

# Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

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Allan Composite School  
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## TOOLS & TIDBITS

### Add one more

Help your child number a sheet of paper 2–7.

Take turns rolling a die. Add 1 to the number rolled, and circle that number (if your youngster rolls a 3, she circles 4). When all the numbers are circled, play again with 2 dice and the digits 3–13. This time, add the numbers together—and add 1 more!

### My own binoculars

A pair of homemade “binoculars” will let your child observe the world around him. Have him tape together two empty toilet paper rolls. Punch a hole in each side, and help him string yarn through and tie a knot. Then, he could use his binoculars to peer at birds or look at flowers—and describe all the details he notices.



### Web picks

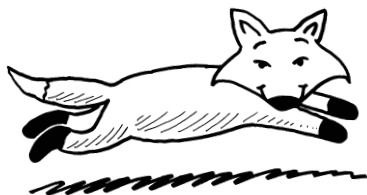
On Johnnie’s Math Page ([jmathpage.com](http://jmathpage.com)), you can find number games for your youngster and resources for parents, too.

Check out Wildscreen Arkive ([arkive.org](http://arkive.org)) for beautiful photos and interesting facts on animals and regions of the world.

## Just for fun

**Q:** How far into the woods can a fox run?

**A:** Halfway. After that, he’s running out!



## Sticks and stones

Head outside and let your child gather an assortment of sticks and rocks from the ground. Then, suggest these fun ways to use them for math.

### Form numbers

Encourage him to arrange sticks and rocks into the numbers 0–10. Or he might draw the numbers with a stick in a patch of dirt or mud. If you take paint and paintbrushes with you, he could paint numbers onto rocks, too.

### Make dominoes

Your youngster can turn sticks into dominoes by painting different numbers of stripes on the ends. Or he might create dominoes from rocks by painting various numbers of dots on each end. To play, mix up the sticks or rocks. Draw one at a time, and try to match the number of stripes or dots—just as you would match numbers of dots in regular dominoes.



### Turn into rulers

Let your child pick a stick and use it to measure different objects. Help him turn it end-to-end to see how many “sticks long” a sidewalk block or your front door is. He can do the same thing with a rock: How many “rocks long” is a leaf or a fallen branch? Encourage him to experiment with different sticks and rocks. He’ll get different results, and he’ll understand why we use standard measuring tools like rulers and yardsticks. 🦋

## Watch the lava flow

This hands-on activity will give your youngster an idea of how volcanoes erupt.

**1.** Poke a hole in the bottom of an empty yogurt container. Let your child unscrew the top from a tube of toothpaste and insert the open end through the hole.

**2.** Have her put dirt into the yogurt container, filling it about  $\frac{2}{3}$  high. Now, ask her to squeeze the toothpaste tube and watch what happens.

**3.** The toothpaste will swirl through the dirt and move it around. You can tell her the dirt represents the earth’s surface, and the toothpaste is the *magma* (molten rock) breaking through the earth’s crust as *lava*. 🦋



# Tally and graph

Give your youngster experience with graphing, a skill that will help her throughout school. Try these activities.

● **Reading stories.** Read a book together, and talk about what she could graph. For a story on zoo animals, your child might make a bar graph comparing the numbers of elephants, giraffes, and tigers pictured.

When she finishes, ask her to tell you a new story based on her graph. *Example:* “The zoo had 6 giraffes, but only 2



elephants. The little girl asked the zookeeper, “Why do you have more giraffes than elephants?”

● **Telling time.** Which timekeepers do you have the most of at home? On a piece of paper, have your youngster list options (clock, cellphone, watch, appliances). Then, she can go room to room and make a tally mark for each one she finds.

To graph her data, she could create a grid and draw a different timekeeper under each column. Next, she should color in a block for each one she found (5 watches = 5 blocks in the watch column). Let her use her graph to deliver the “timely” results to your family.

## SCIENCE LAB Bubbles away!

Can your child blow better bubbles with solution that’s warm or cold? Let him experiment to find out.

**You’ll need:** water, liquid dish detergent, glycerin, bowl, 2 empty jars (same size), measuring cups and spoons, timer

**Here’s how:**

Help your youngster make bubble solution by combining  $4\frac{1}{2}$  cups water,  $\frac{1}{2}$  cup detergent, and 4 tbsp. glycerin. Then, have him pour an equal amount into each jar. He should place one jar (labeled “cold”) in the refrigerator and the other one (“hot”) outside on a warm day. Wait an hour. Ask him to shake each jar for 30 seconds and time how long it takes for all the bubbles to pop.



**What happens?** The bubbles in the “cold” jar should last longer.

**Why?** At the higher temperature, molecules in the solution move more quickly, and the walls of the bubbles thin and evaporate faster—making the bubbles pop sooner.

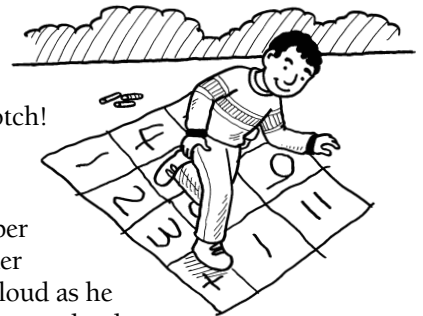


## MATH CORNER Hop to it

Children + spring = hopscotch! Here are two versions that incorporate math.

**1. Skip count**

Together, draw a hopscotch board and number it by 2s (2, 4, 6, and so on). Have your youngster jump from number to number, skip counting aloud as he goes. Then, he could erase those numbers and renumber by 3s, 5s, or 10s. Skip counting teaches him a way to count large quantities faster and also gets him ready for multiplication.



**2. Calculate**

Help your child draw a hopscotch board that looks like a calculator, including “buttons” for +, −, and =. Take turns tossing a token and jumping to an addition or subtraction problem using the number it lands on. For instance, if his token is on 7, he could hop to  $3 + 4 = 7$  or  $8 - 1 = 7$ .

## Q & A Put math on the errand list

**Q:** *It seems like I’m always out and about with my daughter. How could we practice math while doing errands?*

**A:** The great thing about math is that you can do it anywhere—all you need is your brain! Just look around, and do math based on where you are.

For example, ask your child to count the red lights you stop at or the number of minivans you

pass. Or have her predict how long you’ll be at the bank or hardware store and then check her prediction.

For a fun game, find the numbers 1–20 on signs or billboards—in order. So if your daughter calls out “Exit 6,” next you might spot “Open 7 days a week.”

As you both get used to looking at the world with “math glasses” on, you’ll come up with many fun ways to incorporate math practice in your trips.



### OUR PURPOSE

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

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