

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

October 2016



Icahn Charter School 4
Michelle Allen, Principal

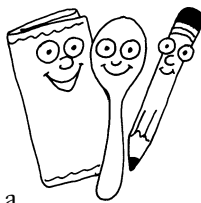
TOOLS & TIDBITS

Who's on first?

To teach your child about *ordinal numbers*

(first, second, third), have her gather household items, and give her directions for lining them up. *Example:* "Put the napkin first, the spoon second, and the pencil third."

For a bigger challenge, try this: "Put napkins first and third. Place a spoon second and a pencil fourth." Did she follow the right order? (napkin, spoon, napkin, pencil)



Nature's colors

Pick up paint sample strips at a hardware store, and take a "paint sample" walk outdoors. Can your youngster spot objects in nature that match the various shades of greens, browns, and other colors on the paint strips? Let him make as many matches as possible. What's his favorite color in nature?

Web picks

At aplusmath.com, your child can enjoy extra math practice with bingo, hidden-picture games, and more.

Ask away! Your youngster will find answers to questions like "Why does my cereal make a popping noise?" and be able to pose questions of her own at askdruniverse.wsu.edu.

Just for fun

Q: What's your first clue that there's an elephant in your fridge?

A: The door won't close!



Egg-cellent numbers

The more your child plays with numbers, the more comfortable he'll become with them.

For these activities, help your youngster number 12 sticky notes 1–12, and let him randomly put one into each cup of an empty egg carton.



Match the number

Give your child a pile of dry beans, and encourage him to fill each cup with the number of beans shown on the sticker. For instance, he would count 3 beans into the cup labeled "3." He will practice one-to-one correspondence of numbers.

Move up or down

Have your youngster toss a penny into the egg carton. Whichever number it lands on, ask him what number is 1 more. What is 2 more? (If it lands on 4, then 1 more is 5, and 2 more is 6.) Another time, ask what number is 1 less or 2 less. This builds a sense of number

value and leads nicely into adding and subtracting.

Fill the carton

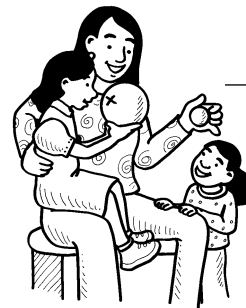
Gather 2 dice, tokens, and an egg carton (numbered 1–12) for each player. The first player rolls 2 dice and either adds the numbers shown or subtracts one from the other. With a roll of 4 and 2, he could make 6 ($4 + 2 = 6$) or 2 ($4 - 2 = 2$). He then puts a token in the 6 cup or the 2 cup. Play continues until one player wins by filling all the cups in his carton. 🦋

Moon and stars hide-and-seek

Now you see them, now you don't! Where does your youngster think the moon and stars go when she can't see them?

Moon: Suggest your child place two different-sized balls side by side. The larger one is "Earth," and she should mark an X on the ball for where she is on the planet. Now slowly rotate the "moon" around "Earth"—and let her notice how she couldn't see the moon when it's on the opposite side from her X.

Stars: Have your youngster shine a flashlight outside in bright sunshine. What does she notice? (It's hard to see the beam.) Let her try again indoors in a dark closet. Now the flashlight's beam is bright. Since the stars are far away, their light is faint to us on Earth, and the sun's light outshines them during the day. But at night, when it's dark, we can see the stars twinkle. 🦋



Size it up

Is a bicycle big? Ask your child that question, and she could answer yes or no—it's bigger than a dog, but it's smaller than a house. It works the same with numbers. For instance, 20 is bigger than 2, but smaller than 100. Use these ideas for comparing sizes.

Animals. Have your youngster cut pictures of animals out of old magazines. Shake them in a bag, and each person closes her eyes and takes one. Whoever has the largest animal (actual size, not picture size) scores a point. Play until you've used all your



pictures—high score wins. Repeat, but this time get points for the smallest animal. *Note:* If you're not sure, look up animal sizes in books or online.

Numbers. Help your child number 20 slips of paper 1–20. Turn them facedown, and let her pick two numbers. Then, have her line up beads or paper clips evenly to make each number. (For 5 and 8, she would line up 5 beads on one row and 8 beads below it.) Ask her which is smaller (5) and which is greater (8). *Idea:* Make it harder by picking 3 or more numbers. 🦋

PARENT TO PARENT

Read me a story

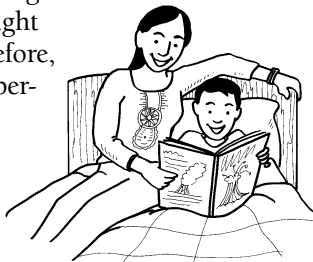
My son's teacher had a great idea at back-to-school night. She said, "Why not include math and science in your bedtime reading?"

I hadn't thought about that before, but it made perfect sense.

We let Ryan pick out library books about numbers, shapes,

nature, space, and other math and science topics. So far we've read about volcanoes and patterns in nature, and we've even used our reasoning skills to solve a math mystery. Some books give us ideas for experiments that we do on the weekends.

This has become a fun way to build on the math and science that Ryan is learning in school. Plus, he's picking up new vocabulary—and enjoying reading nonfiction books! 🦋



MATH CORNER

Geometry rocket

Your youngster will have a blast building her own rocket—one attribute at a time. Here's how.

1. Together, cut out 12 shapes from blue construction paper: 3 squares, 3 triangles, 3 circles, and 3 rectangles—a small, a medium, and a large one for each shape. Then, do the same thing with two more colors. When you're done, you'll have 12 shapes of each color.

2. Let your child begin her rocket by placing any shape on the floor. Take turns adding to it by changing only one *attribute* (color, size, or shape) at a time. If you started with a large blue square, your youngster could add a medium blue square or a large red square, for instance. Keep going until your rocket is as tall as you want.

Variation: Lay down one shape for the top and another for the bottom of the rocket. See how many pieces it takes her to connect them. 🦋



SCIENCE LAB

The pull of gravity

Isaac Newton is said to have discovered the law of gravity when he saw an apple fall from a tree. Your child can discover gravity for himself with this experiment.

You'll need: ball, pitcher of water, toy car

Here's how: Pose these questions, and have your youngster draw a picture of what he thinks will happen in each case.

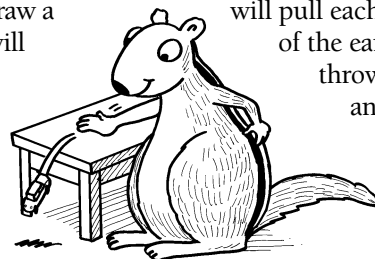
1. Where will a ball go if you throw it in the air?
2. Where will water go if you tip the pitcher into a sink?
3. Where will the car go if you push it off a table?

Then, let him act out each scenario.

What happens? The ball will go up a short distance, but then fall to the earth. The water will flow down into the sink, and the car will fall to the floor.

Why? As Newton realized, gravity will pull each object to the center of the earth, even if we start by throwing or pushing it in another direction.

Extension: What else can your child find that demonstrates the pull of gravity? 🦋



OUR PURPOSE

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

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