

# Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

April 2016

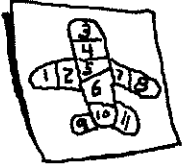
Pine Street Elementary School

## TOOLS & TIDBITS

### Color by number

Build number recognition and strategy skills

with this colorful game. Each person draws an outline of any object (robot, airplane) and draws lines to divide it into sections. Label each part with any number 1–12. Take turns deciding whether to roll 1 or 2 dice and then coloring in the matching space (roll a 6, and color in a section labeled 6). The first one to complete his picture wins.



### Observe nature

Carry a magnifying glass and binoculars along on a nature walk to help your child see things near and far. Let her use a magnifying glass to peer at flower petals or insects crawling on a fallen log. With binoculars, she can track cloud movement in the sky or zero in on a bird's nest high in a tree.

### Web picks

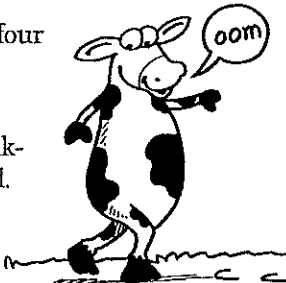
At [mathsframe.co.uk](http://mathsframe.co.uk), your youngster will read numbers and solve addition and subtraction problems to play free games like Maths Invaders and Monty's Maths Wall.

Your child can learn about sea turtles, prepare for severe weather, and more at [games.noaa.gov](http://games.noaa.gov).

## Just for fun

**Q:** What has four legs and says "oom"?

**A:** A cow walking backward.



## Measure around the house

There is no end to things to measure at home—once your child starts, she won't want to stop! Try these ideas.

### Longer or shorter

Have your youngster compare lengths to learn about *longer* and *shorter*. Pile different-size shoes on the floor, and label alternating wedges of a game spinner with an L or S. Now, each of you picks a shoe.


Spin the spinner. If L comes up, whoever has the longer shoe gets both shoes. For S, the player with the shorter one wins. To compare, let your child place the shoes side by side, lining up the heel ends evenly. Continue playing until all the shoes are taken—the person with the most wins.

### In the bag

Give your youngster a ball of yarn and safety scissors. She can use the yarn to measure the length, width, or height of furniture and household objects. Then, have her put all the pieces of yarn she cuts in a bag. Take turns picking one and

trying to find a matching item. She'll practice "eyeballing" measurements.

### Egg-carton ruler


Help your youngster create a ruler by cutting the bottom of an egg carton in half lengthwise. Challenge her to find objects that are 1 egg hole long,  $1\frac{1}{2}$  holes long, 2 holes long, and so on. On a recording sheet, she could trace her egg-carton ruler and draw and label each item where it fits. For example, a box of crayons might be 2 holes long and a stapler  $3\frac{1}{2}$  holes long. *Idea:* Have her measure longer objects by taping together both egg carton halves (or even more halves) end to end. 



## Rain in a jar

On a rainy April day, let your youngster form rain clouds inside to go along with the ones outside. Here's how.

Have him fill a clear jar  $\frac{3}{4}$  full with water and spray a mound of shaving cream on top. Next, he should drop blue food coloring onto the shaving cream "cloud." As the cloud gets heavy with the blue "rain," the rain will break through and begin falling into the jar.

Try doing the activity outside, or encourage your child to look out the window at the clouds and rain. He will make the connection between what he sees in his rainy jar and what's happening in the sky. 

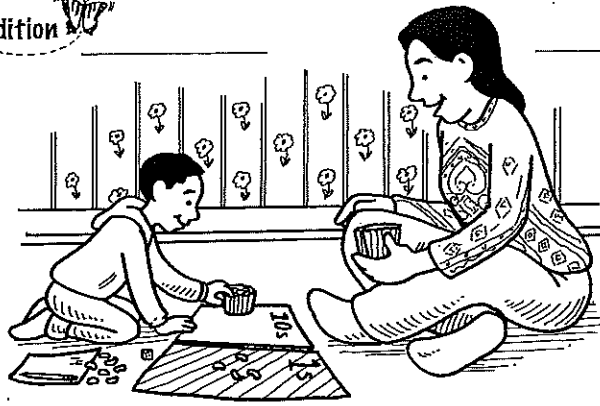


# Groups of 10

Does your child know why the number 10 is so important? It's because our number system is based on groups of 10. This activity is a fun way for him to practice forming numbers.

**Materials:** construction paper, pencil, die, pebbles (or dry beans), cupcake liners (or paper cups), paper, bowl

1. Tell your youngster to place two different-colored sheets of construction paper side by side. He should label the sheet on the left "10s" and the one on the right "1s."
2. Have him roll a die and place that number of pebbles on the 1s sheet. (Roll a 3, and lay down 3 pebbles.) He should



keep rolling, and once he has 10 pebbles, put the group of 10 in a cupcake liner on the 10s sheet.

3. With each roll, let him tell you the numbers on his papers and write them on a separate

paper. For instance, if he has 1 group on the 10s sheet and 4 pebbles on the 1s sheet, that's 14 ( $10 + 4 = 14$ ).

4. When he's comfortable with 10s and 1s, he can add a third paper and label it "100s." Get 10 groups on the 10s sheet, and move the 100 pebbles into a bowl on the 100s sheet. What numbers does he form now? *Example:* 137 for 1 group of 100, 3 groups of 10, and 7 single units.

## MATH CORNER

### Meet you at the vertex!

In geometry, a corner is called a *vertex*, and corners are called *vertices*. Encourage your youngster to use these grown-up words as she plays with shapes.

#### Draw it

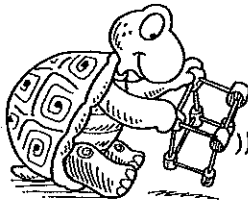
Ask your child to draw *polygons* like a triangle, square, rectangle, pentagon, and hexagon. Have her touch each vertex. How could she count them without losing track? (She might circle the first one and then count around the shape.)

#### See it

Help her put a pushpin into each vertex of a cardboard box. That will help her clearly see where they are. Can she come up with a strategy for counting the pins?

#### Build it

Encourage your youngster to build shapes with marshmallows and straws or dry spaghetti and balls of play dough. Each time she joins two sides, she forms a vertex. Suggest that she count the vertices (the marshmallows or play dough balls) and record the number for each shape.



## SCIENCE LAB

### Through thick or thin

Your child will learn which liquids freeze fastest with this simple experiment.

**You'll need:** kitchen liquids (examples: water, milk, ranch dressing, juice, olive oil, vinegar, honey, chocolate syrup), measuring spoon, ice cube tray or muffin tin

**Here's how:** Have your child measure 2 tbsp. of each liquid into a separate section of the tray or tin. Ask her to predict which ones will freeze first. Put the tray or tin in the freezer. Let her check back regularly and record the results for each liquid ("still liquid," "slushy," "frozen").

**What happens?** Thinner liquids (water, vinegar) will freeze first. Very thick liquids (honey, chocolate syrup) will not freeze solidly at all.

**Why?** The thicker (or more *viscous*) a liquid, the harder it is for the cold to get in. Your youngster might think about it like this: The more layers she wears in the winter, the longer it takes for her to feel cold.



## PARENT TO PARENT

### You're right—it's wrong

My son Jonah is only in first grade, but he gets upset when he gets math problems wrong. I mentioned this to his teacher at our spring conference, and she had some good advice.

Mrs. Barnes said Jonah and I should see wrong answers as opportunities to learn. The first step is for him to recognize that an answer is incorrect. She said it's important for him to find that out himself, so I shouldn't say, "That's wrong" when he shows me his

homework. Instead, she suggested that I ask questions that encourage him to rethink how he solved the problem. For instance, I might say, "Hmmm, can you show me how you figured out  $27 - 14 = 12$ ?" Then, when Jonah explains his strategy or draws a picture to demonstrate, he'll realize the answer is really 13!

Also, she said that sometimes I should ask how he got a right answer. That way, we're not only focusing on the wrong ones.



## OUR PURPOSE

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

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