

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

December 2014

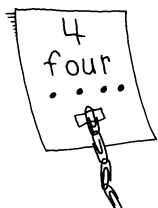
St Johns County School District

TOOLS & TIDBITS



Paper-clip numbers

On a piece of paper, help your youngster write a numeral (4), number word (four), and dots representing the number (••••). Have her link together a matching number of paper clips (4) and tape the chain to the paper. Then, she could do the same thing with other numbers.



Balloon sound

Blow up a balloon, and knot the end. Let your child hold the balloon next to his ear while you tap gently on the opposite side. Your tapping will sound pretty loud to him! You can explain that air molecules are packed tightly inside the balloon, so they *conduct* the sound waves better than ordinary air would.

Web picks

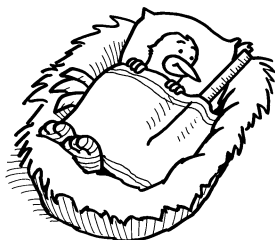
At mathcats.com/#contents, your youngster will join the “cats” to do math activities and crafts. He can balance objects on a scale, build a polygon airport, and more.

Launch your child into space exploration with the games and videos at spaceracers.org. Includes an online coloring book, too.

Just for fun

Q: Why would you take a ruler to bed?

A: To see how long you slept!



Putting numbers in their place

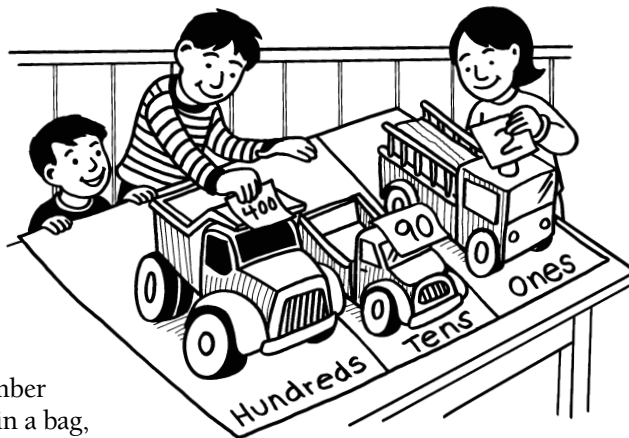
How can 2 mean 20, 200, or even 2,000?

When it moves into the tens, hundreds, or thousands spot, 2 is transformed into something much bigger! Use these activities to help your child play with *place value*.

Pull out a number

Have your youngster number 10 slips of paper 0–9, place in a bag, and shake. Ask him to pick two and arrange them into as many numbers as possible—using one or both slips. Let him name each number and record it on a sheet of paper. Then, when he’s comfortable with two-digit numbers, he could play again with three slips and form three-digit numbers, too.

Example: If he selects 2, 5, and 8, he could make 2, 5, 8, 25, 28, 258, 852, and so on. Help him look over the numbers and compare them. He’ll see that a digit can represent ones (2 ones in 852), tens (2 tens in 825), or hundreds (2 hundreds in 258)—depending on its place.



Park your trucks

Suggest that your child draw three parking spaces and label them (left to right) “hundreds,” “tens,” and “ones.” Then, he can park a toy truck in each spot. Take turns giving each other 3-digit numbers to create by putting sticky notes on each truck.

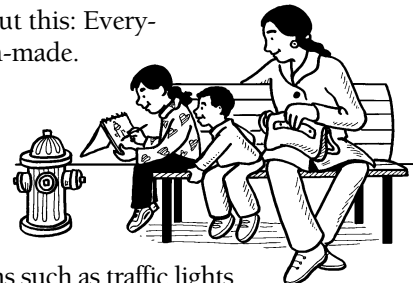
Example: If you say 492, he should write “400” on the truck in the hundreds spot, “90” on the truck in the tens spot, and “2” on the truck in the ones spot. Ask him to say the number out loud like this: “400 + 90 + 2 = 492.” That will help your youngster understand what 492 is really made up of. Take off the notes, and let him park the next number! 🐛

Natural vs. man-made

Encourage your youngster to think about this: Everything in our world is either natural or man-made.

Help her sort this out by taking a walk with a notebook, pencil, and colored pencils in hand. Ask her to scout out objects that are natural vs. those that are man-made and to sketch and label each. Your child might notice natural things like trees, squirrels, and rocks or man-made items such as traffic lights, sidewalks, and fire hydrants.

What clues tell her that something is natural or man-made? She could think, “Does it appear in nature?” or “Did a person or machine create it?” 🐛



Even steven

Thinking about friends is a clever way for your youngster to understand even and odd numbers. Explain that in even numbers, everyone has a “friend,” but in odd numbers, “someone” is always left out. Then, try these ideas.

Make pairs. Ask your child to draw 6 hearts and to circle all the pairs of 2. You can tell her, “Each heart has a friend, so 6 is an even number.”

Next, she might draw 7 stars and do the same thing. When she sees that one is left over, say, “Oops! One star is left out, so 7 is an odd number.” *Tip:* Do this with more numbers, and tell her to keep a record of even and odd numbers.



Draw a street. For a fun art project, let your youngster draw “Even and Odd Street.” On one side, she could draw an even number of houses that are evenly lined up. On the other side, she should draw an odd number of “odd” houses—lopsided or with funny features like the front door in the roof.

Have her number the houses on each side (even numbers on the even houses and odd numbers on the odd ones). *Tip:* Hang up her drawing as a reminder of which numbers are even and which are odd.

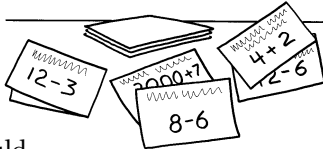


MATH CORNER

Who is it?

Describe yourselves with math facts in this game, and see if players can figure out who’s who.

1. Give each person six index cards.



Players should write a different math fact about themselves on five cards and “Pick one!” on the sixth. *Examples:* “My shoe size is 8 – 6.” “I was born in 2000 + 7.”

2. Shuffle everyone’s cards together. Deal five to each player, and stack the rest facedown. The object is to collect another player’s set of five cards.

3. Take turns drawing a card. Do the math, and ask one question to see whose it is. For instance, ask, “Is 2007 the year you were born, Kevin?” Then, either keep the card and return one from your hand, or put the card back in the pile. If you get “Pick one,” you can pluck a card from anyone’s hand!

4. The first person to complete a set calls out, “I know who you are” and names the person.

OUR PURPOSE

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

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SCIENCE LAB

When hot air rises

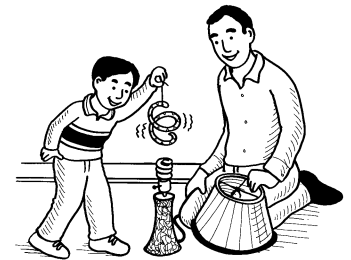
A wiggly “snake” is the key to this experiment about hot air and wind.

You’ll need: a thin paper plate (or a piece of paper cut into a large circle), crayons or markers, scissors, hole punch, thread, lamp

Here’s how: Ask your child to draw a spiral around the paper plate and use crayons or markers to decorate it like a snake. Help him cut out his snake. Punch a hole in its head, and loop a piece of thread through the hole. Now, turn on a lamp, and have him carefully hold his snake by the thread over the warm bulb. (*Note:* This will also work over a warm radiator, if you have one.)

What happens? The snake will wiggle and dance around.

Why? Warm air is lighter than cool air. As the heat from the lamp rises, cooler air moves in to take its place. This process creates air currents that make the snake wiggle around. Outdoors, when the sun heats air, the same thing happens—and wind is created.



Q & A Help from home

Q: I’m worried about how I’ll be able to help my daughter with math as she gets older and it gets harder. Any suggestions?

A: One of the best ways to help your youngster with math—or, in fact, any subject—is to ask lots of questions, listen to her answers, and follow up with more questions. If you keep her thinking, she will learn!

Here are some questions you might ask when she’s showing you her math work or doing math homework:

- How could you start that problem?
- What could you do next?
- How would you draw that problem?
- Are there other strategies you might try?
- Does your answer make sense?
- How do you know your answer is right?
- Can you make up your own problem using different numbers?

Be sure to pay close attention to her answers. Seeing that you are interested and care about what she says will build her confidence—and that confidence can carry over into the way she feels about all of her schoolwork.

