

# Math & Science in Every Room

Every room in your house is filled with opportunities to enjoy math and science with your child. Go room by room, and explore together!

## KITCHEN

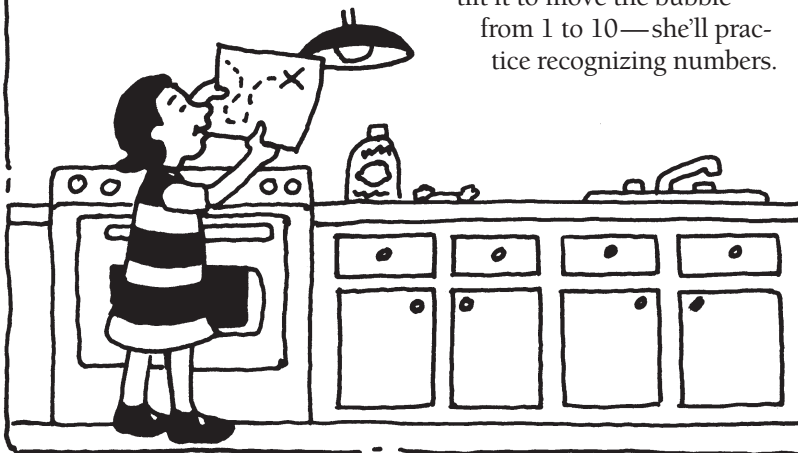
**Find hidden treasure.** Hide a small toy somewhere in the kitchen. Then, help your youngster draw a simple map of your kitchen on a piece of paper. With a cotton swab dipped in lemon juice, secretly draw a path to the treasure.

After the path dries, turn on a lamp and let her hold the paper under the bulb. The heat from the bulb will make the lemon juice *oxidize* and turn brown—revealing the route to the treasure! After your child finds it, have her hide something and draw a secret path for you.

**Learn about time.** Let your youngster set a kitchen timer for 1 minute and cover it with a dish towel. Together, do a simple

activity (color pictures, work a jigsaw puzzle), and ask her to clap her hands when she predicts the timer is about to ring. How accurate was her estimate? Repeat several times, and she'll learn about elapsed time as she feels how long it takes 1 minute to go by. *Idea:* Let her set the timer for 5 minutes or 10 minutes and try to predict when it will go off.

**See the numbers.** Help your child draw 10 circles with a permanent marker on a clean plastic bottle and randomly number them (1–10). Fill the bottle with water, leaving a small air bubble at the top, and screw the cap on tightly. Let her hold the bottle sideways with both hands and tilt it to move the bubble from 1 to 10—she'll practice recognizing numbers.



## LIVING ROOM

**Hunt for shapes.** Ask your child to pick a shape (say, circle), and have a hide-and-seek hunt. One person goes into another room while the other puts a sticky note on each circle he sees (hide the note so it's not visible, for instance under a table). After he finishes, the other person hunts for the sticky notes (and the circles). Select a new shape, and play again.

**"Catch" a sound wave.** Have your youngster hold a piece of paper lightly between his hands a few inches away from a television or radio speaker. Gradually turn up the volume until he feels the sound waves vibrate the paper.

**Count your seats.** How many people could join you for movie night? Your child can find out by placing an action figure or toy animal in each seat—one per chair or sofa cushion—and then counting them. He'll work on one-to-one correspondence and see that each number represents an object.



continued

## BATHROOM

**Take toys for a swim.** Have your youngster gather waterproof toys and divide them into ones she thinks will be good swimmers (they'll float) and ones that should stay on land (they'll sink). Then, she can test them in the tub and make new piles by whether they *really* float or sink. Suggest that she gather more toys, use what she learned, and try again.

Explain that toys that float (such as Ping-Pong balls and wooden blocks) are not as dense—they push enough water out of the way to stay on top of it. The ones that sink (marbles and jacks, for instance) are denser, so they push less water out of the way and sink.

**Double it.** Ask your child to draw a heart on an index card and hold it against the mirror so she can see both the heart and its reflection. How many hearts does she see? (2) Let her add another heart to the card and hold it to the mirror again. Now how many hearts are there? (4) As she adds more, she'll learn about doubling numbers—and get an early lesson in multiplication ( $1 \times 2 = 2$ ,  $2 \times 2 = 4$ ).

**Compare weights.** Have your youngster predict which is heavier: a stack of magazines or a bucket of toy animals. Together, test her prediction by weighing each on a bathroom scale. What could she do to make them weigh the same amount? (Remove magazines, add toy animals.)



## BEDROOM

**Measure furniture.** Let your child measure the length of his bed using his shoe as a ruler (show him how to place the shoe end-to-end, using his finger as a placeholder when he moves it). Then, he could measure his bed with other objects and finally, with your help, with a ruler or tape measure. He might find that his bed is 9 shoes,  $7\frac{1}{2}$  books, 14 pencils, or 74 inches long.

**Ask:** "How does the size of what you use to measure affect the measurement?"

Suggest that he measure his dresser and toy box, too. Have him tell you the tallest, shortest, widest, and longest items in his room.

**How many books?** Suggest that your youngster count objects in his room using tens and ones. For instance, he might see how many books are on his shelf. Have him count them, one by one, into a pile until he has ten. Then, he should start a new stack. Each pile is a ten, and any leftovers are ones. To find the total, he would add the tens and ones. *Example:* 2 piles of tens and 3 ones left over = 23 books ( $10 + 10 + 3 = 23$ ).

**Experiment with light.** Your child could shine a flashlight through different objects to see which ones allow light to pass through. He may discover his curtains are *opaque* (no light gets through), the sheet on his bed is *translucent* (some light gets through), and the window is *transparent* (all light gets through).

