LESSON MAKER PRO

Data Detectives

Read plots, spot patterns, and make data-based predictions.

GRADE 5 · 5.PS.1.e.iv

5.PS.1.e.iv "Analyze data represented in line plots (dot plots) and stem-and-leaf plots and communicate results orally and in writing: draw conclusions about the data and make predictions based on the data to answer questions; and"

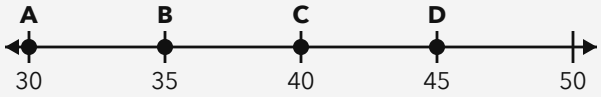
NAME _____ DATE _____

USE THE DATA

In a line plot, each dot shows one data value. In a stem-and-leaf plot, combine the stem and leaf to read each value. Use the values to find patterns, make conclusions, and give a prediction that matches the data.

WORKED EXAMPLE

The points on the number line show four data values. What is the range? If the pattern continues, predict the next value.



1. The least value is 30 and the greatest value is 45.
2. Subtract: 45 - 30 = 15.
3. The values increase by 5 each time, so the next value is 50.

Answer: Range: 15. Prediction: 50.

PRACTICE 6 problems

1 Use this stem-and-leaf plot.
Key: 1 | 2 = 12

Stem	Leaves
1	2 7 9
2	1 3 3 7

What value occurs most often?

ANSWER _____

2 Use this stem-and-leaf plot.
Key: 6 | 1 = 61

Stem	Leaves
6	1 4 8
7	2 6 9

What is the range?

ANSWER _____

3 Use this stem-and-leaf plot.

Key: 5 | 1 = 51

Stem | Leaves

5 | 1 3 7

6 | 0 4 4 8

7 | 2

How many values are 60 or greater?

ANSWER _____

4 Use this stem-and-leaf plot.

Key: 8 | 2 = 82

Stem | Leaves

8 | 2 5 9

9 | 1 1 4

What value occurs most often?

ANSWER _____

5 Use this stem-and-leaf plot.

Key: 7 | 0 = 70

Stem | Leaves

7 | 0 2 6 8

8 | 1 3

9 | 4

A student says, "Most of the values are in the 70s." Is the statement true? Explain.

ANSWER _____

_____

6 Use this stem-and-leaf plot.

Key: 0 | 8 = 8

Stem | Leaves

0 | 8 9

1 | 1 2 3

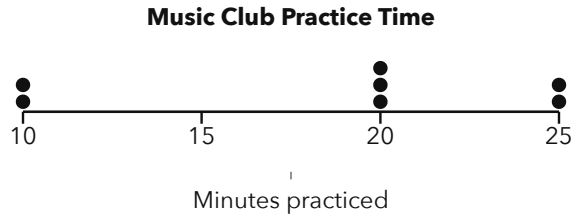
2 | 5

Based on where most values are, predict the tens digit of another value.

ANSWER _____

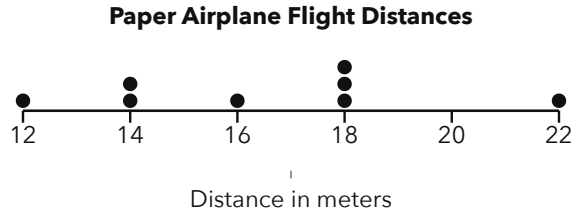
APPLY IT Show your work

1 A school music club recorded the number of minutes each member practiced yesterday. What practice time occurs most often? Based on the data, predict a likely practice time for one new club member.



ANSWER _____

2 The robotics team tested paper airplanes and measured how far they flew. What is the range of the distances? Based on the cluster of dots, predict a likely distance for the next flight.



ANSWER _____

CHALLENGE One step up

Use this stem-and-leaf plot.

Key: 6 | 1 = 61

Stem | Leaves

6 | 1 4 8

7 | 2 2 4

8 | 1 6

Jordan says that more values are in the 80s than in the 60s. Is Jordan correct? Explain. Then tell whether a new value is more likely to be in the 70s or the 80s.

WORK SPACE AND ANSWER

Data Detectives

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use this stem-and-leaf plot. Key: 1 | 2 = 12 **Stem | Leaves** 1 | 2 7 9 2 | 1 3 3 7 What value occurs most often?	**23**
2	Use this stem-and-leaf plot. Key: 6 | 1 = 61 **Stem | Leaves** 6 | 1 4 8 7 | 2 6 9 What is the range?	**18**
3	Use this stem-and-leaf plot. Key: 5 | 1 = 51 **Stem | Leaves** 5 | 1 3 7 6 | 0 4 4 8 7 | 2 How many values are 60 or greater?	**5**
4	Use this stem-and-leaf plot. Key: 8 | 2 = 82 **Stem | Leaves** 8 | 2 5 9 9 | 1 1 4 What value occurs most often?	**91**
5	Use this stem-and-leaf plot. Key: 7 | 0 = 70 **Stem | Leaves** 7 | 0 2 6 8 8 | 1 3 9 | 4 A student says, "Most of the values are in the 70s." Is the statement true? Explain.	**Yes. Four of the seven values are in the 70s.**

6	Use this stem-and-leaf plot. Key: 0 | 8 = 8 **Stem | Leaves** 0 | 8 9 1 | 1 2 3 2 | 5 Based on where most values are, predict the tens digit of another value.	**1**

PART 2 · APPLY IT

1. **The most common time is 20 minutes. A likely prediction is 20 minutes.** Count the dots above each time. The tallest stack is above 20, so 20 minutes is the data-based prediction.
2. **The range is 10 meters. A likely distance is 18 meters.** Subtract the least distance, 12, from the greatest distance, 22, to get 10. The data cluster most strongly at 18 meters.

CHALLENGE

No. There are 2 values in the 80s and 3 values in the 60s. A new value is more likely to be in the 70s because there are 3 values in the 70s and 2 in the 80s.

Accept equivalent wording for the written conclusions. For prediction items, accept a prediction supported by the most frequent value or the clearest cluster of data. Read each displayed stem row separately; each spaced leaf is one value, including repeated leaves. Use the separately printed key to interpret the stems and leaves.