

# Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

December 2017

Gardiners Avenue School  
Dr. Jared Vanderbeck, Principal

## TOOLS & TIDBITS

### Cookie sheet facts

With this idea, your youngster can form numbers, add, and subtract. Take turns creating play dough number sentences on a cookie sheet for each other to solve. You might make  $4 + 6 = \underline{\quad}$ , and he would form 10 for the answer. Then, he sculpts a problem for you.



### Move it, move it!

Can your child move like a cow or a snake? Let her try, then have her describe how animals use their body parts to move. She might say a cow walks on four legs and a snake slithers across the ground. Challenge her to move like other animals—only she might have trouble swinging from tree to tree without a tail like a monkey's!

### Web picks

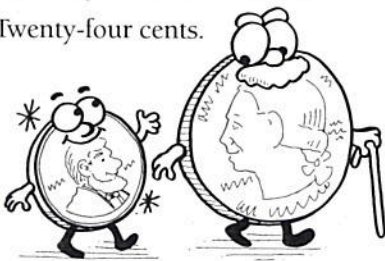
☐ Starring familiar characters like the Cat in the Hat, the activities at [pbskids.org/games/math](http://pbskids.org/games/math) will help your youngster work on counting, sorting, and more.

☐ Your child can make a spinning top, a rubber-band ball, and other homemade toys while exploring science at [sciencetoymaker.org](http://sciencetoymaker.org).

## Just for fun

**Q:** What's the difference between a new penny and an old quarter?

**A:** Twenty-four cents.



## Measurement for the win

See which family member can jump the farthest, accurately predict the length of household items, or build the tallest block tower. Your child will practice measuring with these contests.



### Jump forward

Let your youngster mark a start line on the floor. Have each family member jump as far as possible, and mark the landing spots. Now, ask your child to choose a unit of measurement all the same size (straws, juice boxes) and line them up to measure each jump. She can announce the winner. ("Susie's jump was 7 juice boxes long!")

### Compare lengths

Take turns choosing two objects and predicting which is longer. Then, your child can measure one item with yarn, cut it to fit, and compare it with the second object. After each family member has

measured six pairs of items, the person with the most correct predictions wins.

### Stack blocks

Who can make the tallest block tower? The trick is to stop before yours topples over—and request that your youngster measure it. Help your child put the 0 end of a yardstick or measuring tape on the floor or table beside each tower to measure its height in inches and then in centimeters. This will help her become comfortable with both units of measurement.

## Reversible—or not?

Some foods change from liquid to solid (or vice versa) when they're heated or cooled. Which foods change, and which changes can be reversed? Let your youngster observe to find out.

First, help him crack a raw egg into a bowl, and have him draw what he sees. Then, place the egg in a pan over medium heat until set, and ask him to draw the cooked egg. Next, he should observe and draw what butter looks like before and after you heat it.

Now let your youngster put the egg and butter into the refrigerator for an hour and observe again. What does he notice? (The cooled butter becomes solid again, but the egg doesn't go back to being liquid.)

Encourage him to observe heating and cooling other foods to see which ones change—and change back.





# Skip that

“Two, four, six, eight, what do we appreciate?” Skip counting! This activity is great for building skills that help with number sense, math fluency, and even early multiplication.

**Number.** Have your youngster make a set of skip counting sticks by numbering 10 craft sticks by 2s from 2 to



20. He can line up the sticks as he skip counts in order.

**Arrange.** Next, mix up the sticks, and scatter them on a table. Can your child put the numbers back in order? *Idea:* Make two sets, and race each other to do it.

**Count on.** Scatter the sticks again, and have your youngster pick one at random. Ask him to start at that number and skip count to 20. If he drew 12, he would say, “12, 14, 16, 18, 20.”

*Variation:* Let him make skip counting sticks for 5s and 10s, and play again.

## MATH CORNER Name the digits

How many tens? How many ones? Play this guessing game to practice place value together.

First, ask your child to divide a sheet of paper into two columns labeled “Tens” and “Ones.” Now, secretly think of a two-digit number

for your child to guess, such as 54. She writes a random guess on the sheet. If she guesses 37, she would put the 3 in the tens column and the 7 in the ones column.



Use this code to “score” her guess, and she’ll use your answers to make her next guess:

- Draw a red circle around any digit that is not in your number. For 37, you’d circle both digits in red.
- Draw a yellow circle around a digit that is correct but in the wrong column. If she guesses 65, circle 5 in yellow (and 6 in red).
- Draw a green circle around any digit that is correct *and* in the correct place. Say she guesses 59—circle 5 in green (and 9 in red).

Have your youngster continue guessing until she gets your number. Next, she can choose one for you to guess.

**OUR PURPOSE**  
 To provide busy parents with practical ways to promote their children’s math and science skills.  
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 a division of CCH Incorporated  
 128 N. Royal Avenue • Front Royal, VA 22630  
 800-394-5052 • rfeustomer@wolterskluwer.com  
 www.rfeonline.com  
 ISSN 1942-910X

## SCIENCE LAB Blizzard in a jar

Your child can create the magic of a snow globe with this experiment that demonstrates principles of chemistry.

**You’ll need:** a clean jar (baby food jar, canning jar), rubbing alcohol, decorations (glitter, sequins), vegetable oil

**Here’s how:** Fill the jar about  $\frac{1}{4}$  full with rubbing alcohol. Let your youngster drop in the glitter and sequins. Then, have him pour in vegetable oil to the top and close the jar tightly. He can turn the jar upside down and gently shake it back and forth, then turn it right side up.

**What happens?** He will see “snow” falling.

**Why?** When he shakes the jar, the oil breaks up into tiny drops and the decorations move around. Because the oil is denser than the alcohol, the drops sink to the bottom along with the decorations—creating the “snowy” effect.



## Q & A Parent involvement in math

**Q:** I’ve read that it’s important to be involved in my child’s education. How can I play a role in what she’s doing in math?

**A:** The best—and easiest—way to be involved is to express interest in what your youngster is learning. Ask her to show you her math papers and explain her work. Let her be the “teacher.” She’ll enjoy sharing her knowledge, and going over the steps will boost her learning.

Also, support math activities at school. Attend functions like family math nights, and volunteer in math class if you can.

Finally, bring math into everyday life with your youngster. You might point out how many stamps you need for your mail or how

many slices of bread it takes to make lunch. Let her know that you use math all the time—and that you love numbers!

