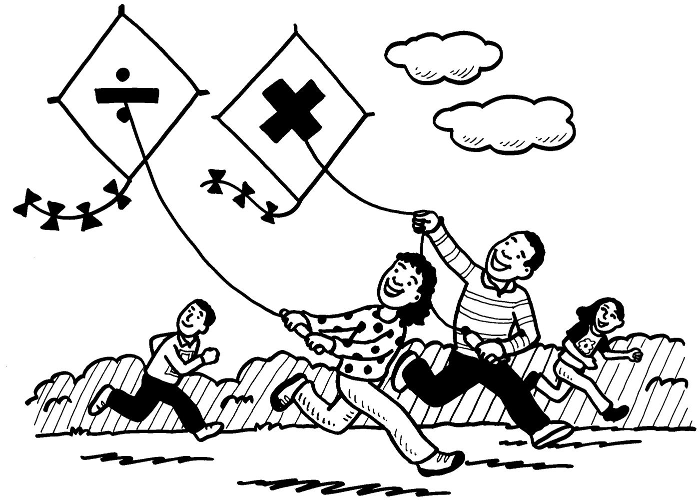
Fun with Multiplication and Division

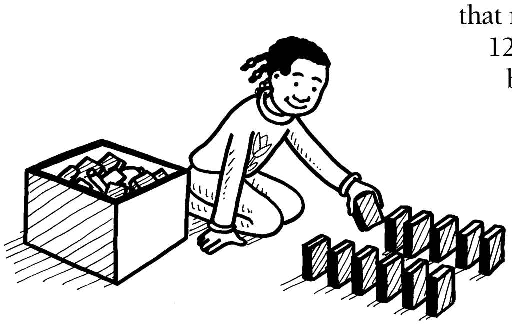
Mastering multiplication and division will help your child now and give her a strong foundation for higher math later on. Make practice enjoyable with these ideas.



Hooray, arrays!

Creating *arrays* is a good way for your youngster to see “groups” in multiplication. (*Note:* An array is an arrangement of objects or symbols in rows and columns.)

Name a number, and ask your child to organize a group of toys into as many different arrays as possible to represent that number. For 12, she might put blocks into 6 different arrays: 1 row of 12; 12 rows of 1; 2 rows of 6; 6 rows of 2; 3 rows of 4; and 4 rows of 3. As she makes each one, she can say the multiplication problem (1 x 12; 12 x 1; 2 x 6; 6 x 2; 3 x 4; 4 x 3). Then, let her pick a number for you to turn into arrays.



Idea: Have your youngster think of a division problem using the numbers from her array (12 ÷ 2 = 6). You’ll help her understand the idea that multiplication and division are *inverse* (opposite) operations.

Equation hunt

Encourage your child to use times tables to beat boredom with this activity perfect for a waiting room (or anyplace else).

Ask him to pick a number from 1 to 12. Take turns finding something to represent each multiplication fact in the times table for that number. For example, if he chooses 7, you might spot 7 x 1 = 7 people in a waiting room, 7 x 2 = 14 shoes on their feet, or 7 x 3 = 21 for the page number in a magazine.

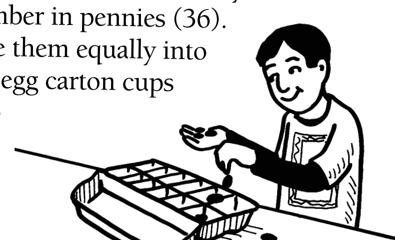
Keep going until you can’t come up with any more equations. The last person to find one gets to pick the next number.

A simple math tool

Understanding that 6 x 4 means 6 groups of 4, and that 15 ÷ 3 means breaking 15 into 3 groups of 5, is easier when your youngster can see it for himself. Here’s how to use an egg carton and pennies to help.

For multiplication, suggest that he fill the egg carton according to the equation. The first number tells how many cups to use, and the second tells how many pennies go in each cup. For 7 x 6, he would fill 7 cups with 6 pennies each. Counting the pennies—or skip counting by 6s (6, 12, 18)—will give the answer to the equation (42).

For a division problem, such as 36 ÷ 4, your child can count out the first number in pennies (36). Then, he should divide them equally into the smaller number of egg carton cups (4). He will see that 36 divides into 4 groups of 9, or 36 ÷ 4 = 9. If the number doesn’t divide equally, he will have a remainder.



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Don't go over 100

The object of this game is to create a multiplication problem with a *product* (answer) closest to 100—without going over.

On separate sheets, have each player write five problems like this: __ x __ x __ = __. Take turns rolling two dice and filling any blank on your paper with the numbers shown. Players will need to think carefully about which equation to put the numbers in! For instance, if your youngster already has 3 x 7 x __, she should fill the last blank with 4, 3, 2, or 1 to keep that answer from going over 100 (3 x 7 x 4 = 84, but 3 x 7 x 5 = 105).

When all the blanks are filled, solve the problems, and check the answers with a calculator. The winning product is the one closest to 100 without going over. In a tie, the next-closest one wins. *Idea:* Play again, and this time total your five products. The one who gets closest to 500 without going over wins.

The great giveaway

Be the first to *lose* all your points in this division and multiplication card game.

Shuffle a deck of cards (face cards removed, ace = 1), and place the deck facedown. Each player starts with 100 points.

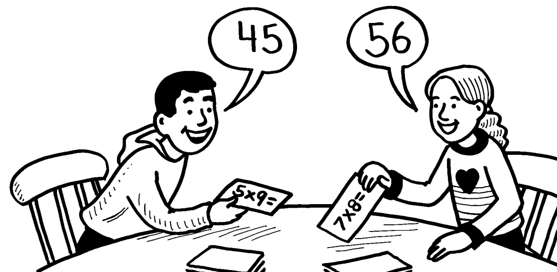
Let the youngest person go first. He flips over a card and says a division problem with that number as the answer. For 5, he could say, "25 ÷ 5 = 5." He should use multiplication to check his answer (5 x 5 = 25). If he's correct, he deducts the card from his score (100 – 5 = 95). If not, he must *add* that number to his score (100 + 5 = 105). Then, the next player goes.

Keep playing until someone gets rid of all his points (players can go beyond 0—they don't have to hit it exactly). That's the winner!

Flashcard war

This spin on flashcards makes a fun competition for two players.

Have your child write multiplication and division problems on 20 separate index cards, leaving the answers blank. *Examples:* 12 x 2 = __, 8 x 6 =__, 72 ÷ 9 =__ .



Shuffle the cards, and deal them into two facedown stacks, one for each person. For each round, players turn over the top card on their pile, solve the problem, and shout out the answer. The person with the higher correct number wins both cards. *Example*: If one player has 5 x 9 (45), and the other has 7 x 8 (56), the player with 7 x 8 gets both cards. In a tie, both players turn over another card and the winner collects all four cards.

Continue playing until all the cards are used. Whoever has the most wins.

Tips for memorizing math facts

Knowing multiplication and division facts by heart makes it easier for your youngster to do more advanced math. Suggest that she make a poster of reminders like these:

- 0: Anything multiplied by 0 equals 0 (99 x 0 = 0).
- 1: Multiplying or dividing any number by 1 gives the same number she started with (1 x 42 = 42, 86 ÷ 1 = 86).
- 2: Multiplying by 2 is the same as adding the original number to itself (6 x 2 = 6 + 6). Dividing by 2 is the same as splitting it in half (12 ÷ 2 is the same as half of 12, or 6).
- 5: Use skip counting to check numbers multiplied by 5 (5 x 4 = 20 is the same as counting by 5s four times: 5, 10, 15, 20).
- 10: To multiply by 10, place a zero at the end of the number you began with (8 x 10 = 80).

Encourage her to add new strategies to the list as she discovers them.

Math+Science Connection Intermediate Edition

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Bayview Elementary School
Mrs. Tonya Frost, Principal

YOUNG ENGINEERS

Engineers design or improve many of the things in your children's lives, from the warm coats they wear to the airplanes they fly in.

With these activities, you can get your youngsters thinking like engineers. In the process, they'll use math, science, problem-solving, and other skills that will help them succeed in school.

FLY AN AIRPLANE

Making paper airplanes can teach your child about aircraft design and *aerospace* engineering.

Ask her to make a paper airplane and estimate how long it will stay in the air and how far it will go. Then, she can sail it. Have her use a timer to see how many seconds it stays aloft and then a ruler or yardstick to measure the distance it traveled.

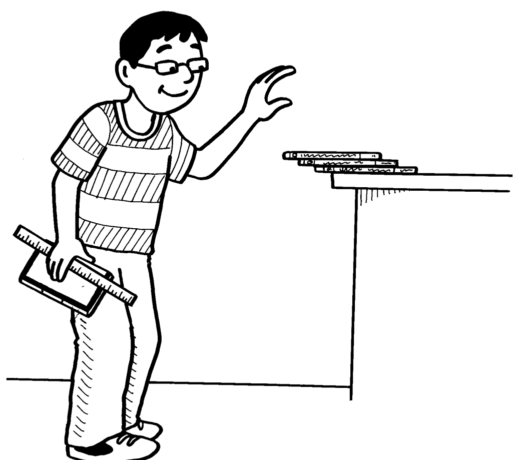
Now it's time to build a better airplane. Encourage your youngster to revise her design by adding extra folds to the wings or tail or altering the body, for example. With each change, she can sketch or take a photo of her plane and then record the time and distance it travels. Which one flew the longest and farthest? Why does she think that design worked the best?

Aerospace engineers continually work to improve real airplanes. They experiment with new designs to help planes take off and stay in the air with the least resistance—and in the process improve fuel economy.

EXTEND A CANTILEVER

How long can a diving board be and still support weight? Let your child use CD or DVD cases to make a *cantilever*—a structure, like a diving board, that is anchored at only one end.

To start, he can place a case on a table with one end barely hanging off the edge. Tell him to continue stacking cases so each one juts out a little farther than the one beneath it. Have him use a ruler to measure the length of his cantilever with each case added. What's the longest one he can build before the cases tumble down? (Once the cantilever becomes too heavy at the unsupported end, it will fall.)

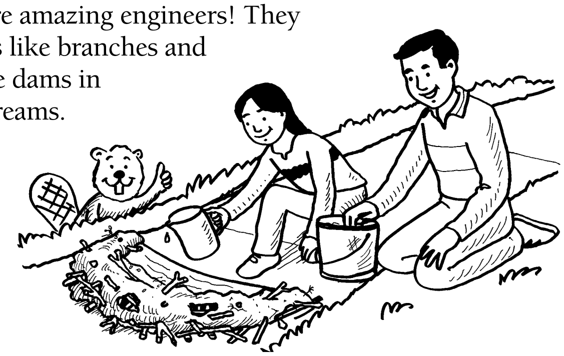


Suggest that your youngster repeat the experiment with lighter or heavier materials, such as playing cards or books. What changes?

The farther you get from the base, the less weight a cantilever can hold. A diving board has to be strong enough to support its own weight and the weight of a diver, which limits how far out over the water it can go.

CONSTRUCT A DAM

Beavers are amazing engineers! They use materials like branches and mud to make dams in rivers and streams. And people build dams to control the flow of water and to generate electricity. Here's how your child can construct her own mini-dam.



First, have her collect twigs from the ground and crisscross them in a pile on a gently sloping sidewalk or grassy hill. Next, she should pour water (from a watering can or bucket) toward her dam—the water will flow easily through the twigs.

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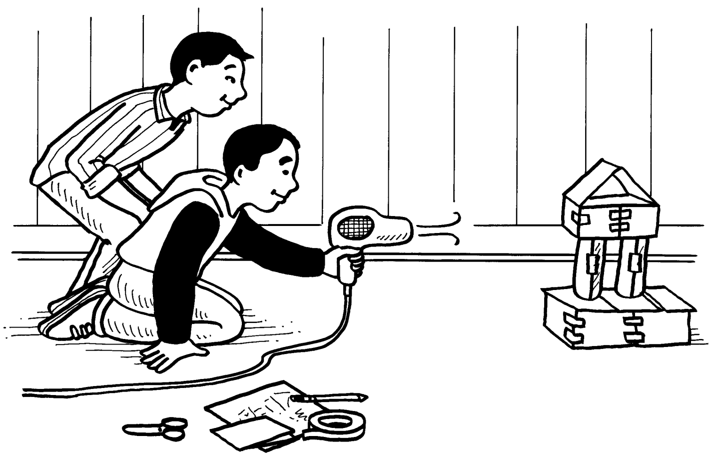
Ask what she could do to keep the water from going into the dam. For instance, she might fill in the gaps between the twigs with mud, leaves, and rocks. When she pours water again, it should pool in front of her dam. If too much water gets inside, she'll need to revise her design and try again.

Idea: Encourage her to look outdoors for beaver dams and other examples of animal engineering like bird nests and spiderwebs.

WINDPROOF A BUILDING

Can your youngster use only index cards and tape to create a building that will withstand strong "winds"?

First, have him make a house of cards that has a roof and walls. (It should be at least 1-ft. tall.) He could tape together several cards in a stack for the roof and then support the stack with columns made by rolling pieces of paper into tubes.



To test his building's strength, he can stand a few feet away and blow on it with a hair dryer set on low (to mimic wind). Does his building topple over, or does it just scoot along the floor? If the "wind" blows it down, suggest that he redesign and retest it. He'll figure out that a wide base and strong vertical supports affect how well a building can withstand wind.

INSULATE AN ICE CUBE

Engineers design insulation to protect against cold or heat. With your child, look around your home for insulators, such as a soft lunch box, a winter coat, or wall insulation in a basement or an attic. Then, challenge her to design insulation that will keep an ice cube frozen longer.

First, have her gather materials to try, such as tinfoil, plastic wrap, a cotton T-shirt, play dough, a mitten, and a towel. Then, she should test each substance by wrapping it around an ice cube. Help her time how long it takes for the cube to melt and record her findings. What does she think causes one material to work better than another?

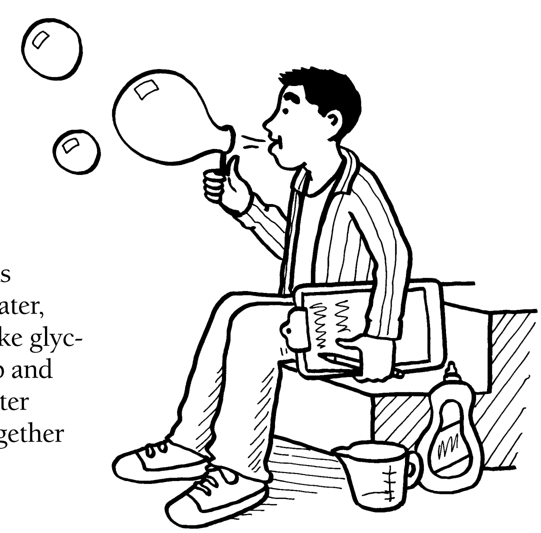
Idea: Have your youngster use the information to build the best possible insulator. She might combine materials or use double or triple layers.

BLOW BETTER BUBBLES

Your child can experiment with chemical engineering by making a longer-lasting bubble.

Ask him to start by trying to create a bubble with just water. He should put 4 cups of water into a pitcher and dip a plastic bubble wand into it. What happens? (The wand won't hold the water.) Next, he can make a bubble solution by adding $\frac{1}{4}$ cup liquid dish soap, $\frac{1}{4}$ cup glycerin or corn syrup, and $\frac{1}{4}$ tsp. sugar to the water. Let him blow a few bubbles, and help him time how long each one lasts before popping. Suggest that he experiment with different quantities of the ingredients and try again. He could record each recipe and the results on a chart to see which formula is the most successful.

You can explain that a bubble is air suspended in liquid. Water by itself won't hold air because it doesn't stretch. But dish soap adds elasticity to the water, and ingredients like glycerin or corn syrup and sugar help the water molecules stay together as a bubble floats.



Bayview Elementary School
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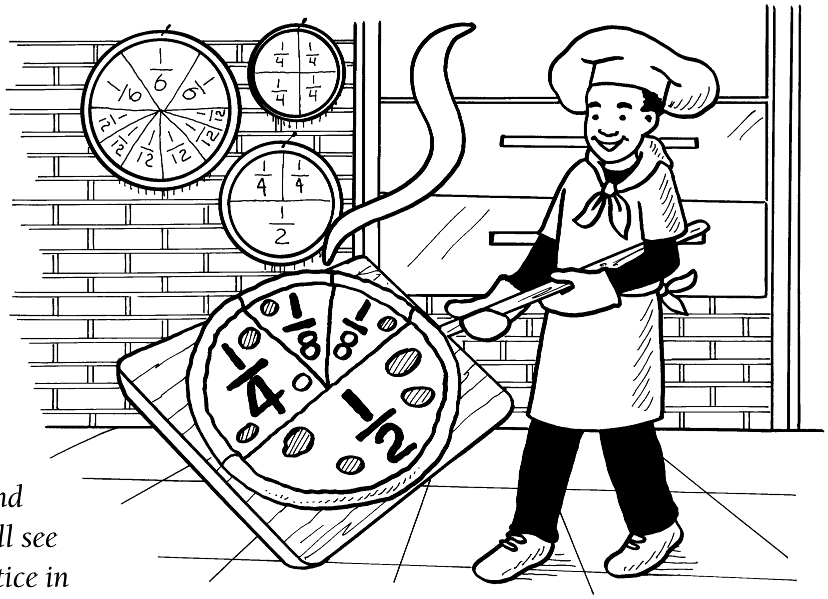
Exploring Fractions & Decimals



What does eating a snack, taking a car trip, or reading the newspaper have to do with fractions and decimals? With these activities, your youngster will see the connections to his everyday life—and get practice in using numbers that represent parts of a whole.

Play with pizzas

"I'd like a pizza with $\frac{1}{6}$ sausage, $\frac{1}{6}$ mushroom, and $\frac{2}{3}$ pepperoni!" Your child can use pretend pizzas to create and add *equivalent* fractions.

Get eight paper plates, and have him draw a different pizza topping (pepperoni, green pepper, pineapple) on each one. Let him use a ruler to draw lines dividing each pizza into a different number of equal pieces—halves, thirds, fourths, fifths, sixths, eighths, and twelfths. He can cut on the lines to make slices and label the backs with the correct fractions. So for the pizza with 6 slices, he would label each piece "$\frac{1}{6}$."

Then, ask your youngster to mix and match the different fractions to make whole pizzas. For instance, he could put together one pizza with two $\frac{1}{6}$ pieces and two $\frac{1}{3}$ pieces ($\frac{2}{6} = \frac{1}{3}$, and $\frac{2}{3} + \frac{1}{3} = 1$). How many combinations can he come up with? Suggest that he keep track by writing addition sentences with the fractions that equal 1 (*example:* $\frac{1}{2}$ cheese + $\frac{1}{4}$ sausage + $\frac{2}{8}$ spinach = 1 pizza).

Idea: Follow up with a pizza party for dinner, and let your child hand out fractional pieces to everyone!

Sort and snack

Here's a tasty way for your youngster to make up and solve fraction addition and subtraction problems.

Have her put 20 pieces of trail mix on a plate and sort them by ingredient. Then, take turns coming up with word problems using fractions. Say there are 7 pretzels, 6 crackers, 4 peanuts, and 3 chocolate chips. You could ask, "If you ate all of the crackers and peanuts, what fraction of the total pieces did you eat?" (*Answer:* $\frac{1}{2}$, because 6 crackers + 4 peanuts = 10 pieces, and 10 is $\frac{1}{2}$ of the total 20 pieces.) Or she might say, "If I eat 2 chocolate chips, what fraction of my chocolate chips will be left?" (*Answer:* $\frac{1}{3}$. She ate 2 of the 3 chocolate chips, which is $\frac{2}{3}$, and $\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$.)

As you share the snack, continue creating new fraction problems. Or spill out more trail mix to change the numbers, and start again.

How much farther?

Get your child thinking about fractional parts of a road trip with this twist on the question, "Are we there yet?"

Before a car trip, tell your youngster the number of miles to your destination, and set the trip odometer to zero. Along the way, read the odometer aloud, and ask him what fraction of the trip's length you've gone so far. For example, if your trip is 50 miles and you've traveled 20 miles, you've gone $\frac{2}{5}$ of the

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way. What portion is left? He should say $\frac{3}{5}$. Then, challenge him to turn those fractions into decimals ($\frac{2}{5} = \frac{4}{10} = 0.4$, and $\frac{3}{5} = \frac{6}{10} = 0.6$).

Read all about it!

Newspapers are full of decimals. Encourage your youngster to look through the paper for numbers that include decimals. Her goal? To find ones that add up to exactly 100—without going over. She'll practice adding decimals, and she'll see how decimal numbers are used for many purposes.

She might find a baseball player's batting average (.275), the price of a gallon of gas ($3.79), and the magnitude of an earthquake (5.8). After she writes each number, she can add it to her total. As she gets close to 100, she'll need to find smaller numbers to avoid going over. How many days of newspapers will it take for her to add up to exactly 100?

Tip: Suggest that your child record all the ways decimals are used. How many can she find?

Estimate the bill

Your youngster uses decimals every time he reads a price tag or counts money. With this activity, he can use prices to practice rounding decimals.

Let him carry a small notebook and a pencil around the grocery store and round items in your cart to the nearest dollar. Tell him he will need to look at the numbers after the decimal—if it's $0.50 or higher, he would round up to the next dollar, and if it's $0.49 or below, he would round down. For example, if you put a $3.45 box of cereal in the cart, he should write $3. And if you get a $1.57 bag of raisins, he would write $2.

Before you check out, encourage him to add the numbers in his head—he'll practice "mental math" as he estimates your total bill. How close did he come?

Variation: In a restaurant, your child could use a menu to round and add up the prices of items you order. When you get your bill, he can compare his amount to the total before taxes.

Build a decimal

Who can make a decimal that's closest to 1? To 0? This game gives your youngster a chance to find out.

You'll need a deck of playing cards (face cards and jokers removed). Also, each player gets a button (to represent a decimal point) and a card with a zero on it (to put before the decimal).

The dealer announces a "rule" for the round and deals three cards to each player. Her rule tells players how to arrange their cards to create a decimal. For instance, the rule might be to make the decimal closest to 1 or the decimal closest to 0.

Then, each person arranges her cards faceup, using the button as a decimal point. If the rule is to create the decimal closest to 1 and your cards are 5, 1, and 7, you should make 0.751. Read your numbers aloud, and the dealer declares the winner (751 thousandths beats 643 thousandths, for example). That person keeps all the cards and becomes the next dealer. Play until the cards are used up. The person with the most cards wins.

Tip: Have the dealer make a number line from 0 to 1 and write the decimals on the line. That's an easy way to see which number is closest to 0 or 1.

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Excellent Experiments

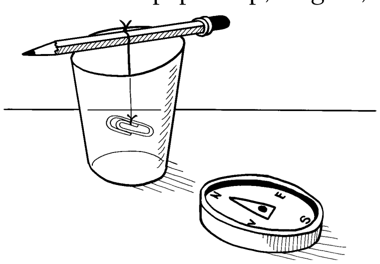
Exploring the world, from a small penny to the vast night sky, can teach your child about science. With these experiments, your youngster will learn about chemical reactions, simple machines, moon phases, mold growth, and more.

All you need are household materials and a little time. Then, help your child conduct these experiments—and watch him learn to think like a scientist.

Make a compass

Does your child know that the earth's north and south poles are magnetic? This experiment will show him the proof.

You'll need: paper clip, magnet, string, pencil, clear cup



Here's how: First, your youngster will need to make one end of the paper clip magnetic by rubbing it along the magnet about two dozen times (rub in the same direction each time). To test it, he can hold the clip to the refrigerator to see if it sticks. Next, help him tie one end of a string tightly around the center of the paper clip so the clip hangs horizontally. He should tie the other end around the middle of a pencil and lay the pencil across the cup so the paper clip hangs freely.

What happens? When the paper clip stops moving, the magnetic end will point north.

Why? The earth has a magnetic field, which is strongest at the North Pole. But if your child holds the magnet close to the paper clip, the clip will turn toward the magnet. That's because the magnetic field of the magnet is closer than that of the North Pole.

Create a scent

Making perfume is a fun way for your youngster to learn about *diffusion*, or the way that matter spreads through a liquid.

You'll need: water, measuring cup, 2 bowls, scented natural objects (lemon or orange peels, flowers, pine needles), coffee filters, funnel, small clean jar with a lid, food coloring

Here's how: Have your child measure 1 cup of water into a bowl. Ask her what the water smells like (it will have no odor). Then, she can add any scented item, or combination of items, to the water. Let the mixture sit overnight. The next day, she should strain the liquid through the coffee filter into the other bowl and smell it again. She can use a funnel to pour her perfume into the jar so she can keep it.

What happens? The water will smell like the objects she added.

Why? Molecules from the items spread, or *diffuse*, into the water. They start out close together and gradually get farther apart until they're spread evenly throughout the liquid. *Idea:* Your youngster can watch diffusion happen if she adds a drop of food coloring to the water.

Raise a flag

A simple machine has no moving parts, yet it makes objects easier to move. This activity will show your child how one simple machine, a *pulley*, can help raise and lower a flag.

You'll need: 4-foot piece of string, paper, crayons, tape, spool, pencil (pencil must fit through the spool and turn easily)

Here's how: Help your youngster tie the string together into a loop. Then, let him draw and color a flag and tape its left edge to the string. Have him slide the spool to the center of the pencil and hang the string over the spool (the flag should be at the bottom of the loop). To work his pulley, he can pull down on the loop of string opposite from the flag.

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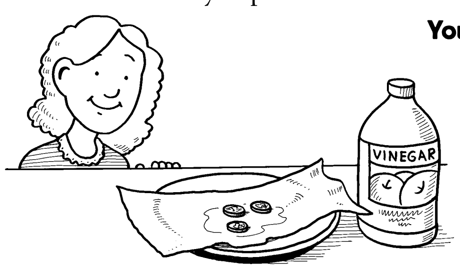
What happens? The flag can be raised and lowered.

Why? In science, "work" means using force to move an object. Simple machines do some of the work for us so that we need less force to make something move. In this experiment, the spool and string make a pulley, which directs the force your child puts on the string to move the flag up and down.

Tip: Ask your youngster to think about the flagpole at his school. Without a pulley, the flag raisers wouldn't be able to get the flag to the top of the pole.

Cause a reaction

Why is the Statue of Liberty green? Your child will find out with this chemistry experiment.



You'll need: several pennies, paper towel, shallow dish, vinegar

Here's how: Have your youngster lay the pennies on a paper towel in a shallow dish. Next, have her pour a little vinegar onto the paper towel, leaving the tops of the pennies exposed to the air. She should check on them in an hour or two to observe any changes in their color.

What happens? The tops of the pennies will begin to turn greenish.

Why? Pennies, like the Statue of Liberty, are coated with copper. When copper is exposed to the oxygen in the air, it causes a chemical reaction that creates a green substance called copper oxide. Acids in liquids (such as vinegar) speed up the reaction. In the statue's case, the combination of exposure to air and the acid in rain has caused it to turn green.

Find a full moon

The moon makes a full circle around the earth every 28 days. Encourage your youngster to follow and then predict the patterns of the moon's cycle.

You'll need: calendar, pencil

Here's how: On a clear night, take your child outside with a calendar and a pencil. Have her draw the moon in that day's calendar square and write words describing it ("completely dark," "a tiny sliver," "a perfect circle"). *Note*: If she can't see the moon, she would draw nothing. After 28 days, she can look over the calendar to find a pattern. Then, ask her to use the calendar to predict what the moon will look like on any particular day next month.

What happens? The moon moves in a regular pattern—it appears to get bigger and then smaller.

Why? "Moonlight" is actually sunlight reflected off the moon. As the moon travels around the earth (once every 28 days), the planet blocks some or all of the sunlight. When the moon is between the sun and the earth, all the light is blocked—we see the side of the moon that's completely dark, so it seems to be invisible. When the entire bright side of the moon faces the earth, we call it a "full moon."

Discover mold

Where does mold come from? Your child can find out with this experiment.

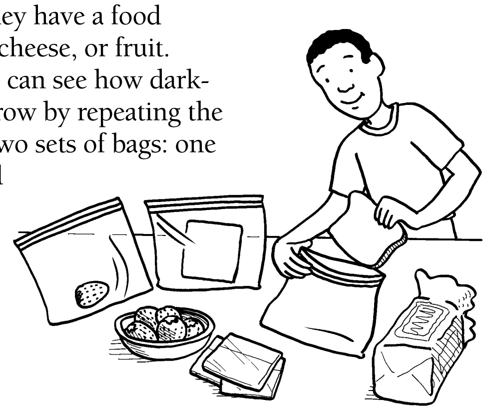
You'll need: 1 slice of bread, 1 slice of cheese, small piece of fruit (grape, strawberry), 3 zipper bags, teaspoon, water, notebook, pencil, crayons

Here's how: Have your youngster put each food in a separate zipper bag. He should add 1 tsp. of water to each bag and seal it tightly. Have him observe the changes daily and record what he sees (in words and pictures) in his notebook.

What happens? Mold appears on the food.

Why? Mold is everywhere. It is a *fungus*, a living thing that gets its nutrients from the food it grows on. Because mold starts out as microscopic *spores*, we don't see it until it begins to grow. Mold spores grow quickly in dark, wet places—especially when they have a food source like bread, cheese, or fruit.

Idea: Your child can see how darkness helps mold grow by repeating the experiment with two sets of bags: one set in the light and another in a dark cabinet. In which place does mold grow faster?



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Bayview Elementary School
Mrs. Tonya Frost, Principal

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.

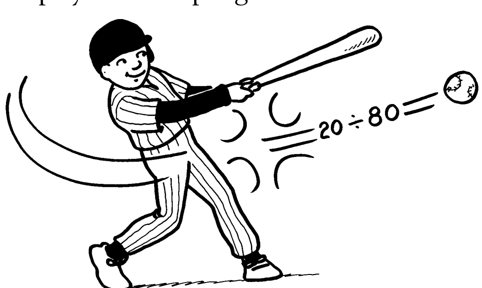
Around the house

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

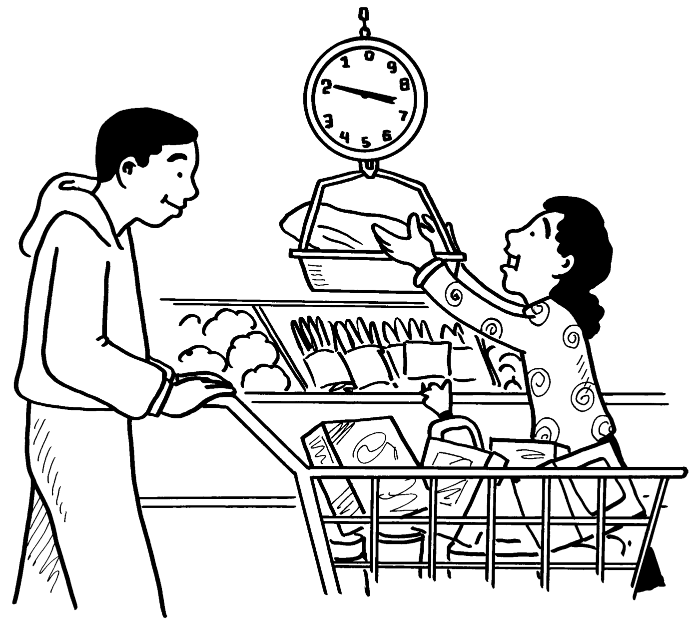
Play with place value

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 x 4 = 20, 4 x 5 = 20, 20 ÷ 4 = 5, and 20 ÷ 5 = 4.



At the store

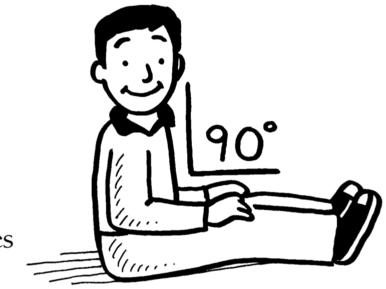
Estimate produce prices

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 x 2 = $2.00, and 20 cents x 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 x 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

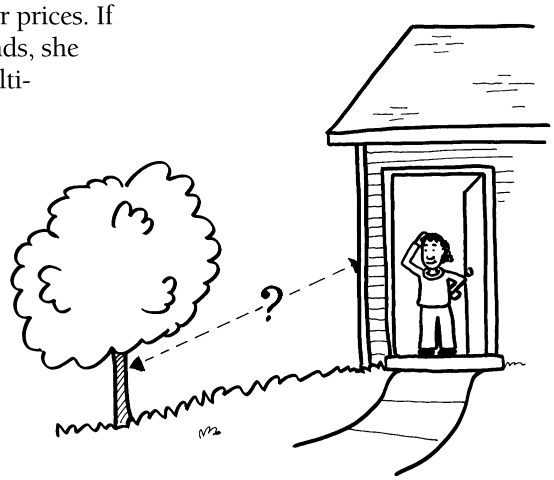


Find angles

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 feet ÷ 3 feet) on her map.



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