

# Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

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Frazier Elementary Schools - Dr. Anne Stillwagon

Title 1



## TOOLS & TIDBITS

### Sum fun

This outdoor game lets your child practice adding three numbers. Have her use chalk to draw a bull's-eye on a sidewalk and write the numbers 1–20 randomly all over it. Take turns tossing three beanbags at the bull's-eye and adding the numbers they hit. (Example:  $9 + 2 + 4 = 15$ .) Get the highest sum to win.

### At-home safari

Flies and spiders and pill bugs, oh my! Insects and other many-legged critters may hide in our homes for shelter and survival. Encourage your youngster to inspect dark corners and closets with a flashlight and magnifying glass. He might observe a fly in a spiderweb or a pill bug rolling into a ball.



### Book picks

▣ *Sizing Up Winter* (Lizann Flatt) lets your youngster explore math with plants and animals.

▣ A rhyming story that inspires perseverance, *Rosie Revere, Engineer* (Andrea Beaty) tells of a girl who works hard to become a brilliant engineer.

## Just for fun

**Q:** What has no fingers but many rings?

**A:** A tree.



## Explore place value

When is 1 worth more than 9? When it's in a number like 19 or 109. That's because a digit's place in a number helps to determine its value. Here are ways to give your youngster practice with place value.

### Heart counters

Let your child make a set of place value "counters" using 1 index card cut into 10 equal strips and 9 whole index cards. Have him draw 1 heart on each strip ("ones") and 10 hearts on each whole card ("tens"). Say different numbers for him to show with his counters. If you say "39," he would lay down 3 tens and 9 ones.

### Muffin puzzles

Have your youngster draw and cut out a dozen paper "muffins." Write any two-digit number on a muffin top (say, 26). On the bottom, your youngster can write its tens and ones (2 tens, 6 ones). When you've used all the muffins, let him cut off the tops, mix up the pieces, and put together his "puzzles."



### Digit game

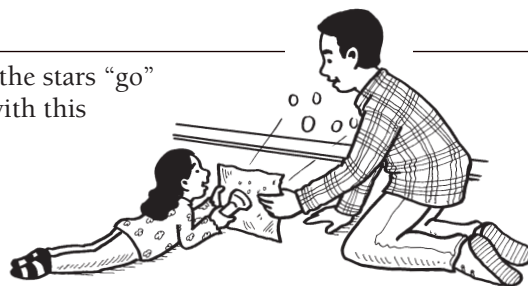
Compete to make the biggest number! Each player divides his paper into three columns ("Hundreds," "Tens," "Ones"), then draws four rows of blank lines in the columns. Take turns rolling three dice and writing each number rolled (say, 4, 6, and 1) in any of your blanks. Since 6 is the biggest, your child might put it in one of the hundreds-column blanks. When you've filled every blank, let him find the biggest three-digit number and declare the winner. 🐛

## Star light, star bright

Does your child know where the stars "go" during the day? She'll find out with this indoor "stargazing" activity.

Help your youngster carefully poke holes in a piece of aluminum foil with a sharpened pencil. In a dark room, hold up the foil a few feet from a wall while she shines a flashlight on the foil. She'll see "stars" on the wall!

Leaving the flashlight on, turn on a light in the room. She can't see the stars. Why? Stars are visible at night because it's dark. They're still there during the day, but the sun (the closest and brightest star to Earth) outshines them. 🐛



# Subtraction play

Catch a fish, knock down pins ... these versions of fishing and bowling give your youngster a fun way to work on subtraction.

**Go fishing.** Let your child cut out 12 paper “fish.” She can slide a paper clip onto each one and make a fishing rod by taping a refrigerator magnet to a string. Place some fish on blue construction paper, and ask her to



count how many are in the “pond.” Each time she catches a fish, she can say the subtraction problem to know how many fish are left in the pond ( $12 - 1 = 11$ ,  $11 - 1 = 10$ , and so on).

**Go bowling.** Set up 10 empty water bottles like bowling pins. Take turns rolling a ball at the pins from a few feet away, then say a subtraction problem for how many pins you knocked down. If your child toppled 7 pins, she would say, “ $10 - 7 = 3$ .” She can bowl again, trying to hit the pins still standing, then say another subtraction problem ( $3 - 2 = 1$ ). Reset the pins for the next player. 🐛



## MATH CORNER

### See, touch, and hear patterns

Tick, tock, tick, tock ... does your youngster notice a pattern when she hears a clock? Help her identify and create more patterns with these ideas.

#### Textures

Ask your child to gather small objects that have different textures, such as pencils, sticks, marbles, and rocks.

Make a pattern with the items. Have her name the pattern she sees (pencil, stick, pencil, stick), then feel the objects and tell you the pattern by texture (smooth, rough, smooth, rough). Can she line up different objects that follow the same texture pattern? (Example: marble, rock, marble, rock.)

#### Sounds

Encourage your youngster to create sound patterns with everyday items. She could fill a cardboard tube with dry beans, tape foil over the ends, and shake it in a pattern (shake, shake-shake, shake, shake-shake). Or she might turn over a mixing bowl and hit it with a plastic spoon (tap-tap-tap, rest, tap, tap-tap-tap, rest, tap). 🐛

**OUR PURPOSE**

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

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## PARENT TO PARENT

### Hunting for math

During a recent online meeting, my coworkers and I had fun doing a virtual scavenger hunt. That gave me an idea to have a math scavenger hunt for my twins.

I made a list of math-related items for Mason and Jack to find around the house, including a four-digit number, a number word, a 2-D shape, a 3-D shape, and a coin.

The boys were delighted when I told them about my scavenger hunt and presented them with the list. They found a calendar with 2021 on it, a bag with a three-cheese blend, a rectangular napkin, a Rubik's Cube, and a penny.

Mason and Jack enjoyed searching for math, and next time, they want to make a list of items for me to find! 🐛



## SCIENCE LAB

### Drop a parachute

Parachutes help skydivers descend slowly. In this experiment, your youngster can test different materials to see which would make the best parachute.

**You'll need:** scissors, plastic trash bag, small cloth (napkin, dish towel, bandanna), yarn, ruler, tape, two plastic or paper cups, two identical small toys

**Here's how:** Help your child cut a piece of plastic the same size and shape as the cloth. Then, have him cut eight 2-foot pieces of yarn. He should tie four pieces around the corners of the plastic and four around the corners of the napkin. Now he can tape the opposite

ends of the yarn from each “parachute” to a cup. Let him place a toy in each cup and predict which one will hit the floor first if he drops the parachutes from the same height (stairway, balcony) at the same time. Now help him safely test his prediction.

**What happens?** The plastic parachute falls more slowly than the cloth parachute.

**Why?** A parachute “resists” the air underneath it, which slows its fall. The lightweight plastic bag creates more air resistance than the heavier cloth, so that parachute slows down as it falls. 🐛

