What's that shape?

Put a "mystery" 3-D shape inside a paper bag (a roll of candy for a cylinder, a small ball for a sphere, an ice cream cone for a cone). Ask your youngster to reach in and feel the object—without looking at it—and identify the shape. Then, he can put one in a bag for you to name.

Trap pollution

Here's a way for your youngster to see air pollution firsthand. Have her smear petroleum jelly on several index cards and tape them to places outdoors (your apartment building, a tree, a stop sign). Return to each spot in a week. Which card gathered the most particles? *Idea:* Try the same experiment inside, and compare the results.

Book picks

▯ In *Weighing the Elephant* (Ting-xing Ye), a little boy answers the emperor's challenge and figures out how to weigh an elephant.

▯ *Jellyfish*, part of the series, A Day in the Life: Sea Animals (Louise Spilsbury), is a colorful book that lets your youngster explore this fascinating sea creature.

Just for fun

Q: What goes up and down but doesn't move?

**A:** The temperature!

Fun with math facts

When your child sees what you have up your sleeve for addition and subtraction practice, she'll know that practicing math facts is fun! Try these ideas.

Beach-ball toss

Help your youngster use a dry-erase marker to write math problems all over a beach ball (4 + 1, 7 – 5). Toss the ball to her—she says the problem her right thumb is touching and gives the answer. She throws the ball back, and you solve a problem. Keep tossing until you've done all the problems. Erase them, and write new ones.

Zig-zag game

Together, make a game board by gluing a deck of playing cards (no face cards) in a Z shape on a poster board. Next, players get two tokens and take turns rolling two dice. Move each token the number of spaces rolled (roll a 3 and a 4, and move one token 3 spaces and the other 4 spaces). Now, create a math problem out of the cards you land on.
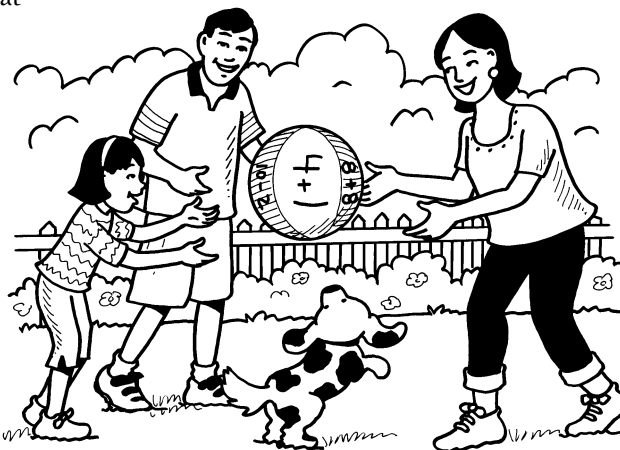
Example: If you land on a 2 and a 9, say 9 + 2 = 11 or 9 – 2 = 7. The winner is the first player to reach the end of the Z.

Number-sentence search

Have your child draw a 6 x 6 grid with 36 boxes and randomly write a number, 0–9, in each box. Then, she goes searching for math facts. She can circle any three numbers that form an addition or subtraction sentence (horizontally, vertically, or diagonally). For instance, she might circle 2, 3, and 5 because 2 + 3 = 5. *Tip:* Have her record all the equations she makes—writing them will help her remember them. 🦋

Spinning around

They both begin with "r" and end with "tion," but there's a big difference between the earth's *rotation* and its *revolution*. This simple model will help your youngster understand.

Have him thread a plastic golf ball (a hollow one with holes) onto a pipe cleaner and twist the pipe cleaner into a circle. Ask him to spin the ball in place—that's rotation. If he slides the ball around the pipe cleaner in a full circle, that's revolution.

You can explain that the earth rotates on its axis every 24 hours, giving us day and night. And it revolves around the sun every 365 days, giving us a year. 🦋

Compare strategies

Does your child realize there can be more than one way to solve a math problem? Demonstrate—and build his math thinking—with this family activity.

At dinner, say a math problem. Ask everyone to come up with the answer silently. Then, go around the table, and let each person explain his thinking. For instance, if your problem is 24 + 35, family members might use strategies like these:

I would round 24 to 20 and then...

- Add 20 + 30 = 50. Add 4 + 5 = 9. Combine the totals: 50 + 9 = 59.

- Round 24 to 20. Add 20 + 35 = 55. Then, add the 4 back in: 55 + 4 = 59.

- Stack the numbers in your head, and add the columns, right to left: 4 + 5 = 9, and 2 + 3 = 5. Visualize the answer: 59.

Your youngster will see different strategies can all work. Plus, he'll get important practice with doing math in his head.
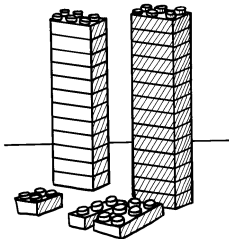
Note: For younger children, use simpler problems like 6 + 3 or 12 + 7.

MATH CORNER — Lego math

Get out the Legos, and bring on the math! Use these suggestions.

Math words. Have your child snap together a Lego tower. Now ask her to make one that is shorter and one that is taller. Encourage her to use math words to compare: "The red tower is *taller* than the yellow one."

Counting. Your youngster could also count and compare the blocks in her stacks. Listen as she reports the results: "My red tower has 14 blocks. My yellow one has 12. So the red tower has 2 more blocks than the yellow one."

Arrays. Help her get ready for multiplication by using Legos to form *arrays* (arrangements of objects in rows and columns). For instance, a Lego with four bumps represents 2 x 2 = 4. She could put a Lego with 6 bumps side by side with one that has 3 bumps to make a 3 x 3 = 9 array. What other arrays can she create?

SCIENCE LAB — Raisins in the sun

Combine science with "cooking" in this experiment that teaches your youngster where raisins come from.

You'll need: red seedless grapes, paper towel, baking tray, pillowcase or kitchen towel

Here's how: Have your child rinse and gently dry the grapes. She should spread them on the baking tray and cover with the pillowcase or towel (to try to keep bugs away). Then, she can place the tray outside in a sunny spot and observe the grapes daily. In a notebook, she could sketch them and write details like "The grapes look wrinkled" or "They're turning darker." (*Note:* If it rains or the nights are damp, bring the tray inside.)

What happens? The grapes will shrivel up and turn into raisins.

Why? The sun's heat evaporates the water in the grapes, making them smaller. At the same time, the sun heats up the natural sugar in the grapes and caramelizes them, making them taste sweeter.

PARENT TO PARENT — I'm an author!

When my fifth-grader came home from school with a book he had written, my younger son wanted to write one, too. Since we had just been reading a counting book, that's what Daniel wanted to make.

I suggested a "newspaper book." Daniel cut out the numbers 1–15 from the newspaper and taped each one to a separate piece of construction paper. Then, he cut out newspaper pictures to match (1 man, 2 cars, 3 trees). When he finished, we stapled the pages together.

For his next book, he's writing story problems. Daniel thinks up a problem, and I help him write it. Here's his first one: "Joe had 4 cookies. I had 3 cookies. How many did we have together?" He illustrated it with 4 cookies and 3 cookies and wrote the equation: 4 + 3 = 7.

Now Daniel is writing a story problem a day—this is getting to be a long book!