

Math+Science Connection

Beginning Edition

Building excitement and success for young children

February 2009

Dekalb County School District
Dekalb County School District

TOOLS & TIDBITS

Spin and answer

Let your child



“spin” her way into daily math practice. Using a game spinner, have her spin two numbers in a row (3, 4). Then, ask her to make a “number sentence” by adding or subtracting the numbers. She might say $3 + 4 = 7$ or $4 - 3 = 1$.

Snow science

When it snows, have your child catch flakes on black paper and examine them with a magnifying glass. What shapes does he see? Suggest that he pack two cups with snow and bring them inside. He can leave one at room temperature, put the other in the refrigerator, and observe how long it takes each one to melt.

Web picks

Have a soccer shootout, race cars, or play tic-tac-toe with math problems at www.funbrain.com/numbers.html. Adjust the game levels from easy to hard to match your child’s growing skills.

Does your youngster like to explore? Find dozens of science activities, from making a parachute and tracing shadows to observing the sky, at www.peepandthebigwideworld.com. Ideas are given for the house, backyard, playground, and more.

Worth quoting

“Learning is a treasure that will follow its owner everywhere.” *Chinese proverb*

Just for fun

Q: What did one magnet say to another?

A: I find you very attractive!



Math and me

Calendars, phones, rulers... there are numbers everywhere! Help your child connect the math he’s learning in school to the world around him with these ideas.

Myself

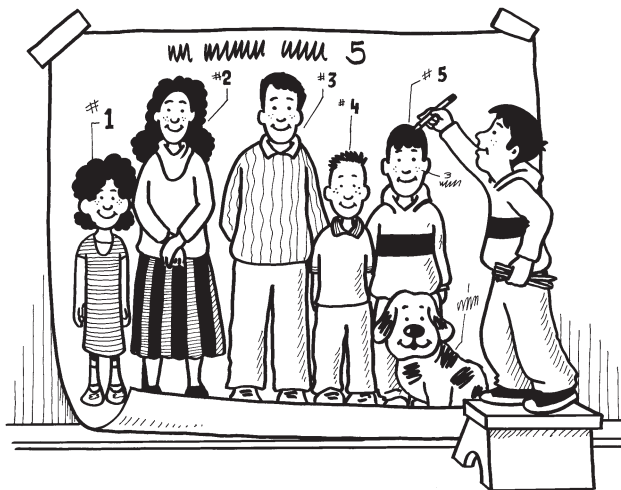
How many ways can your youngster tell about himself in numbers? Have him write his autobiography on index cards—using numbers on every card. *Examples:* “I was born on 6/22/03. I am 5 years old. I am 40 inches tall. I live at 1431 Oak Lane. My phone number is 555-625-3186.” Let him illustrate the cards and hang them in his room.

My family

Ask your child to draw a picture of your family on poster board. He can title it “My Family of 5,” for example, and write family math facts around his drawing. He might say, “My family has 3 boys and 2 girls.” Or he could count everyone’s eyes, fingers, noses, and freckles and list the totals (“We have 10 eyes, 50 fingers, 5 noses, and 27 freckles”).

My day

Encourage your youngster to keep a daily math journal. In a small notebook, he can record his steps (47 from the house to the school bus, 23 from the car to the store). At the store, have him write the prices of five items and arrange them from lowest to highest. While making dinner, he can note measurements: 1 cup water, 2 cups rice. *Idea:* At bedtime, let him use his journal to tell you about his day in numbers.

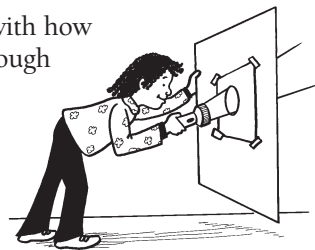


Lights on

Dark winter days are a great time to learn about the importance of light. Here are two ways to start:

- Learn about where light comes from. Using old magazines, have your youngster cut out pictures of different lights (lamp, flashlight, candle). Ask her to sort them into three envelopes by the source of the light (electricity, battery, fire). *Tip:* Suggest that she illustrate each envelope.

- Experiment with how light passes through materials. Help your child cut holes in a piece of cardboard and tape construction paper, wax paper, and plastic wrap over the openings. Then, have her shine a flashlight through each “window.” Which materials let the light through? (Construction paper is *opaque*—no light gets through. Wax paper is *translucent*—some light gets through. Plastic wrap is *transparent*—all the light gets through.)

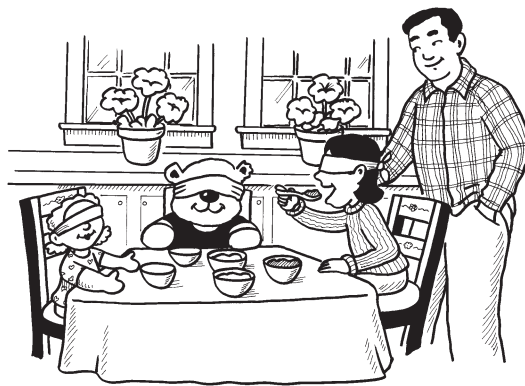


All about taste

How do we taste salty pretzels or sweet cookies? Why doesn't food taste as good when we have a stuffy nose?

Let your child find the answers by experimenting with her sense of taste. Start by having her look at her tongue in a mirror. Explain that the little bumps she sees contain thousands of taste buds that help her enjoy her food. Then, try these three activities:

1. Put out foods that are sweet (cookie), sour (lemon), salty (pretzel), and bitter (unsweetened chocolate). Have her touch each item to different areas of her tongue and tell you what



she notices. (Foods taste different depending on where the taste buds are located.)

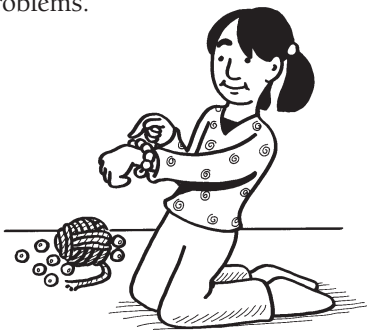
2. Wearing a blindfold and holding her nose, your youngster can sample different yogurts and puddings (chocolate, vanilla, banana, strawberry). Let her do it again without pinching her nose. She'll learn that smell helps her taste foods. That's why food doesn't taste as good when she has a cold!

3. Have your child chew dry foods like crackers and cookies, drying off her tongue with a paper towel between bites. Then, let her drink water and try again. Explain that food has to dissolve in saliva for the taste buds to work.

MATH CORNER Abacus bracelet

Combine a craft and math practice by making a colorful abacus bracelet. Your child will learn to add and subtract the way Chinese children have for centuries.

Knot one end of a pipe cleaner or a 12-inch piece of yarn. Then, let your youngster string on beads, leaving about an inch at the end, and tie the bracelet together. Now she's ready to do math problems.



Say she wants to add $5 + 3$. She can slide 5 beads to the right and then slide over 3 more to get her answer (8). Or have her try a subtraction problem. For $7 - 2$, she will slide 7 beads to the right and move 2 back to the left for her result (5).

OUR PURPOSE

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

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Q & A Writing numbers

Q: My child is having trouble forming his numbers. How can I help?

A: Little ones often need to work on fine-motor skills like writing numbers and letters. The good news is that there are many fun ways to practice.

Hang a piece of paper on the wall and write the numbers 0–9 several times in different sizes. Let your child trace over the numbers with colorful pens, such as a blue highlighter, a silver glitter pen, or a neon green marker.

Encourage him to "write" without pens and pencils, too. Fill a shallow cardboard box with beans, rice, or sand, and call out numbers for him to make. Have him use fingerprint or play dough to form numerals. Each time he practices, he'll strengthen his fine-motor and memory skills for writing numbers correctly.



SCIENCE LAB Dry diaper

With this experiment, you can show your child why disposable diapers work.

You'll need: one unused disposable diaper, large zipper bag, plastic cup, water, measuring cup.

Here's how: Help your youngster carefully cut open the diaper and put the insides into the zipper bag. Have him close the bag, shake for 1 minute, and remove the stuffing and plastic lining. A powdery material called "hydrogel" will

be left in the bag. Let him put 1 teaspoon of that powder into the plastic cup and add $\frac{1}{2}$ cup water.

What happens: Wait 1 minute, and turn the cup upside down—the mixture will not pour out! That's because the hydrogel absorbs the water and turns into a gel.

Why: Hydrogel is a polymer (a string of molecules) that soaks up water instantly, making disposable diapers "superabsorbent." That's why 1 teaspoon can absorb $\frac{1}{2}$ cup of water.

