



Subtracting on a Number Line Using Constant Difference

The interactive white board tool for this lesson can be found on our website under Resources and Teacher Tools. (www.dreambox.com/teachertools)

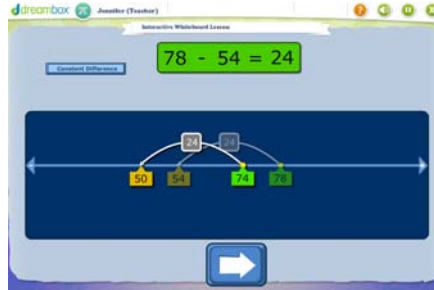
In this DreamBox lesson, students will use the constant difference strategy and an open number line to solve subtraction problems.

Sample Lesson

Objective: Using an open number line, students will explore subtracting numbers using the constant difference strategy.

Background: Students should have working knowledge of landmark numbers.

Instruction:



1. As a warm-up, review landmark numbers.
2. Give each student a worksheet with open number lines. This will give them the opportunity to write down their answers/strategies as well as answers/strategies given by other students. You can have students use different colored pencils to write the original problem and shift of the numbers (the work) on the same number line.
3. Once the first problem ($78 - 54$) is displayed on the interactive whiteboard, ask students to solve the problem using constant difference and show their work on the number line. If they are not sure what the constant difference is, have them develop their own strategy to solve the problem.
4. After a few minutes, allow students to discuss their strategy with a partner. You may want to predetermine the groups matching students who understand the strategy with students who do not.
5. Once students have had a chance to discuss their answers, choose a student to come to the board, work out the problem, and explain how they determined their answer using constant difference. The buttons at the bottom will allow students to move the numbers on the number line to landmark numbers.

In the example below, the following is one possible explanation:

- a) The number 54 was moved to the landmark number 50 and the number 78 moves to 74.
 - b) To move from 74 to 54, you have moved 20 numbers.
 - c) To move from 54 to 50, you move another 4 numbers.
 - d) You move a total of 24 numbers so that is the difference.
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6. Repeat the process, allowing multiple students to come to the board and share their answers.

 7. Collect the number lines at the end of the activity to ensure students understand the process of constant difference.