Math Games

15 ideas, in 15 minutes or less

PHOTO: RICHARD CLARK/VETTA/GETTY IMAGES

Math games bring out kids' natural love of numbers. Yet in the waning days of school, your students can't wait for that final bell to ring. "Each summer, most students lose about two months of mathematical computation skills," says Harris Cooper, chair of the department of psychology and neuroscience at Duke University. So how do you keep your students focused on math up till the end? Before sending them off for the summer, get them hooked on math with these fun, bite-size activities! *By Natalie Lorenzi*

5 minutes

1. Simon Says, "Geometry!"

Ramp up this traditional game by having kids illustrate the following geometric terms using only their arms: parallel and perpendicular lines; acute, right, and obtuse angles; and 0-, 90-, and 180-degree angles.

■ **Challenge:** Increase the pace of the commands and see if your students can keep up!

2. 'Round the Block

Have students stand in a square. Give one of them a ball and a math challenge that requires a list of responses, such as counting by twos or naming shapes that have right angles. Before the student answers, he passes the ball to the person next to him. Children pass the ball around the square as quickly as they can, and the student must give the answer before the ball comes back to him.

■ **Challenge:** When the correct answer is given, the child who has the ball must respond to the next

5 minutes

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challenge, sending the ball back around the circle in the opposite direction.

3. Bouncing Sums

Cover a beach ball with numbers (use a permanent marker or sticky labels). Toss the ball to one student and have her call out the number that her right thumb touches. She tosses it to the next student, who does the same and then adds his number to the first. Continue for five minutes and record the sum. Each time you play the game, add the sum to a graph. On which day did you reach the highest sum? The lowest?

■ **Challenge:** Use fractions, decimals, or a mix of negative and positive integers.

4. Straw Poll

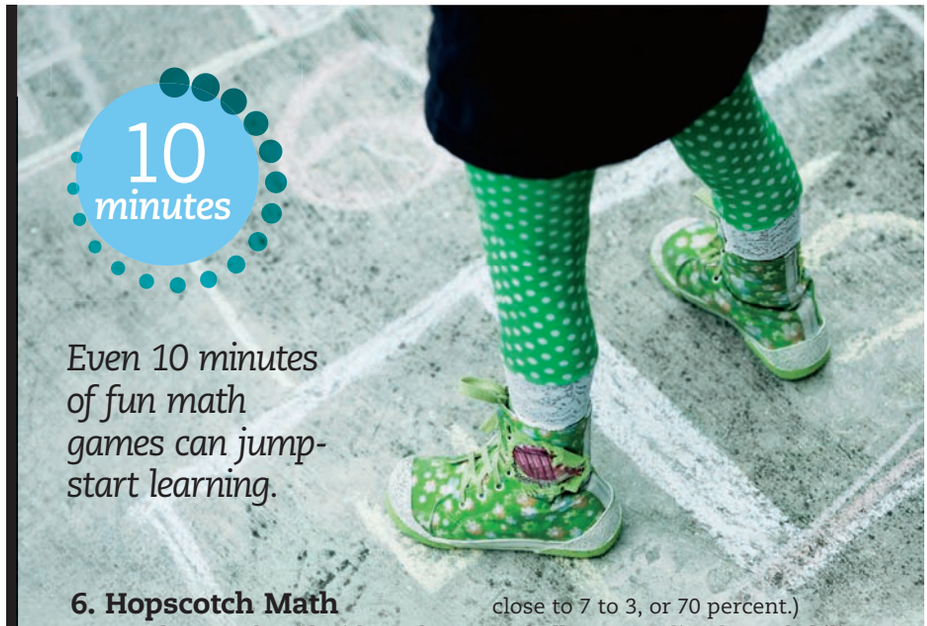
Ask a question and let students vote by placing a straw in one of several plastic cups, each labeled with a different answer. Later, younger students can graph the results, while older kids calculate the ratio and percentage for each response.

■ **Challenge:** If the entire school body was polled, and assuming each response got the same percentage of votes, how many votes would there be in each cup? What if your town was polled? Your state? The U.S.?

5. Shaving Equations

Place a dollop of shaving cream on each student's desk, and ask them to solve equations by "writing" in the cream.

■ **Challenge:** Ask students to set up a problem. On your signal, have them rotate to the desk adjacent to theirs and solve that problem. Have kids check answers at their desks before starting a new round.



10 minutes

Even 10 minutes of fun math games can jump-start learning.

6. Hopscotch Math

Set up a hopscotch grid with a calculator layout. With older kids, you can include the square root symbol and negative integer sign. Students first hop on one number, then an operation, another number, the equal sign, and finally the answer. For double-digit answers, students can split their last hop so that their left foot lands on the digit in the 10s place and their right foot lands on the digit in the ones place.

■ **Challenge:** The student taking a turn tosses a stone onto a number and must avoid that number in the equation.

7. Global Probability

Seventy percent of Earth is covered with water. Test this statistic by having students stand in a circle and toss an inflatable globe to one another. When a student catches the globe, record whether the student's left thumb is touching land or water. That student tosses the ball to a classmate and then sits down. Once everyone is seated, determine the ratio of the number of times students' thumbs touched water to the number of times they touched land. Record the ratio and repeat the activity on other days. (Over time, the ratio should be fairly close to 7 to 3, or 70 percent.)

■ **Challenge:** Predict the probability that someone's thumb will land on any of the continents based on the ratio of the area of each continent's landmass to that of the planet as a whole.

8. Sweet Math

Model this activity with one package of Skittles or M&Ms and a document camera, or let each student have his or her own package. Younger students can graph the contents of their packages by color. Older students can calculate the ratio of each color compared with the total number of pieces of candy in their packages.

■ **Challenge:** Compile the class results into one graph, then have each student compare his or her ratio to the ratio for the entire class.

9. It's in the Cards

For a twist on the traditional card game war, assign values of 1 to the ace, 11 to the jack, 12 to the queen, and 13 to the king, and face value for the cards two through 10 (for younger children, limit the game to number cards only). Playing in pairs, each student lays two cards faceup, then subtracts the lower number from the higher. Whoever has the higher answer wins all four cards.

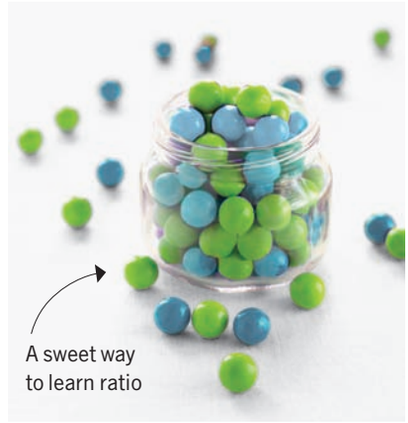
If the totals are the same, the players flip over two more cards and repeat until there is a winner.

■ **Challenge:** Use the two cards to form a fraction, and then compare to see who has the larger fraction. If they are equivalent, repeat until someone wins the round.

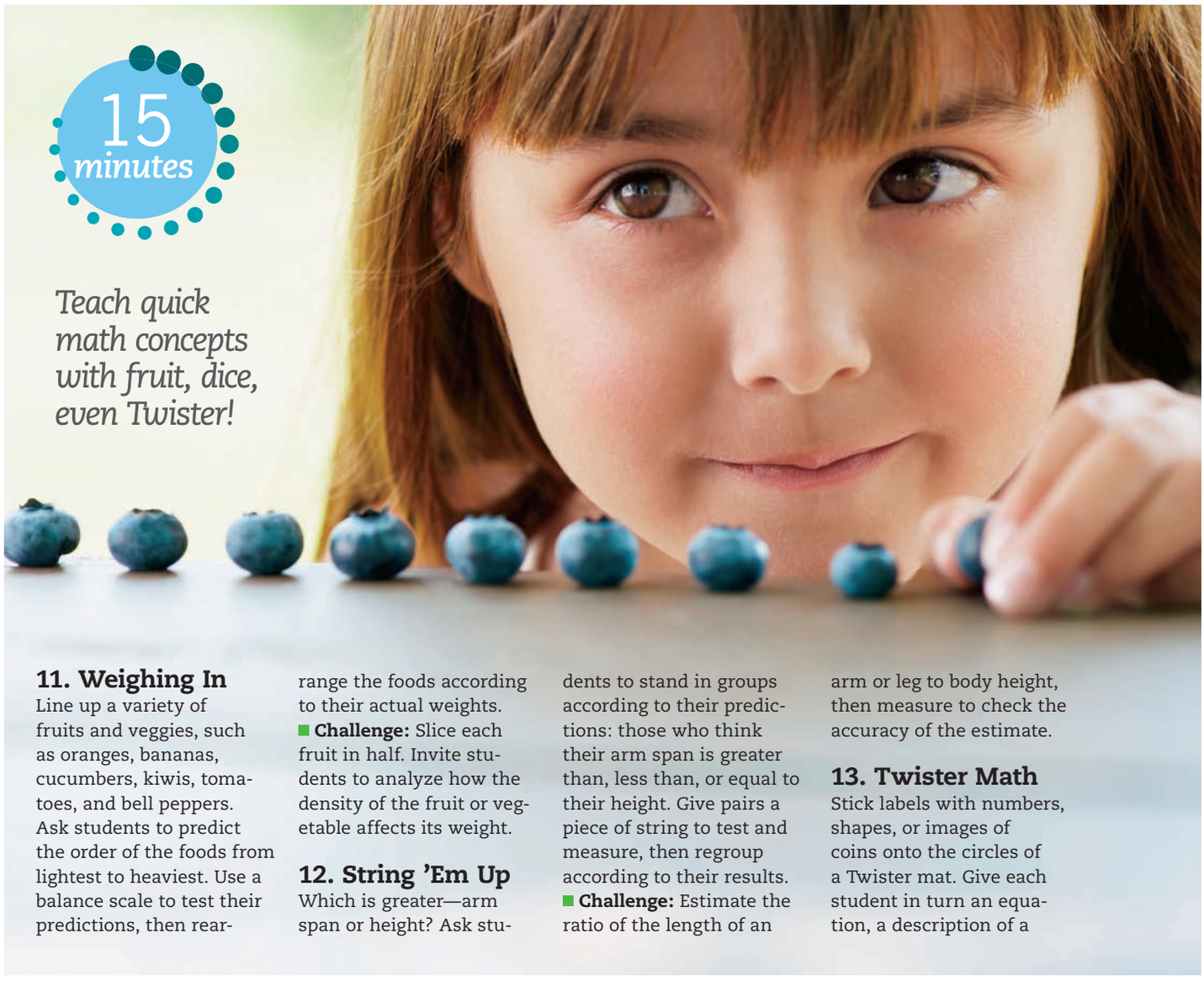
10. Priceless Verse

Give each group of four or five students some play money—a one-dollar bill, two quarters, three dimes, four nickels, and five pennies. Read the poem "Smart" by Shel Silverstein, and have students exchange money according to each stanza. ("My dad gave me a one dollar bill/'Cause I'm his smartest son/And I swapped it for two shiny quarters/'Cause two is more than one!") Ask younger students if the person who started with a dollar got a good deal or not. Older students can calculate how much the child in the poem lost with each exchange.

■ **Challenge:** Use a calculator to determine the percentage lost with each exchange.



A sweet way to learn ratio



Teach quick math concepts with fruit, dice, even Twister!

11. Weighing In

Line up a variety of fruits and veggies, such as oranges, bananas, cucumbers, kiwis, tomatoes, and bell peppers. Ask students to predict the order of the foods from lightest to heaviest. Use a balance scale to test their predictions, then rearrange the foods according to their actual weights.

■ **Challenge:** Slice each fruit in half. Invite students to analyze how the density of the fruit or vegetable affects its weight.

12. String 'Em Up

Which is greater—arm span or height? Ask students to stand in groups according to their predictions: those who think their arm span is greater than, less than, or equal to their height. Give pairs a piece of string to test and measure, then regroup according to their results.

■ **Challenge:** Estimate the ratio of the length of an arm or leg to body height, then measure to check the accuracy of the estimate.

13. Twister Math

Stick labels with numbers, shapes, or images of coins onto the circles of a Twister mat. Give each student in turn an equation, a description of a

PHOTOS (CLOCKWISE FROM LEFT): GLOW IMAGES/GETTY IMAGES; KATHARINE POLLAK/THE FOOD PASSIONATES/CORBIS; FANCY/MEDIA BAKERY

15 minutes

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shape, or an amount of money, then have the student place his or her hand or foot on the answer.

■ **Challenge:** Label the mat with numbers ending in zero, then call out numbers and tell kids they must round up or down to the nearest answer.

14. One-Meter Dash

Hand groups of students a meter stick, a pencil, and a sheet of paper each. Allow them a few minutes to jot down three items in the room whose length they predict will add up to one meter. Then give them five minutes to measure the items and record their lengths and add them together. Have groups report their results. Which group came closest to one meter?

■ **Challenge:** Students measure to the nearest 1/8 inch, then convert their measurements to decimals.

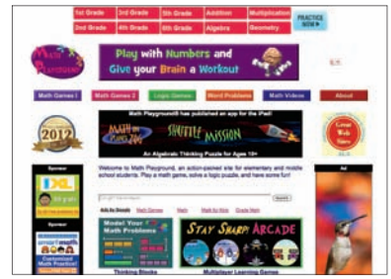
15. Number Builders

Give each pair of students a die with six to nine sides. Have them set up blanks for the digits in a number. (Their numbers should be the same length, from four to nine digits long.) Before playing, decide if the highest or lowest number will win. Students take turns rolling the die and filling in blanks. Once a number has been written, it cannot be changed. Roll until all blanks are filled, and then compare the numbers. If time permits, have students subtract to find the difference between their numbers.

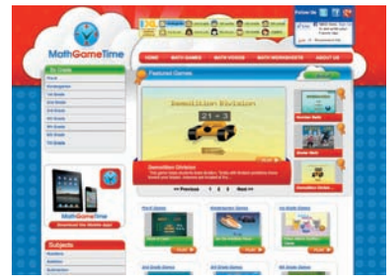
■ **Challenge:** Instead of building an integer, build a fraction or decimal. □

WEB MATH GAMES in 15 minutes or less

1. IXL Learning This site has plenty of activities and games to help students in grades K–8. Linear functions, probability, and more! ***ixl.com***



2. Math Playground Shuttle missions, flashcards, and arcade games are only a few of the fun games offered. Take advantage of these lessons for a variety of math subjects and grade levels. ***mathplayground.com***



3. Math Game Time Check out these fun and educational games for students in grades PreK–7. In addition to math games, students can practice their skills with free math worksheets. ***mathgametime.com***

Teachers' Picks
The best books and products for the classroom.

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