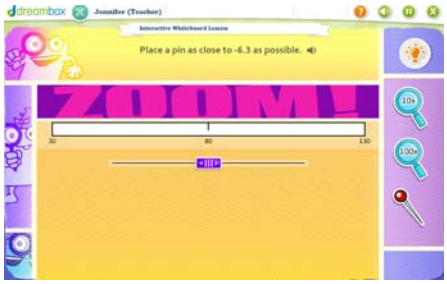
Decimal Numbers on the Number Line

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 are identifying the correct location of rational numbers in decimal form on a number line. Students will move left or right along the number line to get within range of the given number. Using the magnifiers on the right, students can zoom in to obtain a more accurate location. Once they have determined the location, they will place the pin on the number line to identify the given number.

Sample Lesson

Objective: Students will correctly identify the location of a rational number in decimal form on a number line.

Background: Students should have background knowledge of a number line that includes both positive and negative numbers. Students should as be able to compare and order rational numbers in decimal form.

Instruction:

1. Open the lesson on an interactive whiteboard or data projector and briefly review with students the components of a number line that contains positive and negative numbers. Remind them as the number line moves to the right, the numbers increase and as it moves to left, the numbers decrease. Also review that when a negative numbers moves further away from zero, it becomes smaller.
2. Choose a student to move the number line to show the range of numbers in which the given number is located.

3. Before using the magnifiers, have students discuss which magnifier would best help in locating the given number and why.
   Possible responses:
   a) The 100x because we are looking for a small decimal and the numbers shown on the number line are in the 100s.
   b) The 100x because our original number is so close to zero.

c) The rational number is in the ones place so we have to narrow the number line to intervals of 5 or less.

4. Choose a different student to use the 100x magnifier to zoom in on the area of the number line that would contain the given number. Once the student chooses an area and clicks the check button, a new number line with a smaller range of numbers will appear above the existing number line. If the range in not correct, have students discuss how to readjust the range. The marker from the last try will stay on the number line so students can gage which direction to move the next time.

5. Once the students have accurately pinpointed the magnified range, have another students place the pin on the number line to identify the given number.

6. The red line will show the exact placement of the pin and the purple shaded region is the margin of error. As long as the given number falls into the purple area, the problem is correct.

7. Repeat this process on the interactive white board. Once students are comfortable, allow them to choose a partner or place them into small groups with a computer or tablet to complete a series of problems.

8. As an alternative, have the students write down the number lines on notebook paper so they have a visual to keep with them.