

## TLC Elementary School Lesson Plan Math Investigations I

### Subject

Mathematics

### Grade level

1

### Duration

One or two class periods

### Objectives

Students will:

- brainstorm how math is used in daily life;
- develop a class list of different topic areas in which math is used; and
- work in small groups to think of specific examples of how math is an important part of their lives.

### Materials

- Paper and pencils
- Newsprint and markers
- *Math Investigations I* video and VCR

### Procedures

1. Begin by asking students how they think math is used in daily life. Suggest that math is used in cooking and baking. For example, to bake chocolate chip cookies, it is important to follow the directions in the recipe and measure the correct amounts of ingredients. Measuring requires using math.
2. Develop a class list of topic areas that make use of math. Examples include the following:
  - Baseball and other sports
  - Board games
  - Music
  - Redecorating a room
  - Sharing food and toys
  - Using money
3. Divide students into four or five small groups. Assign each group a subject area above or any other areas mentioned by the students. Ask the groups to think of specific examples of how math is used in activities in these areas.
4. Before students break into groups, you may want to show the first two segments of the video, which illustrate examples of math in daily life. Segment 1 features sports, and Segment 2 features music.

5. Give students about 10 minutes to come up with their own examples. You may suggest the following:
  - Keeping score during a soccer game and figuring out how many more points the winning team has.
  - Counting how many spaces to move while playing “Candyland” or other board games.
  - Making sure everyone sings at the same time during a concert.
  - Measuring your room to find out how much paint to buy when redecorating.
  - Cutting an apple in equal parts or sharing a pizza equally.
  - Knowing how to count change when buying lunch at school.
6. Bring students together and have each group present its findings. Students can perform their ideas in a skit, if appropriate. Keep a class list of the examples.
7. Have a final discussion of math’s role in everyday life. Are students surprised at how much math is used? Does this knowledge make them appreciate the importance of studying math?

### **Evaluation**

Use the following three-point rubric to evaluate students’ work during this lesson.

**3 points:** Students participated actively in class discussions; used very creative thinking to develop a list of math examples; delivered a thoughtful and informative presentation.

**2 points:** Students participated in class discussions; used creative thinking to develop a list of math examples; delivered a competent presentation.

**1 point:** Students did not participate in class discussions; had difficulty developing a list of math examples; did not deliver a clear presentation.

### **Vocabulary** **counting**

**Definition:** Determining the number of individual units in a specific context, such as at school or home, or during a game

**Context:** By counting the number of points for each team after a game, you can figure out who won the game.

### **daily life**

**Definition:** The activities that may take place in a typical day

**Context:** Students are often surprised to see how often they use math in daily life.

### **math**

**Definition:** The study of number, quantity, form, and relations

**Context:** Math encompasses many subject areas, including arithmetic, algebra, and geometry.

### **measure**

**Definition:** The length, width, quantity, or capacity of an object or a liquid

**Context:** It is important to measure a room accurately when buying a rug or carpet.

### **Academic Standards**

This lesson plan addresses the following standards from the National Council of Teachers of Mathematics:

#### **Number and Operations Standard Grades Pre-K–2**

Understand numbers, ways of representing numbers, relationships among numbers, and number systems:

- count with understanding and recognize “how many” in sets of objects;
- use multiple models to develop initial understandings of place value and the base-ten number system;
- develop understanding of the relative position and magnitude of whole numbers and of ordinal and cardinal numbers and their connections;
- develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers;
- connect number words and numerals to the quantities they represent, using various physical models and representations;
- understand and represent commonly used fractions, such as  $\frac{1}{4}$ ,  $\frac{1}{3}$ , and  $\frac{1}{2}$ .

Understand meanings of operations and how they relate to one another:

- understand various meanings of addition and subtraction of whole numbers and the relationship between the two operations;
- understand the effects of adding and subtracting whole numbers;
- understand situations that entail multiplication and division, such as equal groupings of objects and sharing equally.

Compute fluently and make reasonable estimates:

- develop and use strategies for whole-number computations, with a focus on addition and subtraction;
- develop fluency with basic number combinations for addition and subtraction;
- use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.

### **Credit**

Marilyn Fenichel, education writer and editor