

## Adding for Eights

### Purpose

Students will solve problems by choosing strategies and tools, explaining their reasoning, making calculations, and checking results.

### Materials

*For the teacher:* overhead projector, two-column overhead transparency  
*For the students:* plastic counters, two-column mat, paper, pencils

### Activity

#### A. Introduction

1. Tell students they will be using counters and a two-column mat to discover different ways of adding to eight.
2. Give each student 20 counters and a two-column mat.
3. Have them count out eight counters.
4. Ask students to make two sets from their eight counters, one set on each side of the mat.
5. Ask and model what different students have as sets.
6. Write addition facts as you model.

#### B. Solving the Original Problem

1. Place students in groups of three or four.
2. Ask the groups to find as many different ways of addition to eight as they can. (Allow groups to use  $5 + 3 = 8$  and  $3 + 5 = 8$  as different answers.)
3. Have each group record its results.
4. Record the results on the overhead.
5. Discuss any patterns that students discover.

#### C. Solving Related Problems

1. Have groups find different ways of adding to other numbers between 2 and 20.
2. Have them continue to record and look for patterns.
3. Direct students to share their results with the class.

(continued)

#### EXTENDING THE ACTIVITY



Ask students to try to find a connection between each starting number and the number of ways of adding to make that number. Ask students to explain the connection.

#### MEETING INDIVIDUAL NEEDS



For students who are interested in a more challenging activity, have them find different ways of adding to larger numbers than those used in class.

Standards Links  
1.1.1, 1.2.1, 1.2.3, 1.3.4

## Activity (continued)

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### D. Generalizing


1. Give students a number between 2 and 20.
2. Ask them to write all the ways to add to that number without using counters, but using patterns they have discovered.


## Questions for Review


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### Basic Concepts and Processes

During the activity, discuss the following questions with your students to gauge their understanding of the Standard Indicators:

 How many ways can you find to add to *[insert number]*?

 What process did you use to find the different ways of making *[insert number]*?

 How do you know that you have found all of the ways to add to *[insert number]*?

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