

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

May 2018



TOOLS & TIDBITS

Coin rubbings

Your youngster can practice coin recognition with this activity. Put a penny, nickel, dime, and quarter on a table. Have her cover them with white paper and use an unwrapped crayon to lightly rub over each one. Help her label each rubbing with the coin's name and how many cents it's worth. Then, she could match each coin with its rubbing.



Layers of soil

"Go ahead and play in the dirt!" Let your child dig up enough soil to fill a clear jar halfway and add water. He should leave a few inches of space at the top, screw on the lid, and shake. Leave it overnight, and it will settle into layers. He'll see that soil has different "ingredients"—heavier particles like rocks sink toward the bottom while lighter ones, such as bits of leaves, stay near the top.

Book picks

Is sneaky Triangle going to outsmart his friend Square? Your youngster will laugh at the mischievous shapes in *Triangle* (Mac Barnett).

Learn how 3-D printing saved a wounded wild bald eagle in the delightful story *Beauty and the Beak* (Deborah Lee Rose).

Just for fun



Q: What turns everything around but doesn't move?

A: A mirror.

Keep a summer math log

Whether your child is taking a trip in the car, watching sports, or running and playing outdoors, he can do math this summer! Have him turn a notebook into a log for recording math activities like these.

Find numbers and shapes

Help your youngster draw a bingo card in his log with number-related objects to find while riding in the car (1 bank, 3 fire hydrants, 35-mph speed limit sign). Can he cross out all the boxes before you reach your destination?

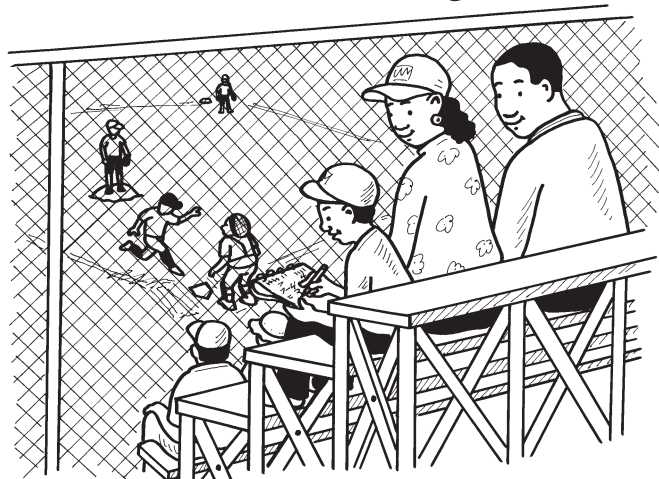
Count and subtract

At a baseball or basketball game, suggest that your child keep score by making a tally mark for each run or point. When the game ends, he should count the tally marks and write the final score. Have him announce who won and by how much. ("The Robins scored 7 runs

and the Tigers got 4. The Robins won by 3, because $7 - 4 = 3$.")

Estimate and measure

Have your youngster estimate how many jumps it would take to get from the front door to the mailbox. He can check his estimate by counting his jumps. Help him estimate time, too. How long will it take him to run once around the house? Time him, then he could write his estimates and the actual numbers in his math log.

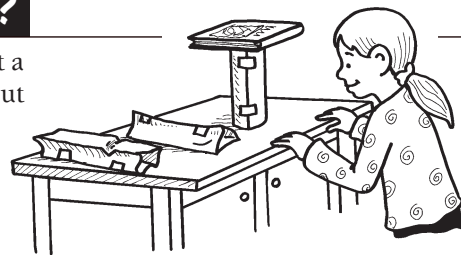


Which column is strongest?

How can one piece of paper support a heavy book? Let your youngster find out with this engineering challenge.

Have her fold one sheet of construction paper lengthwise into thirds and tape the ends together to make a triangular prism. She should fold a second piece into fourths to create a rectangular prism and roll the last sheet to form a cylinder. Now ask your child to predict which column is strongest.

She can test her prediction by standing up each column and placing a book on top. The triangular and rectangular prisms will buckle. While they're strong at their corners (vertices), their edges are weak. The cylinder is equally sturdy all the way around, so it supports the book's weight evenly. What kind of column does your child think engineers prefer for buildings?



Graph animal friends

"I saw 3 butterflies, 5 squirrels, and 3 birds at the park!" Your child can keep track of animals she spots by making this picture graph.

1. Let your youngster bring pencil and paper to the park. Have her draw lines to divide her paper into three columns.
2. Help her label the columns with the names of three animals she spots. Then, each time she sees one of those animals, she draws a picture



to represent it in the correct column. So if she sees 5 squirrels, she would draw 5 of them in the squirrel column.

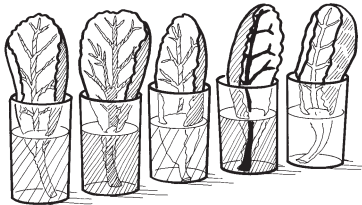
3. Take turns asking each other questions that can be answered using her graph. *Examples:* "Which animal did you see the most of? The least?" "How many more squirrels than butterflies did you see?"

SCIENCE LAB

Thirsty leaves

Plants need water to live. Let your youngster see for himself how plants "drink" their water.

You'll need: 5 green cabbage leaves, 5 glasses, measuring cup, water, 4 colors of food coloring



Here's how: Have your child pour 1 cup water into each glass and add food coloring to four glasses (a different color for each). He should leave the fifth glass of water clear. Now let him put a cabbage leaf, stem down, in each jar. Every day, he can observe the leaves and sketch what he sees.

What happens? After a few days, the leaves in the colored water will turn the color of the water. So if your youngster added red food coloring, the leaf will be red. The leaf in plain water won't change.

Why? In plants, water moves up through the roots, stem, and leaves—this is called *capillary action*. Food coloring shows your child this process. 🦋



Idea: If you travel this summer, your youngster could repeat this activity in another area. Or she might wait and try again in fall and winter. Does she observe different types and numbers of animals? 🦋

MATH CORNER

Throw a math party

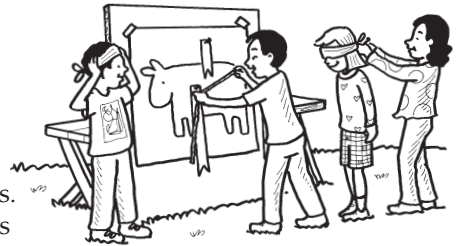
Celebrate math this summer by letting your youngster host a party for family or friends. From snacks to games, this bash is all about math.

Eat shapes and patterns

Set out cookie cutters or plastic knives. Encourage guests to cut their sandwiches into shapes like circles, squares, and triangles. Or have partygoers thread fruit and cheese onto toothpicks in a pattern (melon ball, cheese cube, strawberry, melon ball, cheese cube, strawberry).

Use math for games

Put math twists on traditional party games. For Pin the Tail on the Donkey, each player could use string to measure how close he came to the target and cut his piece to that length. After everyone has had a turn, line up the strings on the floor. The player with the shortest string wins. 🦋



PARENT TO PARENT

My mathematics lab

My daughter Aisha loves to read in a cozy corner of her room on her beanbag chair. I thought adding math tools to her special spot might encourage her to practice math, too.

We cleared off the top of her bookcase and stocked baskets with pencils, crayons, paper, a calculator, and a ruler. Aisha added dice, pretend money from old board games, and

a deck of cards. At the dollar store, we bought a magnetic white board and a set of number magnets to put in her corner.

Now my daughter calls the spot "Aisha's Math Lab." She often does activities she enjoys in school like making up math problems on her white board and sorting playing cards. She's having fun with math—and she has a great place to do homework, too. 🦋



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