

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

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Woodrow Elementary School
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TOOLS & TIDBITS

Fill in the numbers

Draw a 20-box grid on paper, and write numbers in order (1–5 in the top row, 6–10 in the next, and so on). But leave out a few—your child’s job is to fill them in. Then, he can make a grid for you. This will help him work on which numbers go before and after others.

Stronger sand castles

When your youngster makes sand castles at the beach or playground, encourage her to experiment. Take along measuring cups, and let her add different amounts of water to sand. For instance, she could try pouring 1 cup water into a bucket of sand, then $1\frac{1}{2}$ cups or 2 cups. What happens when she uses more or less water? What’s the best mix for building?

Book picks

❑ Oh no, the numbers have disappeared! *Missing Math: A Number Mystery* (Loreen Leedy) is a fun lesson in why we need numbers.

❑ *Star in My Orange: Looking for Nature’s Shapes* (Dana Meachen Rau) takes your child on a journey of shapes. Read this together, and then see what shapes he can find outside.

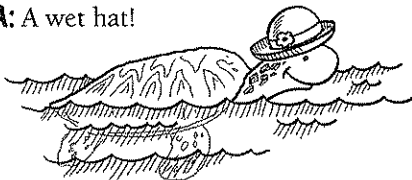
Worth quoting

“The hum of bees is the voice of the garden.” Elizabeth Lawrence

Just for fun

Q: What do you get if you throw a green hat in the Red Sea?

A: A wet hat!



Put math in your day

Practicing math skills over the summer will keep your youngster from getting rusty before school begins again in the fall. Here are ways she can use—and enjoy—math inside, outside, or on the go:

- Let her find the right coins and feed them into parking meters or Laundromat machines. You could give her a handful of change and say, “We need 8 quarters for the washing machine” or “We need \$2 for the washing machine. How many quarters is that?”
- Have your child work on shapes and sizes by organizing your containers. She could match containers with their lids. Or she can line up containers and lids separately, from smallest to largest.
- Count everything! At the playground, she might count the number of steps up the slide or the rungs on the monkey



bars. At the store, she could count the bananas in a bunch or the number of people in line. What is the highest number she can count to each day?

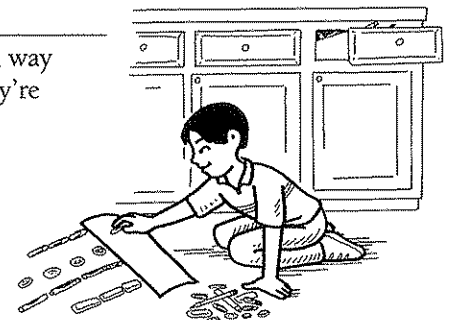
- As your youngster plays, make up addition and subtraction problems. If she’s playing with dolls, you might say, “I see 3 dolls with brown hair and 4 dolls with blonde hair. How many dolls are there altogether?” ($3 + 4 = 7$) *Idea:* Ask her to make up problems for you, too.

3-D graphing

Using objects to make graphs is a good way for young children to see the data that they’re organizing. Try these suggestions.

“Junk drawer.” Give your youngster a mixed-up pile of objects from your junk drawer. Have him sort the items into separate piles (buttons, paper clips, erasers). Then, he can place them in rows to create a bar graph (being sure to line up the objects evenly). Encourage him to use the graph to make comparisons, such as “There are three more buttons than erasers.”

Favorite colors. Ask him to poll friends and family members on their favorite color (red, blue, yellow, or green). To graph the results, he can use Lego blocks (all the same size) in matching colors. Let him stack his graph into towers—the tallest one is the most popular color!



Find, look, grow

Your child can explore nature up close with these clever ideas.

Nature bracelet

Tear off a length of masking tape and wrap it loosely around your child's wrist, sticky side facing out. Go outside together, and have him use his bracelet to pick up small objects from nature. He might get seeds, dirt, or fallen petals or leaves. When his bracelet is full, carefully



remove it from his hand. You can encourage him to examine his "finds" with a magnifying glass.

Sock garden

Let your youngster put on old socks and walk around in grass, weeds, or between (but not on) plants and flowers. Then, help him carefully take off the socks.

He should look closely at what has stuck to them. Next, have him "plant" his socks. He can put potting soil in a pot, add his socks, and fill with more soil. What does he think will grow? Have him water his sock garden regularly and watch to see what sprouts.

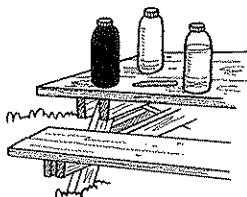


SCIENCE LAB Solar energy

Does it matter if you wear a white shirt or a black shirt on a hot, sunny day? Let your youngster try this experiment to find out.

You'll need: 3 clear plastic bottles, black paint, white paint, paintbrush, thermometer

Here's how: Have your child paint one bottle black and another bottle white



and leave the third bottle alone. Then, she can fill all three bottles with water and put them outside in direct sunlight. After an hour, let her pour a little water from each bottle onto her finger. Which one feels warmest? Help her use the thermometer to measure the temperature of the water inside each bottle.

What happens? The water in the black bottle will be warmest.

Why? Darker surfaces absorb more light and heat (or energy) from the sun. Lighter ones reflect more light—more energy bounces off of them. So if you want to stay cool in the summer, wear lighter-colored clothing!

MATH CORNER Number scratch-off

With this fun card game, your child can work on number recognition, addition, and strategy skills. Follow these steps to play.



1. From a deck of cards, take ace (1) through 5 of each suit. Place those cards in a pile facedown.
2. Have each player write the numbers 1–10 on his own paper. The object is to be the first to mark off each of your numbers.
3. On your turn, take two cards (say, 3 and 5). Then you have a choice. You can mark off the numbers of each card (3, 5), or you can add them together and mark off the sum (8).

Variations: Use more cards and numbers. For instance, use the cards 1–6 and the numbers 1–12, or the cards 1–10 and the numbers 1–20. Or allow subtraction as well as addition.

Q & A Mathercise!

Q: My kids both like numbers—and they both need to get more exercise. Is there any way to combine math and exercise?

A: Yes, there is, and you could call it "mathercise"! Together, brainstorm ideas for games that involve numbers and physical activity. For example, you might try Simon Says with instructions that involve numbers, such as "Simon says hold up 7 fingers" or "Simon says twirl around 2 + 1 times." Or you could

plan races that are "shorter" and "longer" and time each other to find the winner.

Another idea is to draw a giant game board with sidewalk chalk on a driveway or school blacktop. In each square, your children could write directions like "Crawl back 2 spaces" or "Do 5 jumping jacks and move forward 3 spaces." To play, take turns rolling a die and following the directions on the box where you land.



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