Beginning Edition

Math+Science Connection

Building Excitement and Success for Young Children

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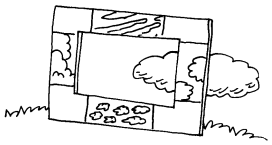
TOOLS & TIDBITS

Before and after

On a strip of paper, write a number (say, 16), and draw a box around it. Put a box to the left and a box to the right—and ask your youngster to fill in the numbers that come before (15) and after (17). Next, let her make a sequence for you to fill in.

Matching clouds

Help your child create a cloud-finder. Staple four cardboard strips together into a frame. Then, have him cut pictures of different types of clouds from old magazines and glue them onto the frame. Go outside each day, and let him hold his frame up and match the cloud inside with a picture. *Tip:* Discuss the weather so he begins to link cloud types with weather patterns.



Book picks

Your youngster will enjoy a tasty look at large numbers in *How Many Jelly Beans?* (Andrea Menotti). A cute book about a lot of jelly beans!

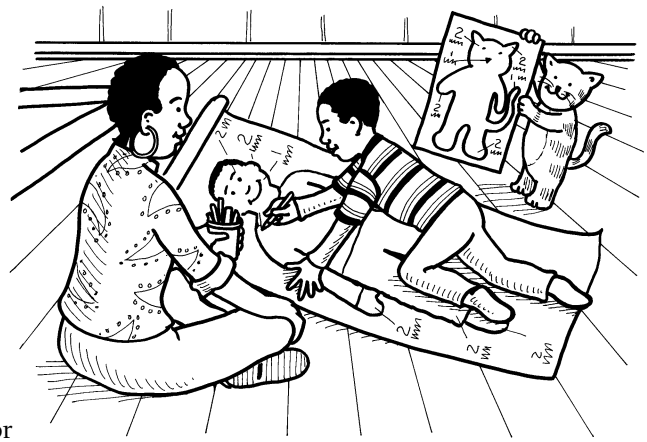
Read *Who Lives Here? Savanna Animals* (Deborah Hodge) for a peek into the natural habitat of elephants, giraffes, zebras, and other animals.

Just for fun

Teacher: "What are 12 and 14?"

Student: "Numbers."

Numbers in my life



Give your child a fun reason to think about math with these ideas for explaining who he is—in numbers!

Draw a poster

Have your youngster lie down on a large sheet of newsprint (or several poster boards taped together), and draw the outline of his body. Then, suggest that he add descriptions using numbers for parts of his body, such as, "I have 2 arms," or "I have 20 teeth." *Idea:* Measure him so he can record more numbers. ("My foot is 19 centimeters long.")

Tell a story

Encourage your child to tell a story about himself—using a number in every sentence. For instance, he might tell about his soccer game or his trip to visit Grandma. ("I went to my soccer game at 10 a.m. on Saturday. There are 6 kids on my team. My team scored 8 goals, and the other team scored 5 goals.") This activity will help him see all the ways that math is part of his everyday life.

Write a book

Let your youngster make a "Math and Me" book. Using blank sheets of paper and markers or crayons, he can write number problems about himself. On one page, he could write, "I am 7 years old" and then list ways to make his age: "I am 3 + 4 years old." "I am 12 – 5 years old." On other pages, he might tell about his family ("We have 3 boys + 1 girl") or his pets ("My dog Buster has 2 eyes, 1 nose, 1 mouth, 2 ears, 1 tail, and 11 spots"). Staple the pages into a book, and let him read it to you.

Gravity in action

Gaze into the night sky with your youngster, and talk about why the moon stays "near" the earth. Then, try this activity to show her.

Have her crumple a piece of newspaper into a ball, and help her tape it closed. Tape the ball to a piece of string. Now, ask your child to hold the end of the string and spin the ball around her head. Tell her to pretend she is the earth, the ball is the moon, and the string is the *gravity* that keeps the moon in orbit around the earth.

What happens if she lets go of the string? (You can explain that without gravity, the moon and earth wouldn't stay together.)

Coin play

Grab a handful of change, and play these games with your youngster. She'll learn about coin values and practice recognizing coins.

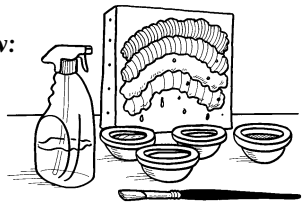
Stack the coins. Put out pennies, set a timer for one minute, and race to see who can make the most stacks of 10. Count by 10s to find your totals. For example, if your child has 4 stacks, she would count, "10, 20, 30, 40" and then add any leftover pennies ("40 + 3 = 43 cents"). Next time, play with stacks of 5 pennies.

Find the amounts. Have each player draw a tic-tac-toe board. Then, help your youngster move around 3 dimes, 3 nickels, and 3 pennies to make different amounts using 3 coins (30 cents, 21 cents, 7 cents). Write each one in a square, making each tic-tac-toe board different. Place the coins in a sock, and take turns picking 3. If you can make a number on your board, draw an X over it. Three in a row (across, down, or diagonal) wins.

SCIENCE LAB Pop, fizz, and paint!

Your little painter can learn about chemistry as he creates his next masterpiece.

You'll need: baking soda, cornstarch, measuring spoon, food coloring, small bowls, paintbrushes, paper or other objects to paint on, spray bottle, white vinegar



Here's how: To make each color of paint, have your youngster mix 2 tbsp. baking soda, 1 tbsp. cornstarch, and food coloring in a small bowl. Then, let him use the brushes to paint a picture on paper, a sidewalk, or even a pumpkin. Next, fill a spray bottle with vinegar, and let him spray his painting.

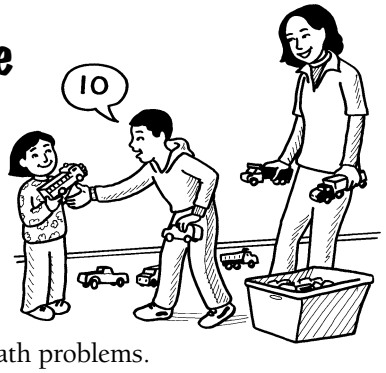
What happens? The paint will fizz and bubble before his eyes!

Why? When the baking soda and vinegar combine, there is a chemical reaction. *Carbon dioxide*, a gas, forms and creates the fizz.

Idea: Suggest that your child make a fizzy rainbow. He could mix paint for each color and paint a rainbow. Then, he could squirt it with vinegar and watch it fizz.

Q & A Developing number sense

Q: *I've heard that my son has good "number sense." What does that mean, and how can I help him develop it further?*



A: Number sense is, simply put, the ability to use and understand numbers. It's more than being able to write numbers, count, or recite math facts—it's the deeper understanding of what numbers mean and how to think through math problems.

To help your youngster continue to develop number sense, look for ways that he can apply math concepts in daily life. At clean-up time, ask him to estimate the number of toy cars and then count them as he puts them away. When you're playing board games, have him tally the score in his head.

He should also understand the relationships between groups of objects. If he collects baseball cards, for instance, ask him to make comparisons. Does he have more pitchers than catchers, or is the number equal? The more often he uses numbers and math terms, the better his number sense will be.

MATH CORNER Build a pattern

Here's a pattern game with a twist your child will like—she gets to name the pattern! And as she uses blocks to create repeating patterns, she'll work on important pre-algebra skills.

1. Gather one die and a pile of red, blue, yellow, and green Legos.

2. Ask your youngster to create a pattern, such as blue, blue, yellow, green.

3. To play, take turns rolling the die and using the Legos to make that pattern—repeating it as many times as the number rolled (roll a 4, and repeat blue, blue, yellow, green four times). *Note:* Set the blocks down side by side, with each person creating a separate chain of Legos.

4. After three rounds, players can count the number of blues, yellows, and greens in their chains. Then, let your child announce a new pattern, and play again!

OUR PURPOSE

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

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