

Math All Around



Molly checks the temperature every day so she knows what to wear. Ben bakes muffins for Sunday breakfast. Tania keeps track of her favorite athlete's statistics. Can you tell which child is doing math? All of them!

Reading temperatures, measuring ingredients, and using statistics are just a few of the ways people use math every day. Give your child math practice with activities like the ones in this guide.

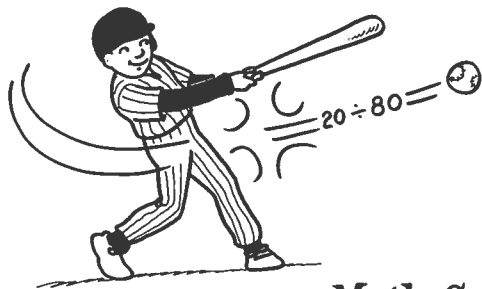
Around the house

Rewrite recipes

Baking muffins is a fun, hands-on way for your youngster to work with fractions. Find a muffin recipe, and ask her how to double it or how to cut it in half. For example, to double $\frac{1}{4}$ cup of milk, she could measure $\frac{1}{4}$ cup of milk into a bowl, add another $\frac{1}{4}$ cup, and then pour the entire amount into a measuring cup. She'll see that $\frac{1}{4}$ cup + $\frac{1}{4}$ cup = $\frac{1}{2}$ cup. To divide 1 cup of flour in half, have her measure 1 cup into a bowl. Ask her to divide the flour as evenly as possible into two bowls and measure each amount. She'll see that each bowl contains about $\frac{1}{2}$ cup, and she'll learn that $\frac{1}{2}$ of 1 cup = $\frac{1}{2}$ cup. After she works out all the measurements, let her rewrite the recipes on separate index cards, one for doubling the recipe and the other for dividing it in half. Decide how many muffins to bake, and use one of her recipes to bake a batch together.

Figure sports stats

Have your child use sports statistics to practice finding averages. He can look them up in the daily newspaper box scores or at sports news websites (try www.espn.go.com). For example, what is the average number of runs his favorite baseball player scored per game this season? *Hint:* He would add



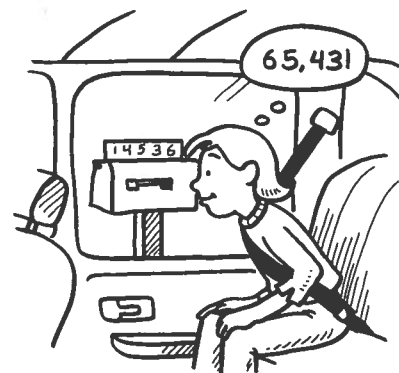
up all of the player's runs and divide by the number of games. Or he can calculate the average distance per game that a quarterback threw the football (divide the number of total yards by the number of games). During basketball season, let him use a calculator to figure out a player's three-point shooting percentage. Have him divide the number of three-point shots made by the number of three-point shots attempted and then multiply that amount by 100. *Example:* 96 shots made ÷ 257 attempted x 100 = 37 percent.

In the car

Play with place value

Help your youngster think about *place value*, or the value of a digit based on where it is in

a number. While driving, have her write down numbers she sees on a license plate or a house. Then, ask her to rearrange the digits to create the largest possible number. For instance, if a license plate has the number 6294, she could turn that into 9,642. If she sees a house numbered 14536, she can come up with 65,431. Ask her to read her numbers aloud ("sixty-five thousand, four hundred thirty-one"). *Idea:* Have her rearrange digits into the smallest possible numbers, too (turn 8,913 into 1,389). Then, ask her to find the difference between the highest and lowest numbers.



continued

Multiply and divide

This activity lets your child practice finding *fact families*, or related multiplication and division facts. Look for a sign that has a two-digit number (example: 45 on a speed limit sign). Have him use the digits to make up two multiplication problems and two division problems. Remind him of the commutative property (two numbers can be multiplied in either order and the answer will be the same) and the inverse property (multiplication and division have the opposite effect). So, the fact family for the numbers 4 and 5 would include $5 \times 4 = 20$, $4 \times 5 = 20$, $20 \div 4 = 5$, and $20 \div 5 = 4$.



At the store

Estimate produce prices

At the grocery store, put your youngster in charge of weighing fruits and vegetables and estimating their prices. If apples cost \$1.19 per pound and you want 2 pounds, she could round the price to \$1.20 per pound and multiply by 2. Talk her through it: $\$1.00 \times 2 = \2.00 , and 20 cents $\times 2 = 40$ cents. So, 2 pounds would cost \$2.40. Or tell her how much you want to spend (\$2 on broccoli), and have her figure out how much you can buy. If broccoli costs 79 cents per pound, she could round to 80 cents. Then, she might think, " 2×80 cents = \$1.60, $\frac{1}{2}$ of 80 cents = 40 cents, and $\$1.60 + 40$ cents = \$2.00." We can buy about $2\frac{1}{2}$ pounds of broccoli."

Round and add

Can your child keep track of how much you're spending during a shopping trip—without using paper and pencil? Have him practice solving math problems in his head by rounding each price to the nearest dollar and adding the total of all the items. For example, he would round \$3.15 down to \$3.00 and \$4.65 up to \$5.00. Adding the two together would give him a total of \$8.00. At the end of the trip, let him compare his total to the amount on the receipt (before tax). How close did he come?

Outside

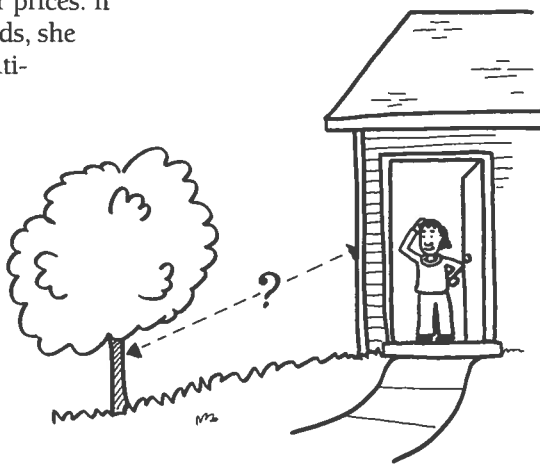
Find angles

Send your youngster on a search for angles. He will learn to spot three kinds: right, obtuse, and acute. To understand what these angles look like, have him sit on the grass and bend his body three ways. He can sit up straight with his legs out in front—that's a right angle (90 degrees). If he bends backward, he forms an obtuse angle (larger than 90 degrees) between his torso and his legs. If he bends forward, he creates an acute angle (smaller than 90 degrees). Help him look around your community for examples of each type. For instance, he might find a right angle at the corner of a basketball backboard, an acute angle in the spokes of a bike, and an obtuse angle on the hands of a clock (when it's 5:00, for example).



Make a map

Your child can draw a map of your yard or a nearby playground to practice measuring. Have her choose five objects to include on her map (tree, swing, house) and measure the distances between them. She can make a scale and draw the items on her paper so that they're the correct distance apart.



To figure out each distance, she should create a scale factor. For example, if your house and the tree are 12 feet apart and she decides that 1 inch = 3 feet, then the house and tree should be 4 inches apart ($12 \text{ feet} \div 3 \text{ feet} = 4$) on her map.