

Math+Science Connection

Building excitement and success for young children

Epworth Preschl and Daycare
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TOOLS & TIDBITS

Name that shape

Build your child's geometry skills by having her label household items. She can draw and cut shapes out of construction paper, name them with markers, and tape the labels to the objects. *Examples:* "rectangle" for refrigerator door, "cylinder" for peanut butter jar.

Make a hurricane

Let your youngster stir around the sides of a large bowl of water until the water moves in a fast circle. Then, have him quickly add food coloring to the center. The color will form bands (spirals), just like the "rainbands" of a real hurricane.

Book picks

Reading *Jack the Builder* by Stuart Murphy is like one big math lesson. Your child will learn addition as she sees what Jack can build with just one more block.

Eye Wonder: Space (Carole Stott) is a terrific introduction to stars, planets, galaxies, and more. The photographs and detailed information are sure to hook your youngster on space!

Worth quoting

"The best way to have a good idea is to have lots of ideas." *Linus Pauling*

Just for fun

Teacher: How fast does light travel?

Benji: I don't know, but it sure gets here early in the morning!

Count on it!

Bryan loves to count everything he sees. "Look, Mommy. There are three birds. Now I see four trees." Bryan doesn't know it, but he's getting ready for addition, multiplication, and other math skills. Help your child practice counting with these ideas.

Number sense

Get your youngster used to thinking about numbers and what they mean.

- + Have him count objects regularly. How many computers are in the library? How many books are in his room?
- + Give directions involving numbers. *Examples:* "Please put three plates on the table." "Take four steps to get into bed."

+ Ask your child to count to 10 by finding numbers around the house. *Examples:* "1" on a clock, "2" on a remote control, "3" on a board game spinner, and so on.

Skip counting

2, 4, 6, 8... Learning to "skip count" will help your child count faster and with more confidence.

+ While walking up the block, have him read the house numbers. Point out how they increase by 2 or 4.

+ Ask him to number 20 craft sticks (1-20) and lay them down side by side. If he removes every other one and says

the numbers that remain, he will have counted by 2s!

+ Encourage him to count to 50 while bouncing a ball. He can swing his leg over the ball on every 5th number (5, 10, 15) to get the rhythm of counting by 5s.

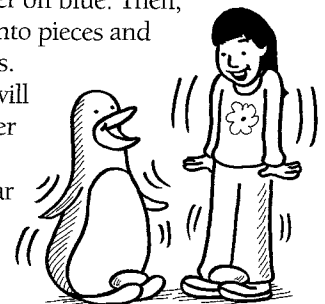


Polar play

Walk like a penguin. Make a polar bear disappear. With these activities, your youngster will learn habits of two favorite animals:

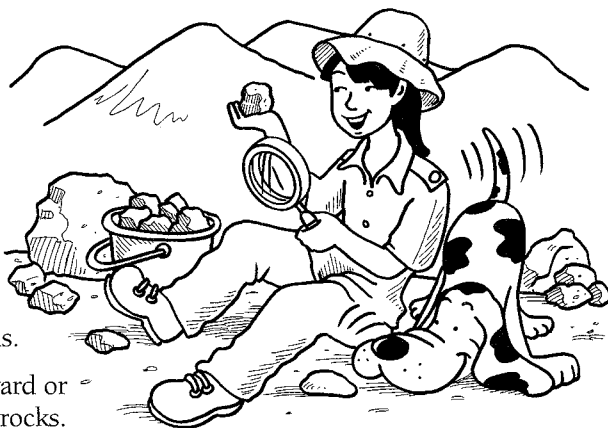
● Have her form an egg out of play dough. Can she walk across a room balancing the "egg" on top of her feet like father emperor penguins do in the Antarctic? Tell her it's the dad's job to keep the egg warm for two months before it hatches.

● Ask your child to draw two polar bear outlines, one on white paper and another on blue. Then, have her tear white paper into pieces and glue them into the outlines. What happens? Her bear will stand out on the blue paper but disappear against the white—showing how polar bears' white fur provides camouflage against snow in the Arctic.



Rock on

Rocks come in all shapes and sizes, and kids can find them anywhere. That's what makes rock hunting so much fun. Turn your youngster into a rock explorer with these suggestions.



Find specimens. In your backyard or at the park, have her pick out rocks. Encourage her to use her senses. What does the rock look like? How does it feel? What does it smell like? Let your child take home 10 rocks she likes best. *Note:* Get permission before removing any rocks from the park.

Examine rocks. Have her rinse the rocks with water so their true colors appear. Provide a magnifying glass for examining markings and texture. In a notebook, she can draw pictures and write words describing each rock (flat, rough, pink).

Do experiments. Rubbing two rocks together will show which one is softer (harder will scratch softer). Suggest that your youngster test for limestone by gently pouring a few drops of vinegar on each rock. If it fizzes, the rock is limestone (acid in the vinegar reacts with carbon and oxygen to make carbon dioxide bubbles).

Make a rock sorter. Finally, help your child cut different size holes (small to large) in a shoe box lid. As she puts each rock through the hole that fits best, she'll learn to sort by size.



MATH CORNER

It's about time

How long is a second? A minute? An hour? Here are ways to help your child understand time:

1. Ask him how many times he can clap his hands in a second or how many somersaults he can do in a minute. Then, time him. He'll get a better idea of how long a second or minute really is. Have him think of other things he can do in a second

(give you a hug) or a minute (sing a song).



2. Teach your child about "elapsed time" by making a schedule. On poster board, list times (8:00, 8:30, 9:00), and help him write in daily events (breakfast, soccer practice). Use the poster to ask questions. *Example:* "You get home at 5:00, and dinner is at 6:00. How much time do you have to play?"

Q & A

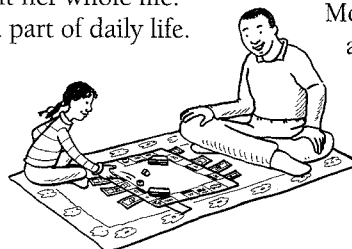
Learn to love math!

Q: I want my child to enjoy math. How can I get her to like it from the start?

A: First, be sure to "talk up" math. Let her know that you think math is fun and that she'll use it her whole life. Then, make math a part of daily life. At the post office, have your youngster estimate how many people are in line. In the grocery store,

ask her how much milk will cost with a 50-cent-off coupon. Be sure to mention the math skills she used ("That was excellent subtraction!").

Put math into fun time, too. Play games like Yahtzee, Connect Four, or Monopoly. At bedtime, read books about math. Try *Equal Shmequal* by Virginia Kroll to learn what equal means, or *Counting on Frank*, Rod Clement's tale of a boy who uses his dog Frank as a ruler.



SCIENCE LAB

Shiny pennies

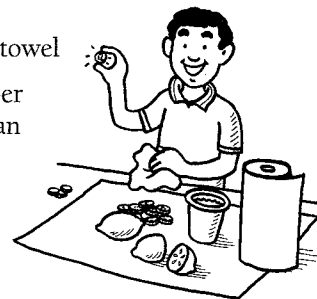
Give your child a pile of pennies, and let him make them bright and shiny.

You'll need: dull pennies, paper cup, lemon juice, paper towel

Here's how: Have your youngster put a penny into a paper cup and cover it with lemon juice. After five minutes, he can take out the penny and dry it with a paper towel.

What happens? The penny will be much brighter than it was before.

Why? Pennies are made from copper, which is naturally shiny. But the coins lose their shine over time as the copper mixes with the oxygen in the air. That chemical reaction is called *oxidation* and causes the pennies to be coated with something called an *oxide*. The acid in the lemon juice removes the oxide—leaving the penny looking brand new!



OUR PURPOSE

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

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