

Measuring Heights

NCTM Standards 1, 4, 5, 6, 7, 8, 9, 10
Common Core State Standards 3.MD 4

Lesson Planner

STUDENT OBJECTIVE

- To make a line plot of measurement data

2 Teach and Practice

MATERIALS

- Ⓐ Investigating Heights (TG p. 756)
- Ⓑ Measuring Standing and Seated Heights (TG pp. 757–758)
- Ⓒ Changing Measurements (TG p. 759)
- Ⓓ Making a Line Plot (CCRG p. CC 19)

- TR: Activity Master, AM105
- grid paper

Added Activity

Lesson Notes

Activity D has been added to **Lesson 10.2**. Use Activity D after students complete Activity B and Activity C.

About the Activity

In Activity D, students are introduced to line plots, and use the data collected about their standing and seated heights to draw a line plot. This lays the foundation for students' study of bar graphs in **Lesson 10.3**.

2 Teach and Practice

D Making a Line Plot

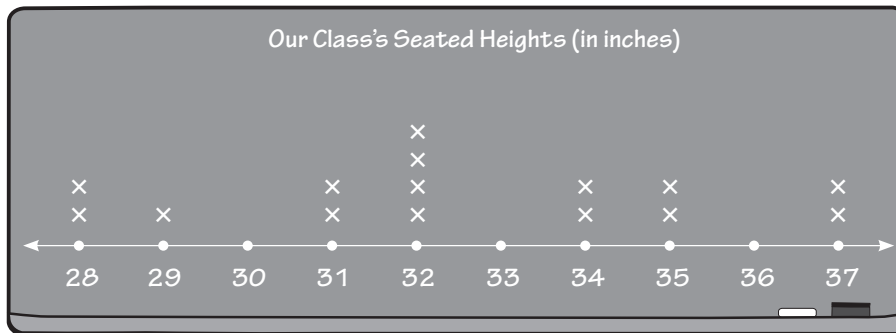
whole class



15
MIN

Purpose To make a line plot of students' standing heights

Introduce Explain to students that a line plot is a number line that shows how a set of measurement data is grouped. Ask students to share their seated heights that they recorded on Activity Master 105, and write them on the board. Draw a number line that includes all of the measurements, starting with the least number and ending with the greatest number. Draw an X above each number on the number line that represents a student's seated height. You may want to cross students' seated heights off the list on the board as you add Xs to the line plot. Title the line plot *Our Class's Seated Heights (in inches)*, as shown below.



Materials

- For each student: a sheet of grid paper, AM105 (completed in Activity B)

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Talk Math

- ? What information does this line plot help to show? Possible answers: The most common seated height. The least common seated height. The greatest height measured. The least seated height measured.
- ? Why is it helpful to draw Xs on a line plot that are the same size? If the Xs are the same size, you can quickly tell which measurements are most common or least common.

Task Have students make a line plot that shows the class's standing heights.

Ask students to share their standing heights from Activity Master 105 and record them on the board. Give each student a sheet of grid paper.

Talk Math Discuss making a line plot with the class to guide students through the process.

- ? What is the first step? The first step is drawing a number line that includes the number of inches that is the least measurement and the greatest measurement and includes all of the numbers in between.
- ? Where do you draw Xs? I draw Xs above the numbers on the number line that are in the list of standing heights.
- ? What is the title of this line plot? *Our Class's Standing Heights (in inches)*
- ? What is the most common standing height in our class? What is the least common standing height in our class? Answers will vary depending on the class's measurements.