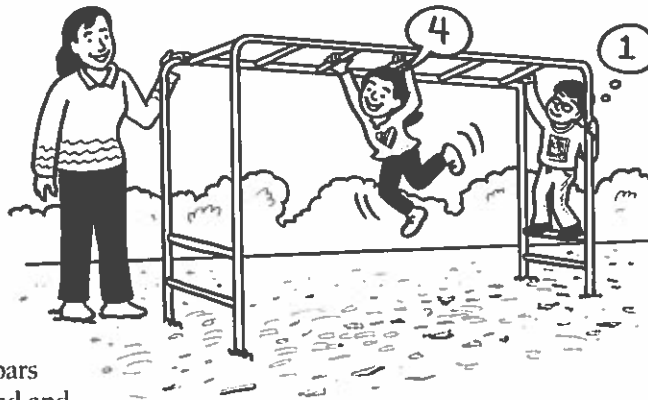
Eat like a bird. Set out juice, gummy fish in a bowl of water, and sunflower seeds. Your youngster can try each "beak" to see which works best. She'll find the hummingbird's beak helps it suck up liquid. A heron's beak is perfect for spearing fish, while the pelican's scoops up the fish. And a house finch's beak lets it pick up and crack open seeds. 



A counting playground

Your child can climb, swing, and play her way to better counting skills at your local playground. Try these ideas.

Monkey bars. Have your youngster count each rung she touches as she moves across the monkey bars (1, 2, 3...). When she turns around and goes back, she could count backward from her last number (6, 5, 4...).



Swings. Let your child practice skip counting with each back-and-forth swing. She'll count 2, 4, 6, and so on for each swing forward and back. See if she can swing, and skip count, all the way to 100!

Slide. How many children are ahead of her at the slide? How many steps are on the ladder? How many times did she slide down? Encourage your youngster to count everything she can about the slide.

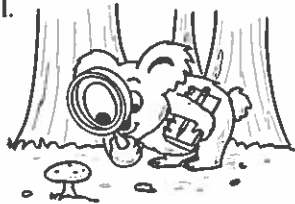
Idea: On the way home, suggest that your child make up a story about your trip to the playground—in numbers. She might say, "The 2 of us walked to the playground. It is 3 blocks from our house. I saw 7 other kids playing."

PARENT TO PARENT

Make a (science) note of that

When my son Caleb came home excited about the science experiments his class was doing, I asked his teacher, Ms. Fletcher, how to encourage his interest. She suggested that Caleb keep a science journal.

We got a notebook, and Caleb put together a bag with colored pencils, a magnifying glass, a ruler, and a timer. Now we go on regular science expeditions—with Caleb's journal in hand. He has found great stuff to examine and write about.



One day in the forest, we spotted some mushrooms. Caleb studied them with his magnifying glass and sketched what he saw. When we went back a week later to inspect them again, he drew how they had changed.

We've had fun measuring shadows, timing how long it takes a snail to move a foot, and more. Caleb has recorded it all! And the best part is that we're learning about science together.

SCIENCE LAB

Stay dry

Why wear a raincoat? So you stay dry, of course. This experiment will show your youngster what else keeps water away.

You'll need: construction paper, pencil, scraps of materials (tissue paper, aluminum foil, plastic wrap, and wrapping paper), spray bottle of water

Here's how: Let your child draw a big raincoat on construction paper and lay the scraps all over it. Have her predict which materials will be waterproof. To test, she can spray each one with water. She should remove the materials, then observe where the paper raincoat got wet or stayed dry.

What happens? Areas covered by waterproof materials like aluminum foil stayed dry. Items that were not waterproof, such as wrapping paper, allowed water to seep through.

Why? Water beads up and rolls off waterproof materials, while materials that aren't waterproof absorb water. *Idea:* Ask your youngster what she would wrap a sandwich in to keep it dry.



MATH CORNER

Guess my math word

With this clever version of charades, your child will learn and remember math vocabulary words.

1. Help your youngster write about a dozen math terms (*add, subtract, multiply, pattern, sphere, less than*) on separate index cards. Shuffle the cards, and stack them facedown.

2. One player draws a card and acts out the word—no talking allowed. For *pattern*, he might do this:



jump, clap, jump, clap. Or if he gets *less than*, he could put two groups of objects on the floor and shape his body into a less-than sign (<) pointing toward the smaller amount.

3. The first person to correctly guess his word keeps the card.

4. Take turns picking cards and acting out the terms. When all the cards have been used, the player with the most cards wins.



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