Beginning Edition

Math+Science Connection

Building Excitement and Success for Young Children

October 2019

Lakeland Joint School District #272

From the Title I Staff

TOOLS & TIDBITS

Number "hat trick"

Score a "win" with this sequencing game. Have your child number slips of paper 1–20 and place them in a hat. Take turns pulling out three numbers and arranging them from smallest to largest. Choose one number to keep, and put the rest back. The first person to get three numbers in a row (4, 5, 6) calls out, "Hat trick!"

Earth's path in space

Give your youngster an idea of how Earth orbits the sun. Let her stick a big ball of play dough (the sun) on the middle of a pie plate. Then, help her tilt the plate to roll a smaller play dough ball (Earth) around the edge. Although Earth's orbit isn't a perfect circle, this model helps her understand how we travel around the sun.

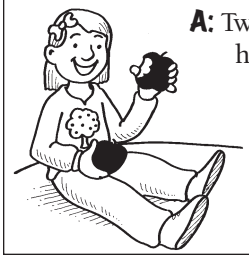
Book picks

Your child will learn pumpkin facts as he skip counts with Charlie and his classmates in *How Many Seeds in a Pumpkin?* (Margaret McNamara).

The story of *Magnet Max* (Monica Lozano Hughes) will inspire your youngster to figure out what's magnetic and what's not.

Just for fun

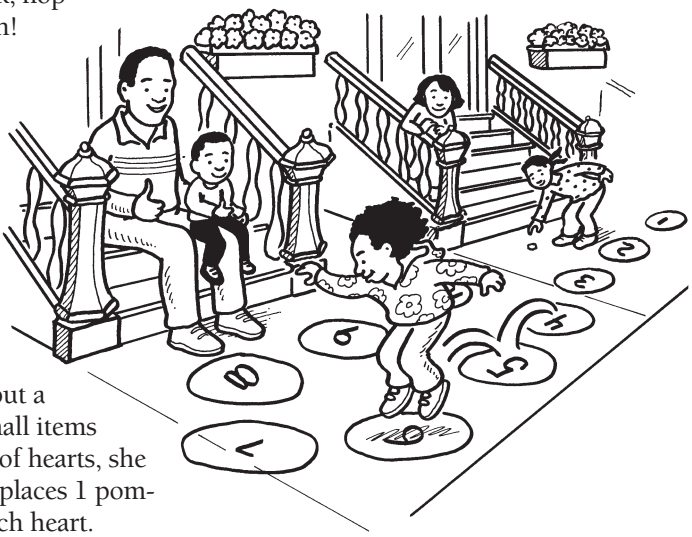
Q: If a tree has 10 apples and you pick two, how many apples do you have?



A: Two, because that's how many you picked.

Fun with number sense

Play cards, eat a snack, hop like a frog—and do math! Here are hands-on ideas for building your child's number sense.



1-to-1 matching

Playing cards are ideal for matching up objects 1-to-1. Let your youngster arrange cards faceup on the table (face cards removed, ace = 1) and put a matching number of small items on each card. For the 6 of hearts, she could count to 6 as she places 1 pom-pom or jelly bean on each heart.

Snacks at a glance

As an adult, you can probably tell how many objects are in a small group without counting. Help your child practice this skill. Arrange 1–10 small snacks (pretzels, raisins) on a plate, and give her a few seconds to look before you cover the plate with a napkin. Ask her to tell you how many snacks there are, then count to check. Now it's time to eat!

Lily pad hop

Your youngster can pretend she's a frog while counting from numbers other than 1. Let her use green chalk to draw 10 lily pads, numbered 1–10, on a sidewalk. She should roll a die and stand on the number rolled (say, 4). Ask her to hop and count on to 10 (5, 6, 7, 8, 9, 10) or backward to 1 (3, 2, 1). *Challenge*: Erase the numbers—can she count the circles without them?

My science station

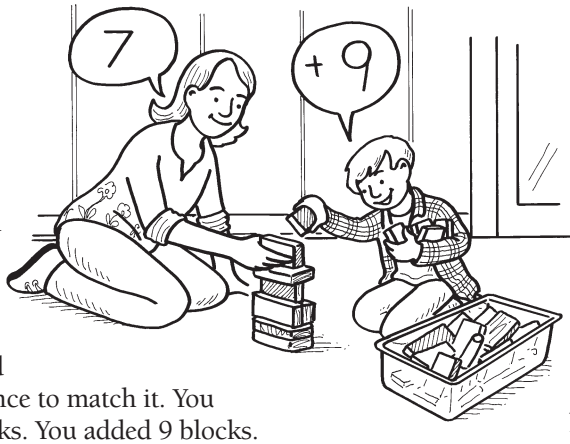
Inspire your junior scientist to make discoveries by helping him set up a science station.

First, let your youngster gather science tools he can use to investigate and explore. *Examples:* magnifying glass, flashlight, tweezers, cups, spoons, paper, pencils, crayons.

Then, encourage your child to collect natural objects, or "specimens," from the ground outside (bark, rocks, dirt, sticks, flower petals). He can label and display them, then use his tools to observe them closely. Have him draw what he sees.

Let's build story problems

Your youngster builds a tower with 30 blocks. The dog knocks down 15 of them. What a problem—a math story problem, that is! (30 – 15 = 15) Solve story problems together with these activities.



Build it. Make up a story problem, and have your child write a number sentence to match it. You might say, "I built a house with 7 blocks. You added 9 blocks. How many blocks did we use in all?" (7 + 9 = ___) Now use blocks to act out the problem so he can find the answer. You would stack 7 blocks, then he'd add 9 and count the total (16 blocks, because 7 + 9 = 16).

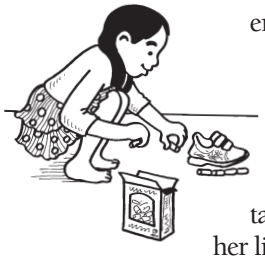
Take it apart. Once you have several buildings, use them to create subtraction problems. You could say, "Our tower is 35 blocks tall. A friend wants to use 12 of the blocks for her tower. How many blocks will we have left?" Your youngster can write the number sentence (35 – 12 = ___), remove 12 blocks, and count to get the answer (23 blocks, because 35 – 12 = 23).

Q & A What can we measure with?

Q: *My daughter is learning about measurement in school, but she's not using a ruler. Why is this, and how can she practice measuring at home?*

A: Children first explore the concept of measurement with familiar objects, such as pasta noodles or paper clips. Later, your daughter will move onto standard units like inches or centimeters.

Together, find fun items to measure with, and give your youngster "measurement challenges" she'll enjoy. You might ask, "How many noodles long is your shoe?" or "How many pencils long is the table?" Then, help her line up the objects carefully, end to end, and count them to check. (Each object must be the same length, just like an inch is always the same. For example, brand-new pencils would work, but not used pencils.)



When your child learns to use a ruler, she'll already know the importance of measuring with units that are all the same size.

MATH CORNER View from above

How does your child think your town looks to a bird flying high above it? With this map-making activity, he'll find out—and develop spatial reasoning skills.

Encourage your youngster to create a miniature town with masking tape "streets" and "buildings" from the recycling bin. For instance, he might use a tissue box for his school and a soup can for a water tower. Now let him pretend he's a bird—he can stand over his finished town and take a photo or draw a sketch.

Have your child use the picture to make a map. He'll realize that birds see the tops of things, so he might simply draw a rectangle for his school and a circle for the water tower. Finally, hide a small toy person or animal in one of the buildings in his town, and mark an X in the matching spot on his map. Can he find the toy based on its location on the map?

Idea: The next time you visit a mall, park, or historic place, let him use a map to locate attractions.

SCIENCE LAB "See" the oxygen

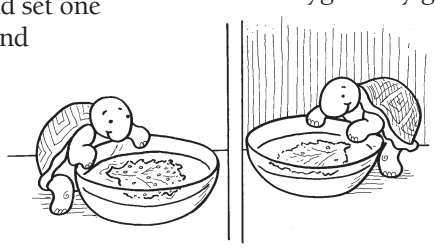
Your youngster will gasp when this experiment shows her how plants give off oxygen!

You'll need: lettuce, two bowls, measuring cup, water

Here's how: In each bowl, have your child place a lettuce leaf and add 2 cups warm water. She should set one bowl in a sunny spot and the other in a dark room, then check the leaves in 1 hour.

What happens? Tiny bubbles form on the surface of each leaf. The leaf in the sun, however, has more bubbles.

Why? Plants, such as lettuce, make their own food with the help of water and sunlight. Water contains oxygen, which plants don't need (but humans do), so as plants make food, they let out the oxygen they got from the water. The plant in the shade couldn't release as much oxygen because it didn't have sunlight to help it start the food-making process.



OUR PURPOSE

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

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