

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

February 2016

District School Board of Pasco County

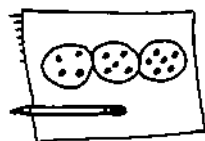
Title I

TOOLS & TIDBITS



One more, one less

Draw 3 circles, and put 5 dots in the middle one. Can your youngster draw 1 less in the left circle (4 dots) and 1 more in the right circle (6 dots)? Now ask if he can show another way that 5 is 1 more than 4 and 1 less than 6. He might arrange objects, such as books or socks, in rows of 4, 5, and 6.



Kitchen chemistry

Making dinner? That's a great time for your child to witness kitchen chemistry firsthand. Have her touch and taste a raw carrot and describe it to you (*hard, crunchy*). Then, cook it. Let her touch, taste, and describe it again (*soft, mushy*). She'll learn an important science concept: Heating can change a substance.

Web picks

Visit numbernut.com to let your youngster quiz himself, play memory games, and more. Also includes helpful explanations of math concepts for parents.

Your child can watch an animated video of how the water cycle works at epa.gov/safewater/kids/flash/flash_watercycle.html.

Just for fun

Q: What do you get when you cross a rooster and a giraffe?

A: An animal that can wake people on the top floor of a building.



Even or odd?

Knowing the difference between even and odd numbers will help your child understand number patterns and get ready for division and other advanced math. Start with these activities, and then practice with the game below.

Find a partner

Put small toys into a bowl. Have your youngster scoop up a handful and arrange them into pairs of 2. If each one has a partner, the total will be an even number. But if there's an "odd man out," it will be an odd number. Let her count by 2s (2, 4, 6, 8) and say whether the total is even or odd. Then, she can put the toys back and try again with a new handful.

See the pattern

Help your child draw 2 rows of 10 boxes and number them across (1–10, 11–20). She could color the even-numbered boxes with one color and the odd boxes with another. She'll see that every other number is even and every other number in between is odd. *Idea:* Together, count the numbers



aloud—she might roar the even numbers like a lion, while you use a squeaky mouse voice for the odd ones. Ask her what 21 would be, and she'll be able to say, "Odd."

Discover the rule

Pick a number from 1 to 20, and ask your youngster to count that many paper clips. Can she divide them into two equal piles? If so, the number is even. If not, it's odd. Have her write the number under the heading "even" or "odd" on a sheet of paper. Continue until she has listed all the numbers up to 20. What does she notice? (Even numbers end in 0, 2, 4, 6, or 8, and odd numbers in 1, 3, 5, 7, or 9.)

Slap the card

Who can be the quickest to slap the even (or odd) cards? Play this game to find out.

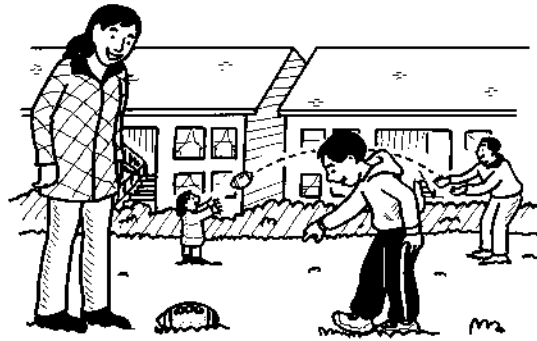
1. Deal a deck of cards (aces and face cards removed) equally in facedown piles. Set a timer for two minutes.
2. Have each player add one card facedown to a single stack in the middle of the table. Then, one person turns the top card faceup.
3. If it's even, everyone races to slap the stack (using one hand). Whoever slaps first gets the stack and puts it at the bottom of his pile. If it's odd, the cards stay in the middle.
4. Keep adding cards, turning over the top one, and slapping until the timer rings.
5. Play again, this time slapping odd-numbered cards.
6. Count your cards. The person with the most after both rounds wins.



Score a touchdown!

As teams and fans gear up for the biggest football game of the year, your family can throw a *Math Super Bowl*. Here's how.

Measure your passes. Starting from the same point, take turns tossing a football. With each throw, have your youngster pace off the distance by walking heel-to-toe. Who will pass the football the most "feet"? *Idea:* Have different family members walk off the same distance. Your child will see that the answer changes with the person's foot size—that's why we use rulers.



Make a pictograph. Your child could poll family and friends to predict the Super Bowl winner. To graph his results, he can label a column for each team and draw a football for each vote. (*Note:* Remind him to line up the footballs evenly across the rows.)

"Call" the game. On game day, let your child announce the action—using numbers. "Number 84 fumbled the ball!" "The red team needs 6 points to tie the game." He could keep his own stats, too. For instance, he might record the number of times each player carried or caught the ball.

SCIENCE LAB

Blue skies

At some point, just about every child wonders, "Why is the sky blue?" Help your youngster understand this phenomenon by doing this experiment.

You'll need: 2-liter clear plastic bottle, water, flashlight, milk, teaspoon measure

Here's how: Have your youngster fill the bottle $\frac{3}{4}$ full with water. Shine the flashlight down into the water as she adds milk to the bottle, 1 tsp. at a time.



What happens? The mixture will appear blue.

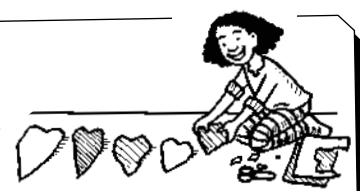
Why? White light—from the sun in the atmosphere or from the flashlight here—is actually a mixture of all the colors of the rainbow. When that light collides with gas molecules in the atmosphere (or milk molecules here), the light scatters. Blue light scatters more than any other color, so the sky looks blue.

Idea: Change the "sun's" position by shining the flashlight toward the middle of the bottle. The water will appear red, orange, or pink—like a sunrise or sunset. When the sun's position in the sky changes, the color of the scattered light changes, too.

MATH CORNER

I ♥ math

Encourage your youngster to use hearts for math fun this month. Try these ideas.



Line them up

Suggest that your child draw different-size hearts on construction paper and cut them out. She could line them up from shortest to tallest or narrowest to widest. Cut out another heart, and ask her to insert it where it should go in the lineup.

Create number sentences

Together, cut 20 hearts out of red and pink construction paper. On each one, your child can write a number to make two sets of 0–9. Then, have her make addition, subtraction, and equal signs (+, −, =) on separate slips of paper. Use the hearts and slips to make number sentences for her—leaving one space blank. She has to fill in the missing number. *Tip:* Leave out numbers in different spots, not just the answer.

PARENT TO PARENT

Let's take a science field trip

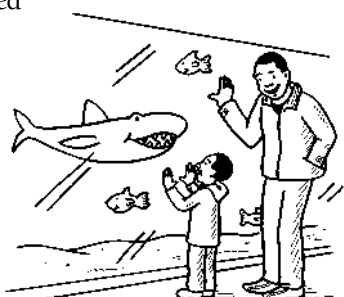
My son came home so excited about his class's field trip to the local science center that it gave me an idea. Why not take science field trips as a family? We're always looking for fun and inexpensive things to do on weekends.

Our first one was to the aquarium downtown—once a month there's a free day for families. Brendan loved seeing the sharks, and he was fascinated when he learned that starfish can regrow lost arms.

Then, last weekend we visited our town's recycling center. We saw the sorting process and talked about how

More field trip ideas...

- Farm
- Wildlife refuge
- Power company
- Botanical garden
- Water treatment plant
- Nature preserve
- Orchard
- State park
- Planetarium
- Dam
- Zoo
- Fish hatchery



conveyor belts work. We also learned how paper is processed and sold to paper mills to be used again—giving Brendan incentive to put paper into our recycling bins at home!

OUR PURPOSE

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

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www.rfeonline.com
ISSN 1942-910X