Give and Take From 200

Lesson Overview

Students will change a 3-place number by adding or removing a single block, block-of-10, or block-of-100. They will predict, model and then name the resulting number.

Relevant Chapter in the *Digi-Block Comprehensive Teacher's Guide:*

Book III: Unit 2-2: Adding with Base Ten Representations, pages 49–53

Objectives

Thinking Skills:	Students "see" the value of the base ten model and number code for quickly adding/removing one, ten or one hundred from a number.
Mastery Skills:	Students model and name 3-digit numbers. Students develop mental math strategies as they predict, then check their predictions with blocks. Students compare numbers and name differences of one, ten, or one hundred.

Materials

For the Class Demonstration, each pair of students needs:
- A Place mat

- 3 or 4 blocks-of-100, 10 blocks-of-10, 10 singles

For the Student Activity, each pair needs the materials above, plus:
- 1 die, labeled +1, -1, +10, -10, +100, -100
- "Give and Take From 200" Score Sheet

Class Introduction   (15 minutes)

Designate partner roles and pass out materials.
- One student is the Block Manager, and the second is the Recorder.
- All students begin with the same number of blocks on their mats, for example, 1 block-of-100, 2 blocks-of 10, and 5 singles.

Explain that "Give and Take" is a quick-moving activity and students need to listen especially carefully as they work with the blocks.

To begin, play a round of "Give" only. Students well hear commands, more slowly at first, about which block(s) to "give" to their mat, and then they will name the new number they see. The Recorder lists each number as it is named. Model this on chart paper as well. When the students catch on to the activity, pick up the pace.
- Start with 125, Say -
  - **How many?** (Students say in unison, "125")
  - **Give one.** (The Block Manager places one block on the mat.)
  - **How many?** (26)
  - **Give one. How many?** (27)
  - **Give 100. How many?** (127)
  - **Give 10. How many?** (137)
  - **Give 1. How many?** (138)
  - **Give 10. How many?** (148)
  - **Give 10. How many?** (158)
  - **Give 100. How many?** (258)
  - **Give 10. How many?** (268)
  - **Give 1. How many?** (269)
  - **Give 10. How many?** (279)
  - **Give 1. How many?** (280!)

Depending on students' levels, continue playing additional rounds of "Give," or play "Take," where blocks are removed from the mat. Have students **predict** each new number before showing it with blocks, and then check predictions. Finally, play "Give and Take" where students make the number on the mat larger and smaller by adding and removing blocks of each size.

- An example of "Give and Take" follows:
  - **Begin with 157.**
  - **Give 10. How many?** (167)
  - **Give 100. How many?** (267)
  - **Take 1. How many?** (266)
  - **Give 10. How many?** (276)
  - **Take 100. How many?** (176)
  - **Take 10. How many?** (166)
  - **Take 1. How many?** (165)
  - **Give 100. How many?** (265)
  - **Give 1. How many?** (266)
  - **Take 10. How many?** (256)
  - **Take 10. How many?** (246)
  - **Give 1. How many?** (247)
  - **Take 100. How many?** (147)
  - **Give 1. How many?** (148)
  - **Give 1. How many?** (149)
  - **Take 10. How many?** (139)
  - **Give 1. How many?** (140 – Students pack and move a block-of-10)

Also include instance where students "take" from a multiple of ten. For example, **take 1 from 50**.

See "Closure" section for discussion ideas.

Student Activity   (20 minutes)

Organize students in pairs to play "Give and Take From 200."

- One student is the Recorder and the second is the Block Manger. Each student pair will play with another pair.
- It is also possible for three pairs to play together if the number of students requires this.

Before play, students determine and write the criterion for the winning score. Examples are:

- The smallest final number.
- The largest number.
- The number closest to 200.
- The number with the largest digit in the tens place.

Each team begins with 2 blocks-of-100, or 200, on the mat. They play as follows:

- Student pairs take turns rolling the die.
- The Block Manger gives or takes the indicated block to or from the mat.
- The Recorder writes each new number on the score sheet.
- Pairs repeat the procedure ten times. They name their final number and compare it to the opposing team's to determine the winner.

Closure   (10 minutes)

During the class demonstration, discuss how a number changes when a block is added to the mat. Have students explain how they could predict what a number would be before actually modeling it. Refer to student lists and the column of numbers recorded on chart paper. Students will note:

- When removing or adding one single block, it becomes the counting number before or after.
- When adding or removing a block-of-10 or block-of-100, only the digit in the tens or hundreds place changes. Discuss this "shortcut." Count up or back ten from a number, for example from 26 to 36, to show the counting view of adding/subtracting ten. A number line or hundred chart would be useful. Point out that it takes a lot less time to simply add a block-of-10 ten to a number. Counting up or back 100 would take even longer!

During and after playing "Give and Take From 200," have students share their tenth, or final number. List them.

- Discuss the fact that although they all started with 200, the outcomes were all very different after 10 rolls of the die!

- Ask, **Which number is largest? Smallest? Changed the most? How do you know?**

Assessment

As students work, observe and note:

Do they_

- Readily "see" and recognize a number represented by packed blocks-of-100, blocks-of-10, and ones of the place mat?
- Name a "changed" number without counting up or back?
- Understand the connection between adding/removing 1, 10 and 100 (base ten view) and counting up/back (counting view)?

Extension

- ❑ Have students be Give and Take Detectives! Students study their score sheets from the game and use the numbers as clues to determine what was rolled (+1, -1, +10, -10, +100, -100) during each round of the game. Students record these changes on the Score Sheet.
- ❑ Give students a starting and ending number. Have them list possible "Rolls" (+1, -1, +10, -10, +100, -100) to arrive at the ending number. For example:
  - ▪ Start at 148. End at 273. What did I roll?