

Math+Science Connection

Beginning Edition

Building excitement and success for young children

May 2012

Hampton City Schools
Early Childhood



TOOLS & TIDBITS

In order

Ask your youngster to recite her favorite nursery rhyme (“Little Miss Muffet”). Then, ask her to describe what happens in the beginning, middle, and end. This will help her understand *sequencing*, or the order of things.

Point and observe

With a pretend “camera,” your child can become a keen observer. Help him cut out a cardboard rectangle and carefully poke a small hole in the center. Have him look through the hole and focus on a bird’s nest, a flower, or other objects. By blocking everything else out, he’ll be able to concentrate on the details.

Book picks

▣ In *Sundae Scoop* (Stuart Murphy), students have to figure out how many different kinds of sundaes they can serve at the school picnic. A nice summer read-aloud.

▣ *Compost Stew* (Mary McKenna Siddals) turns an environmental lesson into rhyming fun. Children will learn how saving scraps can help us recycle, enrich soil, and grow better fruits and vegetables.

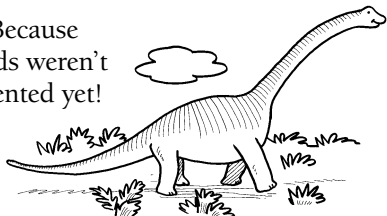
Worth quoting

“The best way to have a good idea is to have lots of ideas.” *Linus Pauling*

Just for fun

Q: Why didn’t the dinosaur cross the road?

A: Because roads weren’t invented yet!



Playing with shapes


Finding and making shapes is fun for youngsters—and a great way to explore geometry. Try these ideas.

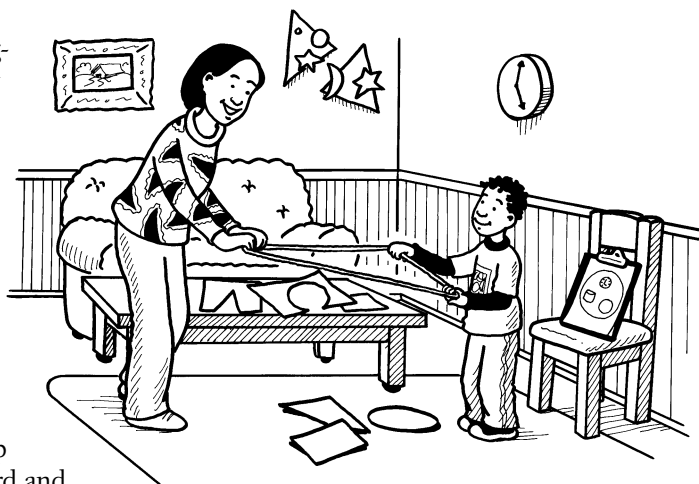
Shape detective.

With this activity, your child will notice real-life shapes. Have him draw a circle, a triangle, a square, a rectangle, and an oval on separate pieces of paper. Then, he can clip the papers to a clipboard and search for objects with the same shapes. Ask him to sketch a picture of each one he finds on the matching page (a clock on the circle page, a front door on the rectangle page). Which shape is most common inside? Outside?

Around the edges. Help your youngster cut shapes from poster board and put them in a paper bag. With his eyes closed, have him pull them out, one at a time. Can he identify each shape by touch? Have him open his eyes and count the

number of sides and corners. (“A square has 4 sides and 4 corners.”)


On a string. Cut a 4-foot piece of yarn, and tie the ends together. Hold one side, have your child hold the other side, and stretch it tightly between you to form a straight line. Let your youngster grab the middle of the yarn with his other hand and pull it out to make a triangle. Then, use your other hand to form a square. How many different shapes can you make together? 

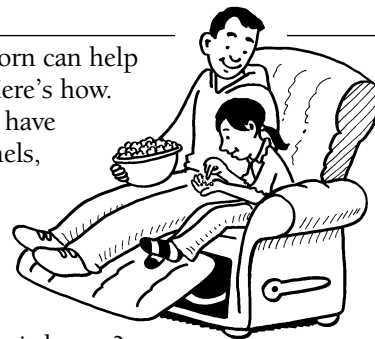


Count, sort, and pop

Did you know that making a batch of popcorn can help your child work on math and science skills? Here’s how.

Give her a handful of popcorn kernels, and have her count them. Then, ask her to sort the kernels, perhaps by color (dark, light) or shape (flat, round). She can line the kernels up into a “live” graph to see her results. For instance, she could place the dark kernels in one row and the light kernels in a second row (making sure the kernels are evenly spaced). Which row is longer?

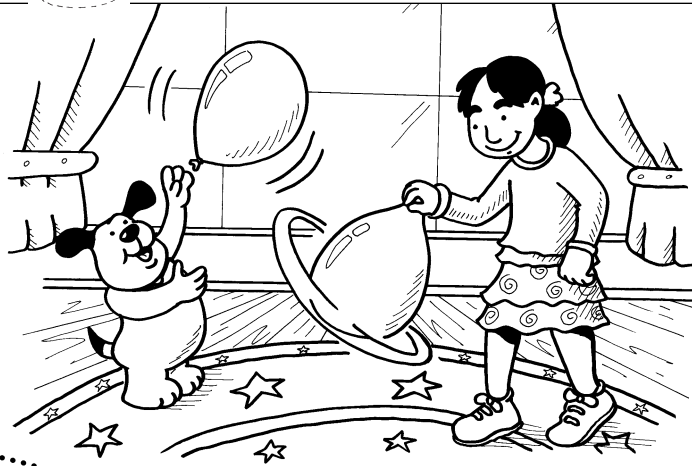
Then, pop a bag of popcorn. How many kernels didn’t pop? Let your youngster count to find out. See if she can sort the popped kernels by size (large, small) or shape (compact, open like a “butterfly”). Finally, put on a movie, and enjoy your popcorn together! 



Balloon science

Balloons are filled with more than air! They're also filled with possibilities for learning about science:

- Let your child blow up a balloon—but not tie it—and let it go. What does she notice? (The balloon will fly in one direction as the air rushes out the other direction.) *Science lesson:* Every action has an equal and opposite reaction.

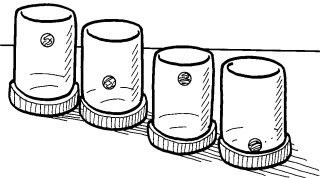


- Blow up a few balloons, and knot them. Together, try to keep them in the air. Eventually, each one will drop. *Science lesson:* The balloons fall to the ground because the earth's gravity pulls them down.

SCIENCE LAB

Thick as molasses

With this experiment, your youngster will see how the thickness of liquids affects how they move.



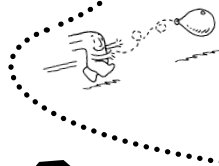
You'll need: 4 same-size empty jars with lids, 4 same-size marbles, 4 liquids of different thicknesses (*examples:* water, cooking oil, honey, molasses)

Here's how: Have your child put a marble in each jar, fill each one with a different liquid, and screw the lids on tightly. Turn all four jars over at the same time (this will take two people), and let him watch the marbles drop. Which one hits bottom first? Last?

What happens? The thicker the liquid, the longer it takes the marble to fall.

Why? Thicker liquids have higher viscosity, or resistance to flow. If two marbles fall in about the same amount of time, the two liquids have similar viscosity.

Idea: Talk about how viscosity is important in foods. Would gravy or spaghetti sauce be good if it were as thin as water? Is it easier to make chocolate milk with thin chocolate syrup or thick hot fudge?



- Blow up a balloon, put a penny inside, and tie the end. Then, have your youngster hold the knotted end and twirl the balloon rapidly. After the penny starts spinning, she should stop the balloon with her other hand. The penny will keep spinning! *Science lesson:* An object in motion stays in motion unless acted on by outside forces.

Q & A

Keep up with math

Q: I recently read that children can forget some math skills during summer break. I'm no math expert—what can I do to help my son?

A: The good news is that you don't have to be a math whiz to help him. The best way to practice is just to make math part of your daily routine.

For instance, each morning have him look at the calendar and tell you the date. Ask him questions like, "How many more days until the weekend?" Let him read the digital clock to tell you the time. If you're at the bus stop, tell him the bus number you're waiting for, and have him try to spot it.

Encourage him to put math into playtime, too. He might make a parking garage with numbered spaces for his toy cars, design patterns with stickers, or play games that involve counting, adding, or money.



MATH CORNER

Active math time

Math + outdoor games = fun. Try these winning combinations with your youngster.

Jump to the number.

Have her use chalk to write a row of numbers (0–10) on a sidewalk or driveway. Let her stand on a number (0) and count by 2s by jumping to 2, 4, 6. Then, have her move to a different number (3) and start again



(3, 5, 7). Or give each other math problems like "Hop to find $3 + 2$ " or "Tiptoe to solve $7 - 5$."

Play leapfrog.

Mark a starting point, leap over each other several times, and mark where you stop. Have her measure the distance you go by walking heel-to-toe. How many "feet" did you jump?

OUR PURPOSE

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

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