

Math+Science Connection

Beginning Edition

Building excitement and success for young children

February 2012

Holyoke Public Schools



TOOLS & TIDBITS

Put numbers in order

Have your child write the numbers 1–10 on separate index cards. Shuffle, and let him draw two and lay them down from lower to higher (6, 9). Ask him to pick a third card (8) and put it in order. Does it go before the 6, between the 6 and 9, or after the 9? Continue until all the cards have been used.

Survey of seasons

Which season is most popular with your family? Let your youngster poll relatives to find out. She can write down the seasons and put a tally mark beside each person's choice. To show her findings, have her make a *pictograph* by drawing pictures to represent each choice (3 beach umbrellas if 3 people like summer best).

Web picks

Play math games in English or Spanish at smartygames.com. Includes fun facts, puzzles, and games about money, time, counting, and more.

Young dinosaur lovers can learn facts and hear dinosaurs “talk” at dinodictionary.com. Or they could make dinosaur crafts with the ideas at rain.org/~philfear/download-a-dinosaur.

Worth quoting

“Teaching a child not to step on a caterpillar is as valuable to the child as it is to the caterpillar.” *Bradley Miller*

Just for fun

Q: What do you get when you cross a stream and a brook?

A: Wet feet.



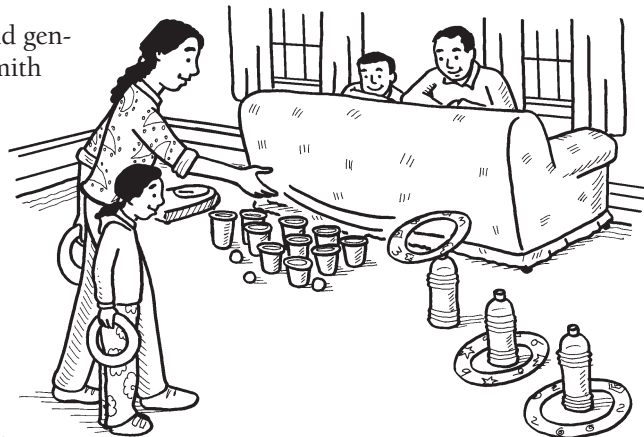
A math carnival

“Step right up, ladies and gentlemen! It’s the amazing Smith Family Math Carnival!”


Here are ideas for putting on your very own math carnival. It’s a fun and easy family project—and a great way for your child to practice math.

Say the number. Create a ring toss game by cutting the centers out of 9 paper plates. Let your child decorate each ring with crayons or stickers and number them 1–9. Set out 3 full water bottles, and have players toss rings until one lands on each bottle. The player reads the number created (3, 9, 2 is “three hundred ninety-two”). Who can make the biggest number? The smallest one?

Guess the weight. Carnivals often have someone guessing people’s weight. At your carnival, you can estimate the weight of household items. Use a kitchen or bathroom scale and objects such as a book, a potato, a laptop, and a bag of




apples. Contestants estimate the weight of each object (to the nearest ounce or pound), weigh it, and record the actual number. When everyone has had a turn, try again with different items.

Throw and add. Label 10 cups with numbers your child is learning at school. *Examples:* 1–10 for younger children, 5–50 (counting by 5s) for older kids. Have each player stand a few feet away, throw 3 Ping-Pong balls, and add the numbers on the cups the balls landed in. After five rounds, total each person’s score. 

Mixing colors

How are different colors made? With these hands-on activities, your youngster will see for himself:

- In 3 clear glasses, let him measure 1 cup water per glass and add blue food coloring to one, red to another, and yellow to the third. Using a medicine dropper, he can combine colors in separate empty glasses. For instance, he could mix red and blue or blue and yellow. What colors does he make?
- Have your child place one palm in red finger paint and the other palm in yellow finger paint and press separate handprints onto a piece of paper. Then, ask him to rub his hands together and make new handprints—they’ll be orange! He can wash his hands and try a different combination. 



Outdoor wonders

Cold weather doesn't have to keep your young explorer inside. Use these ideas to encourage him to discover the great outdoors this winter.

Keep a journal

Give him a notebook, and go outside together so he can write and draw about nature. He might sketch a bird on a bare branch or write about a morning frost. Looking for things to put in his journal will help him pay closer attention to the world around him.



Broadcast the news

Suggest that he do a newscast from his notebook. He can use his notes to announce findings ("Today a red bird was seen on the tree in front of our house"). Have him hold up his drawings so family members can "see" the news, too.

Find treasures

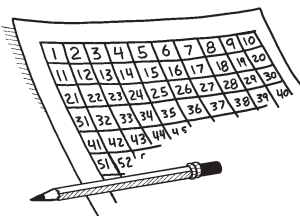
Let your child gather natural objects from the ground, such as rocks, feathers, or pieces of bark. He can keep them inside in a special keepsake box (a shoebox will work just fine). Recommend that he "catalog" his items on a sheet of paper taped to the lid. He can write the object's name and where he found it and use crayons to draw a detailed picture.

MATH CORNER "100" ways to play

Sometime soon your child might celebrate his 100th day in school. Mark the occasion at home by making a "100 chart" and using it for math activities.

Draw a grid with 10 rows and 10 columns. Let your child fill in the numbers 1–100, one per box. As he makes the chart, he'll practice writing numbers and counting. Then, give him a marker (a game piece), and try activities like these:

- Give directions that relate to numbers or objects your youngster knows.



Examples: "Put the marker on your age"; "Move your marker to the number of pennies in a nickel."

- Have him put a marker on a number (say, 8). Then, give instructions for moving the marker around (add 3, subtract 1). Each time, he should call out the new number (11, 10). Or you could ask him to use the marker to count forward or backward by 10s.

PARENT TO PARENT

Math snacks

After school, my kids like to help make their own snacks. One day when my sister Carol was here, she mentioned that her children used math in the kitchen when they were little.

I decided to try it with my kids. For example, my daughter loves to make "bugs on a log" by spreading peanut butter on celery and adding raisins. Carol said I could have her use a measuring spoon to put 1 teaspoon of peanut butter on a stalk and then count out the number of raisins to put on top.

Or she said my son could make dominoes out of graham crackers. We had him measure and spread $\frac{1}{2}$ teaspoon of cream cheese on each cracker. Then, he used chocolate chips to make the dots. We had fun playing dominoes, and I was happy to see the kids counting and matching numbers while they ate.



SCIENCE LAB

Balloon magic

This experiment will show your child how chemistry can blow up a balloon—like magic!

You'll need: funnel, balloon, 1 tbsp. active dry yeast, 1 tsp. sugar, 1 cup warm water, yarn, scissors

Here's how: Help your youngster put the funnel into the open end of the balloon and pour in the yeast, sugar, and warm water. Tie a

knot in the balloon, and have her use the yarn to measure around the balloon (its *circumference*) and cut the yarn to that length. Every 15 minutes for an hour, she can measure the balloon and line up the strings to compare them.

What happens? The balloon will expand.

Why? The sugar and warm water make the yeast grow, and the mixture produces carbon dioxide, a gas. The gas blows up the balloon.



OUR PURPOSE

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

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