

Addition and Subtraction

Strand: Computation and Estimation

Topic: Adding and subtracting whole numbers

Primary SOL: 3.3 The student will
a) estimate and determine the sum or difference of two whole numbers.

Related SOL: 3.1a, b

Materials:

- Dominoes
- Domino-Addition Recording Sheet (attached)
- Domino-Subtraction Recording Sheet (attached)

Vocabulary:

add, addend, difference, estimate, place value, regroup, round, strategy, subtract, sum, value

Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Briefly review the concept of place value. Explain that students will play a game whose object is to add numbers shown on dominoes and get a total that is as close to 1,000 as possible without going over.
2. Distribute the Domino-Addition Recording Sheet. Divide the class into groups, and give each group a set of dominoes. Have groups place their dominoes dot-side down on the playing areas.
3. Have each player take a domino from the set and place it on their recording sheet under the “DOMINO” heading. Each player selects a domino at random and places it on their recording sheet. The player decides which side of the domino to place in the tens column and which side to place in the ones column on the recording sheet and records their value.
4. Each player keeps a running record of their domino total on the recording sheet. The player who gets closest to 1,000 without going over is the winner. A player who gets a total of exactly 1,000 earns a bonus point.
5. Distribute the Domino-Subtraction Recording Sheet. Change the game to reinforce subtraction skills by starting with a target number and subtracting the numbers on the dominoes until the total is close to 5 or zero without going below.

Assessment

- **Questions**
 - What strategy did you use for selecting the numbers to be added?
 - How did you decide which side of the domino to place in the ones or tens column?
 - When getting close to 1,000, what type of numbers would you need to use to win the game?
- **Journal/writing prompts**

- Explain how you know when you need to regroup when adding.
- Explain how you know when you need to regroup when subtracting.
- Explain how you knew you were getting close to the sum of 1,000 while playing the game.
- **Other Assessments (include informal assessment ideas)**
 - Circulate to watch and listen as the groups play. Watch for incorrect recording. Answer any questions. Discuss the mathematics involved in the game. Have students share their strategies.
 - If students are struggling to add or subtract traditionally, encourage them to use other strategies for adding and subtracting (i.e.: hundreds chart, number line, drawing a model, etc.).

Extensions and Connections (for all students)

- Have students practice basic addition and subtraction facts.
- If you are using a double-nine set of dominoes, increase the total used as a target. The game can be played using a double-12 or double-15 set of dominoes.

Strategies for Differentiation

- Have students use grid paper to assist them in lining up columns of numbers vertically when adding and subtracting.
- Allow students with designated accommodation to use calculators.
- Allow students with designated accommodation to use a hundreds chart.

Note: The following pages are intended for classroom use for students as a visual aid to learning.



Domino-Addition Recording Sheet

Name: _____ Date: _____

DOMINO	
Tens	Ones

PLACE			
Hundreds	Tens	Ones	
			Domino Value or Previous Value
			Domino Value
			TOTAL
			Domino Value
			TOTAL
			Domino Value
			TOTAL
			Domino Value
			TOTAL
			Domino Value
			TOTAL
			Domino Value
			TOTAL
			Domino Value
			TOTAL



Domino-Subtraction Recording Sheet

Name: _____ Date: _____

DOMINO	
Tens	Ones

PLACE			
Hundreds	Tens	Ones	
			Domino Value or Previous Value
–			Domino Value
			TOTAL
–			Domino Value
			TOTAL
–			Domino Value
			TOTAL
–			Domino Value
			TOTAL
–			Domino Value
			TOTAL
–			Domino Value
			TOTAL