

Math+Science Connection

Beginning Edition

Building excitement and success for young children

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Dorchester School District Two
Daphie Sellers, Title I Coordinator

TOOLS & TIDBITS

How long?

Ask your child which is closer—the playground or the school. Then, go to each one, and time your trips. Another day, ask your youngster how long it will take to walk to her friend's house. Making and testing estimates will help her understand time and distance and how they are related.

Clean and sort

Your youngster can work on sorting skills when he puts his toys away. He might put board games in a cabinet, puzzles on a shelf, and miniature cars in a bin. As he separates the items, he's "classifying" them, just as he will classify seeds or insects for a science project.

Book picks

What's taller than the tallest buildings? *How Much Is a Million?* (David Schwartz) cleverly teaches children just how big a million, a billion, and a trillion really are.

The Great Kapok Tree (Lynne Cherry) shows youngsters the importance of rainforests. Your child will learn about animals, plants, and the environment in this beautiful picture book.

Worth quoting

"Nothing happens unless first we dream." *Carl Sandburg*

Just for fun

Q: What's the difference between a new penny and an old quarter?

A: Twenty-four cents.



Math snacks

Turn snack time into learning time with these easy, everyday ideas. Your child will work on number sense and practice measuring, adding, subtracting, and problem solving as she munches her food.

Create numbers. Let your youngster use thin pretzel sticks to form 1–10 in block numbers on a clean kitchen table. Then, have her practice recognizing numbers by announcing each one she eats: "I just ate the number 6!"

Measure the table. Is your kitchen table 20 carrot sticks wide? Or 12 celery sticks long? Serve carrot and celery sticks with ranch dip, and your child can measure the width or length of the table before she eats. *Note:* Be sure the carrot or celery sticks are of equal length so her measuring is accurate.

Add and subtract. Have your youngster add and subtract her way through a cereal snack. Put 5 cereal squares on one plate



and 3 squares on another, and ask her to count the total ($5 + 3 = 8$). Or have her make a subtraction problem: 7 cereal rings $- 4$ cereal rings $= ?$ She can eat the 4 cereal rings to discover the answer (3).

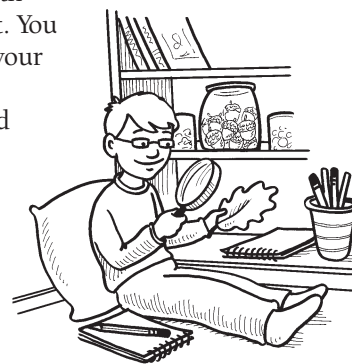
Follow a pattern. Making fruit kebabs is a great way to learn about patterns. Your child might repeat a sequence like strawberry, grape, cantaloupe. She can start a pattern for you to continue, or you can begin one for her to follow. *Safety Note:* An adult should handle the skewers if they're sharp. 🦋

Science center

Set aside a place for your youngster to play with science, and you'll help him think like a scientist. You can use a bookshelf or family room tabletop for your own home science center.

Together, gather seasonal items like leaves and acorns. Add tools (magnifying glass, flashlight, ruler) for examining the objects. Keep a notebook, pencils, and crayons there, too, so your child can record his observations. *Example:* Draw a leaf showing the vein pattern.

From time to time, change the items to create a new science center. Put out spices, perfumes, and scented candles for him to identify by smell. Or let him explore sound with bells, noisemakers, and containers of small objects (beans, pennies) he can shake. 🦋

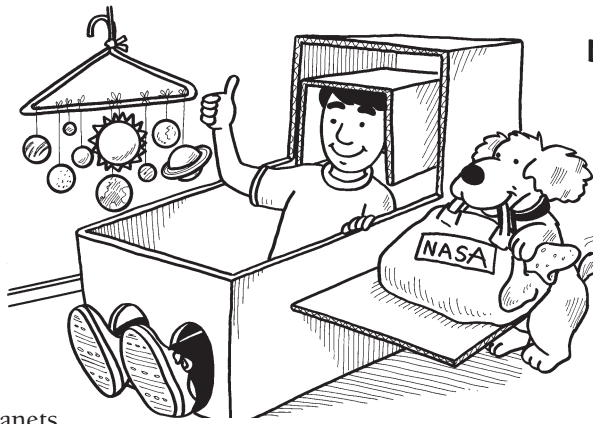


A galaxy of fun

Ted wants to be an astronaut when he grows up. He loves to pretend he's on a spaceship, and he wants to know all about the planets.

Like most kids, Ted is fascinated by outer space. Help your youngster discover the planets with ideas like these.

Learn the names. Together, come up with a silly sentence to help him remember the planets in our galaxy. *Example: My Very Excellent Martian Just Sent Us Nickels for Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.* *Note:* Pluto is not considered a major planet anymore.



Make a mobile. Have your child carefully cut nine different-sized circles from construction paper. He can label one for the sun and the others for each planet. Help him put them in order from the closest to the sun (Mercury) to the farthest away (Neptune). Finally, punch a hole in each circle, and use yarn to tie them to a hanger.

Pack a suitcase. Your youngster can build early research skills by reading about the planets at the library or online (try <http://starchild.gsfc.nasa.gov>). Then, have him use what he has learned by packing a suitcase to visit his favorite planet. Say he chooses Saturn. He will have to pack extremely warm clothes because he'll know it's freezing cold there!

MATH CORNER



Fairy tale math

Seven dwarves. Three bears. A hundred years of sleep. Fairy tales are full of numbers. Use your child's favorite stories to help him practice math.



Start by reading a fairy tale aloud. Then, make up math problems based on the story. For example, after reading "The Three Little Pigs," ask him how many characters there were (3 pigs + 1 wolf = 4 characters).

Next, pose a thinking question. "How many bricks would the third pig need for one wall of his house?" Maybe he used 4 bricks in each row and built 6 rows of bricks. Have your child draw the picture and count the bricks. He'll learn that 6 rows of 4 bricks = 24 bricks. Write it a different way for him— $6 \times 4 = 24$ —and he'll discover that he's just done a multiplication problem!

SCIENCE LAB

The magic of crystals

Where does water go on a warm day? Let your youngster see the sparkling answer.

Materials: black construction paper, 1-quart freezer bag, salt, water, tape

Here's how: Help your child cut a square of black construction paper to fit into a zipper bag. Have her mix together 2 tsp. salt and 8 tbsp. water and pour half on each side of the paper. Leaving the bag open, she can tape it to a sunny window.

What happens? After two or three days, the water will be gone, and crystals will appear on the paper.

Why? When water gets warm, it evaporates (turns into a gas and rises). Each grain of salt is a tiny crystal that doesn't evaporate, so it stays in the bag. The salt dissolves in the water, and when the water evaporates your youngster can see the crystals that are left behind on the black paper.



PARENT TO PARENT

Math words

At our parent-teacher conference, Mrs. Powell said my daughter was struggling with her math vocabulary. The teacher suggested that we work on Allison's math words at home, and she gave me a great idea.

I helped Allison create her own math ABC book. She made a sheet for each letter, and together we found a math word to match.

We looked for words in her math book until we had ideas for almost every letter. The "A" page was *addition*, the "B" page *biggest*, the "C" page *centimeter*, and so on. The "X" page was tricky—we decided on *eXtra small*.

Then, Allison illustrated each page. The "B" page was so cute! She drew a butterfly family and labeled the dad "biggest." Now every time she learns a new math word, she adds it to her book.



OUR PURPOSE

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

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540-636-4280 • rfecustomer@wolterskluwer.com
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