

# Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

December 2013



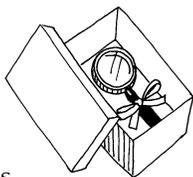
## TOOLS & TIDBITS

### Writing numbers

Challenge your youngster to write numbers as high as he can go. With each one he makes, he'll practice the strokes needed for 0 through 9. Ask, "What's the biggest number you can write?" Then, have him read it aloud.

### Learning gifts

Use holiday gifts to show your child how much fun math and science can be. At discount or dollar stores, pick out puzzles, building sets, math workbooks, strategy games, origami paper, or science kits. Or get tools she can use, such as a magnifying glass, microscope, telescope, calculator, or colorful ruler.



### Web picks

Your youngster can sharpen his math skills with games like Number Line Express and Addition Surprise at [harcourtschool.com/menus/math\\_advantage.html](http://harcourtschool.com/menus/math_advantage.html). Activities are organized by grade level.

Watch penguins live and up close! Your child will observe these creatures walking, playing, and eating with the webcam at [montereybayaquarium.org/efc/efc\\_splash/splash\\_cam.aspx](http://montereybayaquarium.org/efc/efc_splash/splash_cam.aspx).

## Just for fun

**Q:** Why don't mountains get cold in the winter?

**A:** They wear snowcaps.



## Counting for real

"1, 2, 3, 4, 5—look, I'm counting!"

But is your youngster really counting? Sometimes, children just say numbers in order—that's called "rote counting"—rather than actually using a number to represent each object. Here are ways to work on real counting with your child.

### One-to-one correspondence

Put 5 stickers on a sheet of paper, and give your youngster small objects like pom-poms or erasers. Have her match each item to a sticker, counting as she goes. Or ask her to choose a number to count to (say, 7) and objects to count (dolls). With each number she counts, she can put a doll on the table. When she gets to 7, she should re-count the dolls, touching each one once. Are there 7?

### Where was I?

On separate index cards, draw dots in different formations (circle, rectangle). Then, let your child count the dots on each card. What could she do to help her keep track of where she started? For instance, she might keep a finger on the



first dot so she knows when she gets to the last one. Or she may mark off each dot as she goes.

### Counting on

It's important for children to master "counting on" so they don't start over when objects are added to a group. If you're in a waiting room, ask your youngster to count the people (4). When a father and son walk in, she can continue counting to get the new total (5, 6). Or have her count 8 paper clips, and give her 5 more—she should start from 8 and count, 9, 10, 11, 12, 13. *Tip:* Make sure she realizes the last number she counts is the total number in the group. 

## Poetry that compares

In science class, your child will be asked to compare and contrast. Help him practice with this fun poetry activity.

**1.** Ask your youngster to think of two similar objects (a penny and a nickel, a triangle and a square).

**2.** Have him make a two-column chart and list words describing each object. For penny, he might write, "round, 1 cent, brown," and for nickel, "round, 5 cents, gray." He could highlight the identical traits in yellow and the different ones in green.

**3.** Finally, your child can use the words to write a "same and different" poem. Let him illustrate and hang up his finished product. 



# All in order

Quick! Arrange and rearrange family members to form various numbers from the same digits. Your child will see that standing in a different order will change the number—because *place value* matters.

Help your youngster write the numerals 0–9 on separate sheets of brightly colored construction paper. Mix them up, and put them facedown in a pile. Each person draws a number and holds it in front of him so everyone can see it (say, 8, 5, and 4).



The person with the highest digit calls out any number that includes all three numerals (458), and family members scramble to arrange themselves to show that number. Then, the person with the next biggest digit says a new number (845). Rearrange yourselves to show that number.

Keep going until you run out of different numbers to make

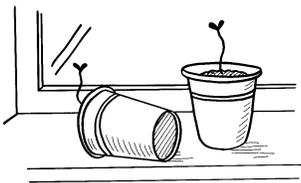
(have your child keep track of them on paper—and then write them in order from smallest to largest). Put 8, 5, and 4 back, mix up the number pile, and play again.

*Idea:* Let your child do this activity with stuffed animals. He gets to choose the number on every round and rearrange the animals to form it.

## SCIENCE LAB Growing up

Do plants know which way to grow? Your youngster might be surprised by the results of this experiment.

**You'll need:** 2 plastic cups, potting soil, fast-growing seeds (bean, radish)



**Here's how:** Let your child plant a seed in each cup by adding potting soil, pushing in a seed, and covering with more soil. She should water each plant until moist. Have her put the two plants by a sunny window, one right side up and the other one on its side (pack the dirt firmly to keep it from spilling out). Ask her to check her plants daily to see how they are growing.

**What happens?** Both plants will grow upward.

**Why?** Plants seem to know that water is down (in the ground) and the sun is up (in the sky). The roots will always grow down toward water, and the stem will always grow up to find sunlight.

## OUR PURPOSE

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

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ISSN 1942-910X

## PARENT TO PARENT

### Estimate around the house

My daughter's class is working on estimation, and her teacher suggested that we practice at home. I've tried a few ideas, and my daughter seems to be enjoying making "educated guesses."

When we're putting away laundry, I ask Ashley to estimate how many towels will fit on a shelf. She stacks the towels, compares the height to the space available, and comes up with her estimate. Then, she puts them away and counts how many really fit.

I also look for opportunities to estimate as we go about our day. I might ask Ashley to estimate how many steps she'll take to the garage or how many pieces of mail are in the mailbox. Now she is starting to ask me to estimate things, too!

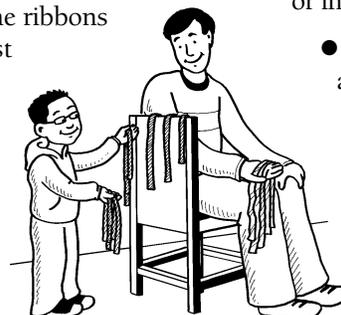


## MATH CORNER

### Ribbon math

Cut ribbons from holiday packages into different lengths, and let your youngster use them for colorful math activities like these:

- Have him arrange the ribbons from shortest to longest or narrowest to widest. Encourage him to use math vocabulary to describe them: "The blue ribbon is *shorter* than the purple ribbon."



- Suggest that your child make sets. For example, he could pull out a green ribbon and create a set of all the ribbons that are longer than that one. Or he might sort them into short, medium, and long or into piles by color or texture.

- Ask him to pick one ribbon and use it to measure objects around the house. For each item, he should make a prediction ("I think the kitchen table will be 4 red ribbons long"). Then, he can lay the ribbon end-to-end to measure.