

Math+Science Connection

Beginning Edition

Building Excitement and Success for Young Children

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TOOLS & TIDBITS



Arm span = height
Ask your child to stretch his arms out to his sides, and share this fun fact: For most people, arm span is equal to height. To test this, use yarn to measure him both ways, then let him measure you. He'll see it's true! *Idea:* Suggest that he draw stick figures with arm spans equal to their heights.



Compare states of matter?

Your youngster can explore states of matter with balloons. Help her fill two balloons with water (a liquid). Freeze one overnight, turning it into ice (a solid). Blow up a third balloon with air (a gas). Have her hold each one and compare how heavy they feel. Now she can line them up from lightest (air) to heaviest (ice).

Book picks

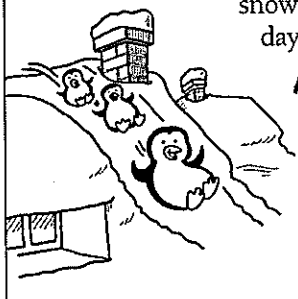
■ *Zero Is the Leaves on the Tree* (Betsy Franco) introduces the number 0 through familiar examples like a bare oak tree.

■ A boy and his dog play with a ball and other rolling toys in *Newton and Me* (Lynne Mayer). Rhyming text explains Isaac Newton's laws of force and motion.

Just for fun

Q: What would you have if 1 foot of snow fell every day for 2 weeks?

A: A lot of snow to play in!



Make-believe play, real math

Children love to pretend, whether they're blasting off into space, having tea parties, or playing store. Add math to your youngster's imaginary play with these ideas.

Spaceship

Let your child turn a large cardboard box into a spaceship. She can draw a control panel inside with buttons labeled 1–10. Before blasting off, she could count down from 10 to 1—or develop her own countdown. Perhaps she'll count backward from 20 by 2s or from 100 by 10s. Each time she goes on a “mission,” she could write the date and time in a “captain's log”

Tea party

Suggest that your youngster treat her stuffed animals to afternoon tea. She can count out 1 saucer and 1 teacup for each guest, then make pastries out of play dough. If she “bakes” 12 cakes and there are 4 guests, how many would each get? She could deal them out like cards and count (3 cakes per guest).



Then, help her measure water into tea-cups, making sure to give each guest an equal amount

Flower shop

Give your child craft supplies, such as pipe cleaners and tissue paper, to make flowers. Let her arrange them in glasses and put a sticky-note price tag on each bouquet. Use spare change or play money to buy flowers from her shop. Help her count the money you pay to make sure it matches the price on the tag. 🦋

Resolve to conserve

Here's a New Year's resolution that comes with a science lesson: Use less water. Try this strategy to teach your child about a valuable natural resource.

1. Help your youngster list ways your family uses water. *Examples:* washing hands, doing laundry, drinking, bathing, running the dishwasher. For one day, have him track how many times you use water by putting tally marks next to each item.

2. Let your child make a poster showing ways to save water and hang it on the refrigerator. He might draw a showerhead and write “Take shorter showers,” then draw a toothbrush and write “Turn off water while brushing.” Ask him to post reminders around the house, too. 🦋



Count on the calendar

“What day is it today?” Teachers often use the calendar as a tool to help children learn about days and months. Let your youngster explore the 2021 calendar at home with these suggestions.

Days. What day of the week does January start on in 2021? (Friday.) Encourage your child to investigate whether all months start on the same day. Have him make a two-column

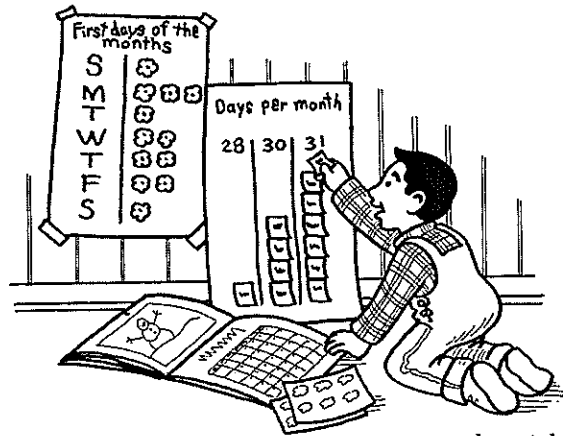


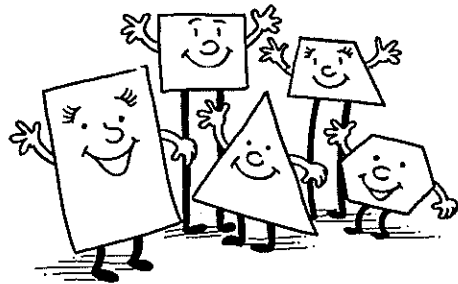
chart with the days of the week in one column. In the other, he can put one sticker for every time that day falls on the first of a month. Which day starts the most months this year? The fewest?

Months. January has 31 days, but what about the other months? Suggest that your youngster make a graph to compare the lengths of the months. He could write the name of each month on a separate sticky note, then divide a sheet of paper into three columns labeled “28,” “30,” and “31.” He can put the sticky notes in the correct columns in even rows. He’ll notice that most months have 31 days like January has. How many months have 30 days? (Answer: 4.)

Q & A Geometry stories

Q: My daughter mixes up the names of shapes like “rectangle” and “triangle.” How can I help?

A: Try making up stories about shapes with your child—she’s likely to remember their names *and* learn about their special features, or *attributes*.



For a rectangle, your daughter might begin, “Rachel Rectangle has two long sides, two short sides, and four corners. She loves to put on shows as a TV screen.” And for triangle, you could start with, “Trevor Triangle has three sides and three corners. He likes to be dipped in salsa as a tortilla chip.”

Make up stories for a circle, square, hexagon, and trapezoid, too. To cement the information in her memory, your child can write down the tales and illustrate each one.

SCIENCE LAB

Two ears are better than one!

A plane flies overhead, and your child looks up and around to spot it. Sound familiar? This experiment demonstrates how her ears work together to locate noises.

You’ll need: blindfold (scarf, bandanna), earplug or cotton ball

Here’s how: Have your youngster cover her eyes while you stand a few feet away and clap. Can she point to where you are? Move around (forward or backward, left or right), and clap each time. Now help her plug one ear, and repeat the activity.

What happens? Your child locates you more easily when she listens with both ears.

Why? Because our left and right ears are on opposite sides of our head, each ear hears a sound at a different volume and time. The brain measures these differences to figure out which direction the sound is coming from. If one ear is plugged, then the sound reaches only the other ear.



MATH CORNER

Double high five

Put your youngster’s two hands and your two hands together. There are four hands, because $2 + 2 = 4$ —and that’s a doubles fact! Here’s a quick activity for helping your child add doubles and learn addition facts.

Start by showing him a number with your fingers (say 7). Ask him to hold up the same number and add them ($7 + 7 = 14$). Encourage him

to name the doubles fact ($7 + 7$) and count his fingers with yours to check his answer. When he sees he’s correct, give each other a high five.

Idea: Your child could illustrate each doubles fact on a separate sheet of paper, from $0 + 0 = 0$ to $9 + 9 = 18$. He might draw two bicycles with two wheels each ($2 + 2 = 4$) or two bunches of eight grapes each ($8 + 8 = 16$).



OUR PURPOSE
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