Lesson 12-2

Monday, April 13, 2020 9:00 AM

Name

Lesson 12-2
Make Line Plots

Solve & Share A fifth-grade class recorded the height of each student. How could you organize the data? *Make a line plot to solve this problem.*

I can ...
display data in a line plot.

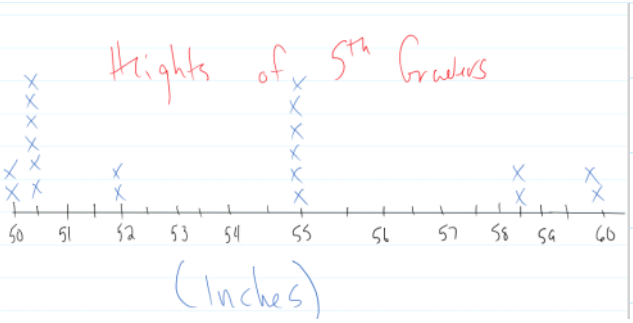
Content Standard 5.MD.B.2
Mathematical Practices MP.1, MP.2, MP.4, MP.6, MP.7, MP.8

Heights of Students in Grade 5 (to the nearest $\frac{1}{2}$ inch):
55, 52, 50$\frac{1}{2}$, 50$\frac{1}{2}$, 55, 50$\frac{1}{2}$
50, 55, 50$\frac{1}{2}$, 55, 58$\frac{1}{2}$, 60, 52,
50$\frac{1}{2}$, 50$\frac{1}{2}$, 50, 55, 55, 58$\frac{1}{2}$, 60

Make Sense and Persevere
You can make a line plot to organize data. Show your work!

Frequency Table

Heights (in)	Tally	Frequency
50	II	2
50$\frac{1}{2}$	𝍸 I	6
52	II	2
55	𝍸 I	6
58$\frac{1}{2}$	II	2
60	II	2



Look Back! MP.8 Generalize How does organizing the data help you see the height that occurs most often? Explain.

When the values are organized in order, it is easy to see which value occurs most often.

How Can You Use a Line Plot to Organize and Represent Measurement Data?

The dogs in Paulina's Pet Shop have the following weights. The weights are in pounds.

How can you organize this information in a line plot?

Measurement data that is organized is easier to use.

Weights of Dogs (in pounds)

8$\frac{1}{2}$	12$\frac{1}{4}$	6	11$\frac{1}{2}$	7$\frac{1}{4}$	12$\frac{1}{4}$
8$\frac{1}{2}$	12$\frac{1}{4}$	8$\frac{1}{2}$	12$\frac{1}{4}$	12$\frac{1}{4}$	6

B Organize the data.

Write the weights from least to greatest.
6, 6, 7$\frac{1}{4}$, 8$\frac{1}{2}$, 8$\frac{1}{2}$, 8$\frac{1}{2}$, 11$\frac{1}{2}$, 12$\frac{1}{4}$, 12$\frac{1}{4}$, 12$\frac{1}{4}$, 12$\frac{1}{4}$, 12$\frac{1}{4}$, 12$\frac{1}{4}$

You can also organize the data in a frequency table. The frequency is how many times a given response occurs.

Dog Weight (pounds)	Tally	Frequency
6	II	2
7$\frac{1}{4}$	I	1
8$\frac{1}{2}$	III	3
11$\frac{1}{2}$	I	1
12$\frac{1}{4}$	𝍸	5

C Make a line plot.

First draw the number line using an interval of $\frac{1}{4}$. Then mark a dot for each value in the data set. Write a title for the line plot.

Convince Me! MP.2 Reasoning Which weight occurs most often? Which weight occurs least often? How can you tell from the line plot?

Most often from the tallest plot is 12$\frac{1}{4}$ lbs
Least often from the shortest plot is 7$\frac{1}{4}$ lbs and 11$\frac{1}{2}$ lbs.

Name _____

Guided Practice*

Do You Understand?

1. In the line plot of dog weights on the previous page, what does each dot represent?

1 dog

2. In a line plot, how do you determine the values to show on the number line?

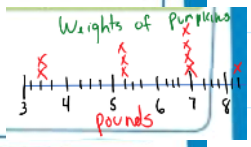
You need need to know the least and greatest values in the data

Do You Know How?

3. Draw a line plot to represent the data.

DATA

Weights of Pumpkins	Tally	Frequency
$3\frac{1}{2}$ lb	||	2
$5\frac{1}{4}$ lb	|||	3
7 lb	||||	4
$8\frac{1}{2}$ lb	|	1

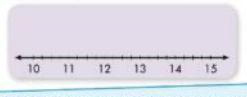


Independent Practice*

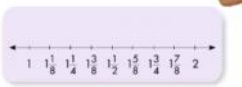
In **4** and **5**, complete the line plot for each data set.

Double check that you have a dot for each value.

4. $11\frac{1}{4}, 12\frac{1}{2}, 11\frac{1}{4}, 14\frac{3}{4}, 10\frac{1}{2}, 11\frac{1}{4}, 12$



5. $1\frac{1}{8}, 2, 1\frac{1}{2}, 1\frac{1}{4}, 1\frac{1}{8}, 1, 2, 1\frac{1}{2}, 1\frac{1}{4}$



In **6** and **7**, construct a line plot for each data set.

6. $\frac{1}{2}, \frac{3}{4}, \frac{3}{4}, 1, 1, 0, \frac{1}{2}, \frac{1}{2}, \frac{3}{4}$

7. $5\frac{1}{2}, 5, 5, 5\frac{1}{8}, 5\frac{3}{4}, 5\frac{1}{4}, 5\frac{1}{2}, 5\frac{1}{8}, 5\frac{1}{2}, 5\frac{3}{8}$

*For another example, see Set B on page 725.

Math Practices and Problem Solving*

In **8–10**, use the data set.

8. **MP.1 Make Sense and Persevere** Martin's Tree Service purchased several spruce tree saplings. Draw a line plot of the data showing the heights of the saplings.

DATA

Heights of Saplings (in.)				
$26\frac{1}{2}$	27	$26\frac{3}{4}$	$27\frac{1}{2}$	$26\frac{3}{4}$
$27\frac{1}{2}$	$27\frac{3}{4}$	$27\frac{1}{4}$	$27\frac{1}{2}$	$27\frac{1}{4}$
$27\frac{3}{4}$	$27\frac{1}{2}$	$26\frac{1}{2}$	$26\frac{1}{2}$	$27\frac{1}{2}$
$27\frac{1}{4}$	$27\frac{1}{4}$	$27\frac{1}{2}$	27	$26\frac{3}{4}$

9. **MP.7 Look for Relationships** How many more saplings with a height of $27\frac{3}{4}$ inches or less were there than saplings with a height greater than $27\frac{1}{4}$ inches?

10. **Higher Order Thinking** Suppose Martin's Tree Service bought two more saplings that were each $27\frac{1}{4}$ inches tall. Would the value that occurred most often change?

11. **Vocabulary** Complete the sentence using one of the words below.

line plot **data** **outlier**

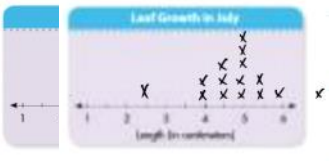
A(n) _____ is a value that is very different from the other values in a data set.

12. **MP.6 Be Precise** Randall buys 3 tickets for a concert for $14.50 each. He gives the cashier a $50 bill. How much change does he get? Write equations to show your work.

Common Core Assessment

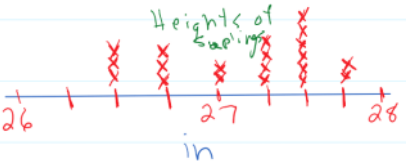
13. Amy measured how many centimeters the leaves on her houseplants grew in July. Use the leaf growth data below to complete the line plot on the right.

$2\frac{1}{2}, 4\frac{1}{2}, 4, 4, 3, 1, 3, 3\frac{1}{2}, 3\frac{1}{2}, 3\frac{1}{2}, 2\frac{1}{2}, 3, 3\frac{1}{2}, 3\frac{1}{2}, 5\frac{1}{2}$



Frequency Table

Heights (in)	Tally	Frequency
$26\frac{1}{2}$	|||	3
$26\frac{3}{4}$	|||	3
27	|\	2
$27\frac{1}{4}$	|||\	4
$27\frac{1}{2}$	|||\ |	6
$27\frac{3}{4}$	|\	2

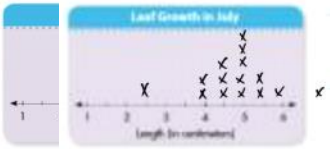


Frequency Chart

Length (cm)	Tally	Frequency
1	|	1
$2\frac{1}{2}$	|\	2
3	||\	3
$3\frac{1}{2}$	|||\	5
4	|\	2
$4\frac{1}{2}$	|	1
$5\frac{1}{2}$	|	1

13. Amy measured how many centimeters the leaves on her houseplants grew in July. Use the leaf growth data below to complete the line plot on the right.

$2\frac{1}{2}, 4\frac{1}{2}, 4, 4, 3, 1, 3, 3\frac{1}{2}, 3\frac{1}{2}, 3\frac{1}{2}, 2\frac{1}{2}, 3, 3\frac{1}{2}, 3\frac{1}{2}, 5\frac{1}{2}$



Frequency Chart

Length (cm)	Tally	Frequency
1	|	1
$2\frac{1}{2}$	||	2
3	|||	3
$3\frac{1}{2}$	𝍸	5
4	||	2
$4\frac{1}{2}$	|	1
$5\frac{1}{2}$	|	1