

Operation!

Purpose

Students will solve problems involving addition, subtraction, multiplication, and division of whole numbers and will use estimation to decide whether answers are reasonable.

Materials

For the teacher: overhead projector, overhead markers, overhead transparency of Black Line Master (BLM) *Operation!*

For each group of 3 students: 15-20 yellow cards with four- and five-digit numbers; 15-20 green cards with two- and three-digit numbers; 1 brad; 2 pieces of cardstock; paper; calculator; copy of BLM *Operation!*

Activity

A. Pre-Activity Preparation

1. For each group of three students, make a set of 15-20 yellow cards on which you write three- and four-digit numbers.
2. For each group of three students, make a set of 15-20 green cards on which you write one- and two-digit numbers.
3. Make spinners using the brads and the pieces of cardstock. Divide each spinner into four sections labeled “+,” “-,” “×,” and “÷.”

B. Introduction

1. Tell students they will be working in groups of three to practice estimating and working problems in addition, subtraction, multiplication, and division.
2. Model the procedure as follows:
 - Draw a yellow card and record the number on it in the first column of the BLM transparency.
 - Spin the dial on the spinner to determine the operation.
 - Place the operation sign next to the first number in the first column of the BLM.
 - Draw a green card.
 - Record the number on the green card to finish the equation.
3. Have students make an estimate of the answer, and record their estimate in the second column of the BLM transparency.

(continued)



INCORPORATING TECHNOLOGY

Have students use an on-line program, such as www.aaamath.com, to practice working problems involving the whole number operations.



MEETING INDIVIDUAL NEEDS

For students who need additional practice in building better estimation skills, begin the game with only one operation card. Add the other three gradually, allowing enough time to build estimation skills within each separate operation.

Standards Link
5.1.2

Activity (continued)

4. Tell students to work the problem on a sheet of paper, ask a volunteer to give the answer, and record the answer in the third column of the BLM transparency.
5. Ask: “Was the estimate close? Why or why not?”

C. Group Activity

1. Hand out cards, spinners, and a copy of the BLM to each group of three students.
2. Tell students to take turns building a problem. Ask students to estimate, calculate, and record each step on the BLM.
3. Have students pass their BLMs to another student in the group to calculate the problem as a check.
4. When students have completed the activity, collect the BLMs and work paper for assessment.





D. Discussion

1. After students have had time to complete the activity, bring the class back together as a whole group.
2. Ask: “Were your estimations almost always close? If not, what was the problem?”
3. Ask: “Were your calculations almost always correct? If not, what was the problem?”

Questions for Review


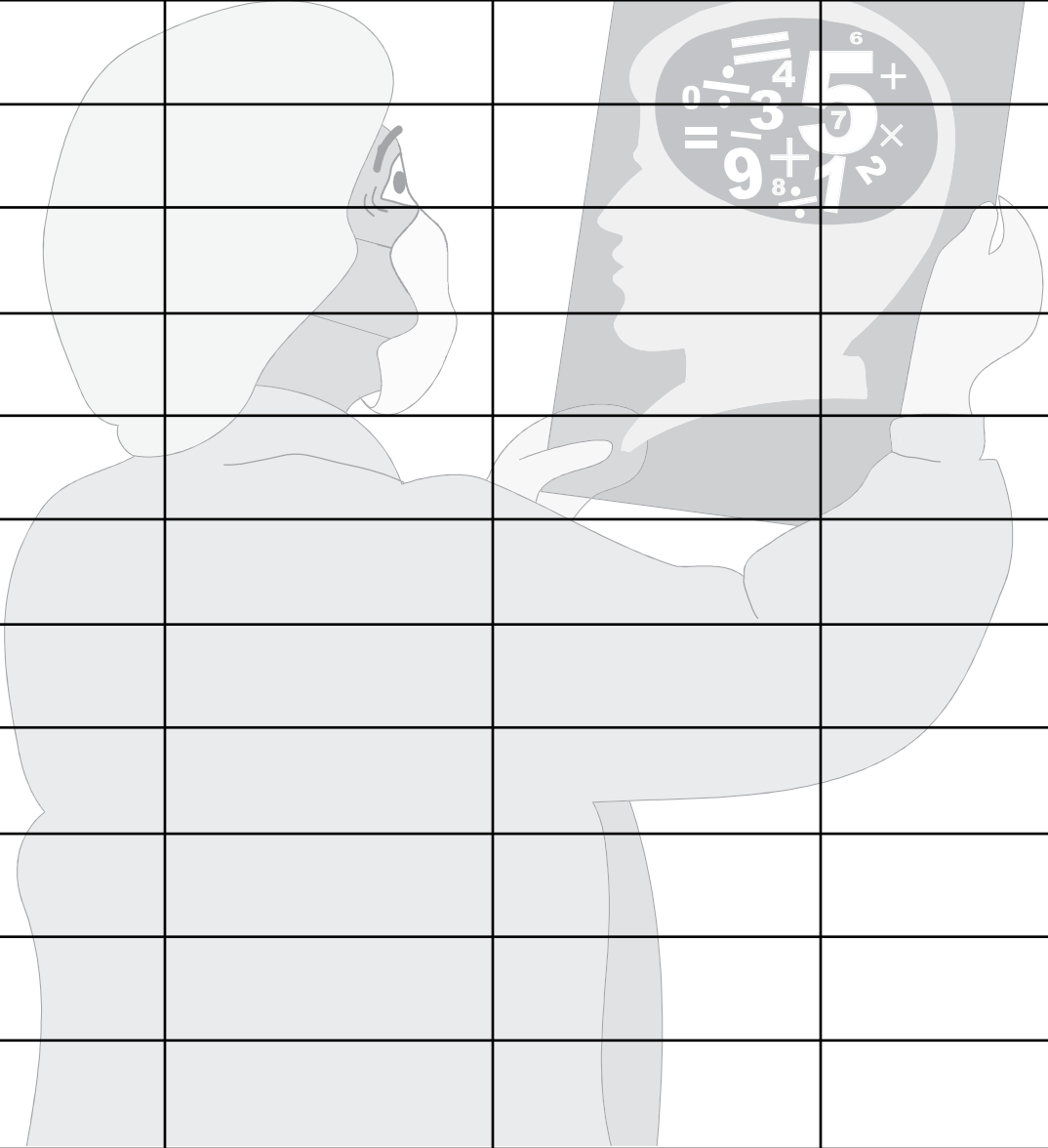
Basic Concepts and Processes

As students are doing the activity, walk around the room and ask the following questions:

-  Have your estimates been close?
 -  How do you decide what the estimate should be?
 -  Have you multiplied/divided that correctly?
 -  Did you remember to regroup?
-

Names: _____

Operation!

Problem	Estimate	Answer	Check
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Operation!

Teacher Directions

Have students use the BLM to record the problems, their estimates, their answers, and their checks. Distribute one copy of the BLM *Operation!* to each group of three students.

Answer Key

Answers will vary.