

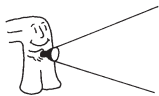
# Math+Science Connection

Beginning Edition

Building excitement and success for young children

October 2010

Prospect Point Elementary School



## TOOLS & TIDBITS

### A 9 is a 9

Challenge your youngster to come up with many ways to represent a number. For 9, for instance, she might write the word “nine,” the *cardinal* number 9, and the *ordinal* number 9th. Or she could lay out 9 toy cars, draw 9 hearts, or make 9 tally marks (|||||).

### A ripe banana

Have your child put one green banana in a paper bag and leave another one on the counter. Let him observe them daily, noticing the color of the peel, how soft or hard they are, and what they smell like. After four days, he can taste each banana. Which one is more ripe (softer, has a stronger banana flavor)?

### Web picks

Get access to math tools just like those your youngster uses in school. She can sort or make patterns with blocks, take shapes apart to learn about fractions, use a spinner to find out about probability, and more at <http://nlvm.usu.edu/en/nav/vlibrary.html>.

Watch “Bill Nye the Science Guy” demonstrate experiments, and then try them together. Your child might play with gravity, investigate sound waves, or make music with ideas from [www.billnye.com](http://www.billnye.com).

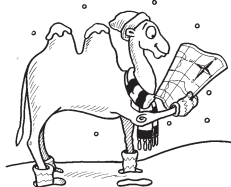
### Worth quoting

“It’s kind of fun to do the impossible.”  
Walt Disney

## Just for fun

**Q:** What animal with two humps is found at the North Pole?

**A:** A lost camel.



## Equals 10

What numbers add up to 10? As your child finds out, he’ll practice basic math skills and reasoning. Use these activities to explore “10” together.

### Use your “antlers”

Put your hands on top of your head, with your fingers spread out to make “antlers.” Curl down some of your fingers, and ask your youngster how many fingers you need to put up to make 10. He’ll have to count the fingers he sees (say, 7) and figure out how many more would make 10 (*answer: 3*). Then, let him put up *his* antlers and make a 10 problem for you.

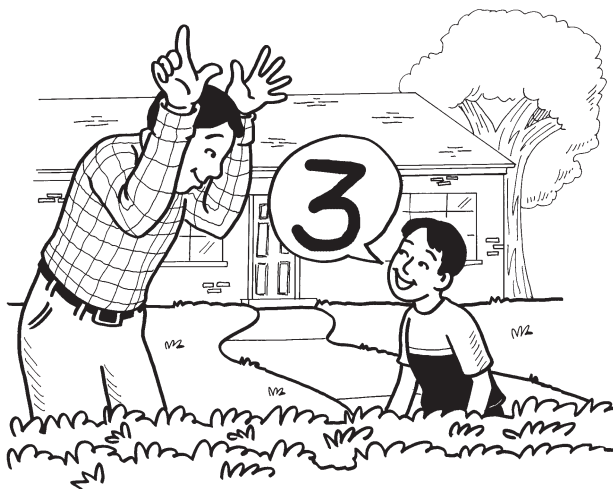
### Roll to 10

Each player needs an egg carton with 10 cups (cut two sections off the bottom of a regular carton) and 10 small objects (beads). Take turns rolling a die and placing that number of beads in your carton, one item per cup. Each time, say how many cups are filled and how many are left: “I rolled a 4. I have 4 cups filled

and 6 cups left. I rolled a 1. Now 5 cups are filled, and 5 cups are left.” The first person to fill all 10 cups—exactly—wins that round.

### Add number cards

Play this game to find all the combinations that make 10. First, make two sets of number cards (write a number, 1 to 10, on 20 separate index cards) and 10 addition cards (+). To play, deal five number cards and five addition cards to each player. Then, players use their cards to make 10 as many ways as they can. *Example:* If you have the cards 2, 3, 5, 6, and 7, you could make combinations such as  $3 + 7$ ,  $2 + 3 + 5$ , and  $7 + 3$ . List them and see who made the most.

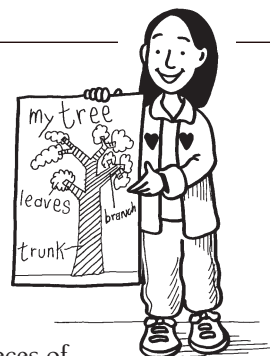


## Diagram a tree

Here’s a hands-on way for your youngster to discover the different parts of a tree.

Let her find a tree she likes outside your house or at a park. Ask her to point to the different parts, and help her name them (trunk, branches, leaves). Then, have her pick up items that have fallen to the ground (a piece of bark, a twig, leaves).

Next, she can use her treasures to make her own tree. On poster board, have her draw a big outline of a tree and tape the items where they go. For example, she can put pieces of bark on the tree trunk, add twigs for the branches, and place leaves on the branches. Help her title her poster (“My Tree”) and label each part.

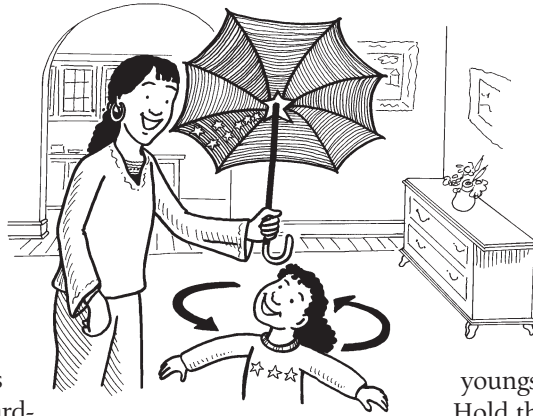


# Star bright

Looking at stars in the night sky can be magical for your child. Help her discover the science behind the magic with these ideas.

**Twinkling stars.** Cut a large panel from a cereal box. Have your youngster shape small pieces of aluminum foil into stars and put them on the cardboard. Fill a glass bowl two-thirds full with water, put the bowl on the cardboard, and turn off the lights.

While she shines a flashlight on the bowl, tap the bowl so the water moves. As the light shines through the air and moving water, she'll see the foil stars twinkle! In the sky, stars seem to twinkle as their light passes through the atmosphere.



**North Star.** Go outside on a clear night, and spot Polaris (the North Star)—it's the brightest star in the sky. Look for a constellation (a group of stars) such as the Big Dipper. Tell your child that while she's sleeping, constellations appear to move through the sky, but Polaris doesn't. Then, demonstrate with this activity. Open a black umbrella, and place a star sticker in the center of its inside to represent Polaris. Have your

youngster use star stickers to add a constellation. Hold the open umbrella over her as she slowly turns around counterclockwise. She'll see that Polaris appears to stay still while the other stars circle around it.

Explain that the Earth turns (rotates) just like she's doing. Constellations appear to move as the Earth turns, but since Polaris is over the North Pole and the Earth's axis, it seems to stay still.

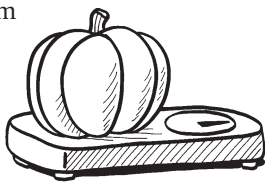


## MATH CORNER

### Pumpkin math

Take advantage of the season, and use pumpkins to help your youngster work on math. Bring a few home from the pumpkin patch or grocery store, and try these activities:

- Have your child pick up each pumpkin, one at a time, to feel how heavy it is. Encourage him to make comparisons ("The second pumpkin is *heavier* than the first one"). Then, ask him to put them in order from the lightest to the heaviest. He can check the order by weighing each pumpkin on a bathroom scale.



- Let your youngster count the "ribs" (the lines) on the smallest pumpkin. *Note:* Suggest that he use a marker to mark the first rib he counts so he'll know when he has counted them all. Does he think the bigger pumpkins will have more ribs? Have him count the lines on each pumpkin to find out.

## OUR PURPOSE

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

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## SCIENCE LAB

### Disappearing colors

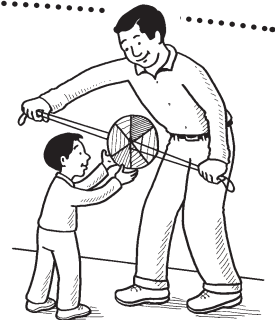
What is "white light"? Your youngster will find out as he conducts this colorful experiment.

*You'll need:* white paper plate, ruler, pencil, crayons or markers (purple, blue, green, yellow, orange, red), string

*Here's how:* Help your child use the ruler and pencil to divide the plate into six equal pie-shaped wedges. Have him color each section a different color. Then, cut off the plate's raised edge, punch two small holes near the center, and lace the string through the holes. Hold one end of the string in each hand while your child turns the plate around and around until it's wound up tightly. Finally, pull your hands away from each other so the plate spins quickly.

*What happens?* Your youngster will see the colors blur together and eventually disappear or turn white.

*Why?* When the spinner is going really fast, your child sees light reflected from all the colors, but his brain cannot separate them. Instead, he sees a mixture of all colors—or white light.



## PARENT TO PARENT

### Practicing with calculators

At back-to-school night, my daughter's teacher surprised me by suggesting that our children use calculators to play with math at home. Mrs. Gordon said it was good for them to get comfortable with calculators, and she said calculators can help boost their math skills.

We tried the ideas she suggested, and they were a big hit with Jasmine. First, she pressed  $2 + 2 =$  and got the answer 4. She kept pressing the = button, which kept adding 2 to her answer. This helped her learn to skip count by 2.



Another time I asked her to start with a two-digit number and subtract the same number repeatedly, again by pressing the = button. She picked 48 and subtracted by 3 over and over.

Mrs. Gordon also mentioned a game called "broken calculator."

I told Jasmine the 7 key was broken and asked how else she could make 7. She pressed  $4 + 3$  and  $9 - 2$ . Then, she asked me to pretend the 8 key was broken. How could we make 8?