

## TEACHERS ACTIVITIES



### Theme:

Math is such an integral part of our lives that we often don't realize we are using it. Chaos may result, however, when we forget how much math can help us.

### Topics For Discussion:

Ask students what it means to be well organized. Talk about why organization is important in most aspects of our lives. Pose some questions for discussion, such as "What would happen if nothing in our classroom were organized?"; "What would happen if a fast-food restaurant (or other place of business) was not organized?"; "What happens if we are disorganized when we are trying to get ready for school in the morning?"



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Before viewing the program, ask students the question that LeVar asks, "Where have you used math today?" Make a list of their responses on the board. After they have watched the program, add any new examples they think of to the list.



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Before viewing the program, have students identify some occupations that require a great deal of math. Discuss how and why workers in these jobs use math.



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Invite students to share their experiences with having "one of those days"—the kind of day when nothing seems to go right!

### Curriculum Extension Activities:

"Math Cure," the *READING RAINBOW* program, and *Math Curse*, the book, both contain a great deal of math vocabulary. Before students see either one, brainstorm a list of math terms and have students arrive at definitions for them. After they have viewed the program and read the book, they will be able to add many more words to the list.

Have students take an inventory of ways in which math is used in the operation of the school (not including math classes). Send pairs of students to interview school personnel, such as the nurse, secretary, custodian, principal, physical education teacher, music teacher, art teacher, library media specialist, etc., about work they do that involves math in some way. Bring the results back to the classroom and start tabulating what will likely be a very long list.



Obtain a supply of styrofoam packing peanuts and some boxes or other containers in different shapes and sizes. Have students first estimate the number of peanuts that will fill each container and then count to determine the accuracy of their estimates.



Place a common object in a box that does not conform to its shape (if possible) or size. Have students ask math-related questions to determine what the object is. For example, they might ask, "Is it a round shape?"; "Is it larger than a tennis ball?"; or "Is it as long as a ruler?" Let students take turns putting different objects in boxes and have others guess. Pre-determine the number of questions that can be asked before the person holding the box finally reveals the object.



Provide supplies, such as heavy paper, cardboard, tape, string, and staples, and have students work in small groups to make a box for an object that has an unusual shape. Objects such as a ball cap, a broom, a mug, a tennis racket, etc., might pose interesting challenges.



Introduce students to the concept of managing their time by having them think about how long it takes them to complete different school tasks. Prepare a recording sheet on which students can make the following prediction: "I think it will take me \_\_\_\_\_ minutes to do my spelling (or math page or read my book, etc.)." As always, stress the importance of working accurately and carefully. Have students assess how much time was actually needed to complete the tasks. Discuss the fact that some tasks require more time than others and why. (This activity is particularly useful for students who typically delay starting a task and then need to rush to finish or do not finish.)

Obtain a copy of *Math Curse* and have students to examine it for the many clever examples of math language and concepts that make up the entire book. All of the design features of the book contain math references, including the book jacket, the dedication page, the publisher's information page, and the information about the authors. Depending on the age level of the students, some of the math references will require explanation.



The last page of the book suggests that our daily lives are also filled with science experiments. Have students think of one fairly common activity or material that is related to a scientific principle or formulated through science and illustrate it. Collect all of the pages into a book and let students think of a clever title.

### Supplemental Books:

WHAT COMES IN 2'S, 3'S, & 4'S?

by Suzanne Aker, illus. by Bernie Karlin (Simon & Schuster)

ANNO'S MATH GAMES

by Mitsumasa Anno (Philomel)

MATH IN THE BATH (AND OTHER FUN PLACES, TOO!)

by Sara Atherlay, illus. by Megan Halsey (Simon & Schuster)

COUNTING ON FRANK

by Rod Clement (Gareth Stevens)

HOW MANY BEARS?

by Cooper Edens, illus. by Marjett Schille (Atheneum)

BOXES! BOXES!

by Leonard Everett Fisher (Viking)

MATH MINI-MYSTERIES

by Sandra Markle (Atheneum)

PICKING PEAS FOR A PENNY

by Angela Shelf Medearis, illus. by Charles Shaw (State House Press)

BETCHA!

by Stuart J. Murphy, illus. by S.D. Schindler (HarperCollins)

PATTERN ("Math Counts" series)

by Henry Pluckrose (Children's Press)

HOW MANY, HOW MANY, HOW MANY

by Rick Walton, illus. by Cynthia Jabar (Candlewick Press)

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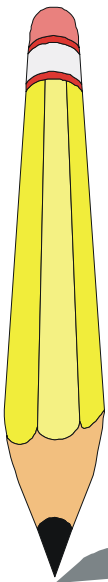


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- **Estimation.** Obtain a supply of styrofoam packing peanuts and some boxes or other containers in various shapes and sizes (e.g., oatmeal box, cereal box, aluminum foil box, saltines box, margarine tub, etc.). Have students first estimate the number of peanuts that will fill each container (posing such questions as, “Which container will hold more peanuts—the cereal box or the oatmeal box?”) and then count to determine the accuracy of their estimates.

- **Understanding spatial relationships and reproducing a pattern.** Have students use manila drawing paper that is pre-marked with one-inch squares to create a “tile” picture. Make available construction paper in a variety of colors cut into one-inch squares. Instruct students to reproduce their picture from the squared paper onto another piece of paper using the construction paper squares. Once they have their picture in place, have them glue the squares to the background and display their creations.



- **Making a graph.** Make a birthday pictograph that shows the birthday, by month, of everyone in the class. List the names of the months down the left side of a large sheet of paper. Give each student one of the cake patterns on the reproducible page to cut out and color (or glue their photocopied school picture to). Have each student write her/his name and birth date on the cake and glue it next to the appropriate month. Use the graph data to create math problems, such as “Which month has the most birthdays?” and “Which months have the same number of birthdays?”

- **Creative problem solving.** Place a common object in a box that is not the same shape (if possible) or size. Have students ask math-related questions to determine what the object is. For example, they might ask, “Is the shape round?”, “Is it as long as our math book?”, or “Is it smaller than a lunch box?” Let students take turns putting different objects in the box and have others guess. Pre-determine the number of questions that can be asked before the person holding the box finally reveals the object.

- **Alternative units of measurement.** Divide the students into small groups and have each group search the classroom for items that could serve as units of measurement, such as crayons, pencils, chalk/marker board erasers, paper clips, paper cut into strips, and many other items. Encourage students to be creative in their choices. Then have each group devise two measurement tasks (e.g., the width of the classroom door in paper clips or the distance across the room in math books, etc.) and complete them, first by estimating and then by actually calculating the number of items. (Some of their calculations will require problem solving.) After the groups have finished their problems, have them set up measurement stations containing the items their group used and a sign stating the two tasks. In the days following, have groups visit the different stations and do the tasks.

• **Fractions and measurement through cooking.** Make a fruit pizza with students, using the recipe below. Before cooking, cut out several construction paper circles that are the same size as the pizza pan. Cut some of the circles in eight equal slices and leave the others whole. Give each student a paper slice and display the whole circles on the board. In order to determine how many fruit pizzas the class will need to make so that everyone has a slice (including the teacher), have each student attach a slice to the whole circle. In the case of a fractional pizza, discuss the practicality of the different options (e.g., make one pizza smaller, make a full-sized pizza and share the extra pieces with other school personnel, etc.). When cooking with students, stress the importance of accurate measurement of ingredients, baking time, and temperature.

### Fruit Pizza

*Mix these ingredients well:*

1/2 cup shortening, part butter

3/4 cup sugar

1 egg

*Add the following:*

1 1/2 cups flour

1/2 tsp baking soda

1 tsp. cream of tartar

dash of salt

*Mix all ingredients and pat down into a greased pizza pan. Bake at 400° for 12 minutes until light brown.*

*Mix together:*

8 oz. softened cream cheese

1/2 cup sugar

1-2 tbsp. fruit juice or water

Frost the pizza with cream cheese mixture then decorate with fruit toppings, such as strawberries, pineapple, mandarin oranges, bananas, kiwi, grapes, etc.

**Calculating.** Obtain a copy of the book, *Math Curse*, and do some of the math suggested. For example, calculate how many fingers, ears, and tongues there are in the classroom. Also, have students figure out how many *days* old they are and how many M & Ms tall they are (if an M & M is one centimeter). Invite students to think of additional math problems.

## Do-At-Home Activity

- **Math is everywhere!** Send home the around-the-house reproducible sheet and invite families to look for examples of math inside and outside their homes. Discuss possibilities with students ahead of time. The resulting list, for example, could be quite lengthy and include such items as clocks, timers, calendars, window panes, the house/apartment (or mailbox) number, measuring cups, clothing and shoe sizes, calculators, and *many* more. Have students return their sheets to school and display them on a “Math Is Everywhere” bulletin board that the class has decorated with magazine and catalog picture cutouts of math-related items.
- **Time.** The little girl in *Math Curse* calculated how long it took her to get ready for school. Have students, with the assistance of their family members, use the “Time for School” reproducible sheet to figure out how long they need to get ready for school. Have them return the sheets to school and compare the figures.

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