LESSON MAKER PRO

# Data Plot Detectives

*Show numerical data in clear, useful ways.*

**GRADE 4 · MA.4.DP.1.1**

**MA.4.DP.1.1** "Collect and represent numerical data, including fractional values, using tables, stem-and-leaf plots or line plots."

NAME _____ DATE _____

## SHOW THE DATA

A frequency table shows each data value and how many times it appears. In a line plot, put the values in order on a number line and write one X above a value for each time it appears. Use equal spaces between values, including fractional values.

## WORKED EXAMPLE

The lengths of four jumps, in feet, are 2 1/4, 2 1/2, 2 1/4, and 2 3/4. Make a line plot.

1. List the values in order: 2 1/4, 2 1/2, 2 3/4.
2. Count 2 jumps at 2 1/4.
3. Count 1 jump at 2 1/2 and 1 jump at 2 3/4.

**Answer: 2 1/4 | XX 2 1/2 | X 2 3/4 | X**

## PRACTICE 6 problems

**1** A pet club records the number of fish in seven tanks: 4, 6, 5, 4, 7, 5, 4. Make a frequency table.

**ANSWER** _____

**2** Make a line plot for these amounts of juice, in cups: 1/4, 1/2, 1/4, 3/4, 1/2.

**ANSWER** _____

**3** Use the line plot to find the total number of ribbons measured. Length in feet 1 | X 1 1/4 | XXX 1 1/2 | XX

**ANSWER** _____

**4** Make a stem-and-leaf plot for these numbers: 12, 14, 17, 14, 21, 23. Use the tens digit as the stem.

**ANSWER** _____

**5** Write the data shown in this stem-and-leaf plot. Use the tens digit as the stem. Stem | Leaves 3 | 1 3 3 8 4 | 0 2

**ANSWER** _____

**6** A weather station recorded these amounts of rain, in inches: 3/4, 1, 3/4, 1 1/4, 1, 3/4. Make a frequency table.

**ANSWER** _____

## APPLY IT Show your work

**1** At a reading challenge, seven students recorded the time they read one evening, in hours: 1/4, 1/2, 3/4, 1/2, 1, 1/4, 1/2. Make a line plot. Then tell how many students read for 1/2 hour.

WORK SPACE

**ANSWER** _____

**2** Students measured the heights of garden plants, in centimeters: 12, 15, 12, 18, 21, 23, 25, 21. Make a stem-and-leaf plot using the tens digit as the stem. Which heights occurred twice?

WORK SPACE

**ANSWER** _____

## CHALLENGE One step up

**CHALLENGE**

Nine students measured how many cups of birdseed they put outside: 1/4, 1/2, 1/4, 3/4, 1, 1/2, 3/4, 1/4, 3/4. Make a frequency table and a line plot. Which amounts are tied for appearing most often?

_____

_____

**ANSWER KEY**

# Data Plot Detectives

**GRADE 4 · MA.4.DP.1.1**

## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | A pet club records the number of fish in seven tanks: 4, 6, 5, 4, 7, 5, 4. Make a frequency table. | **Number of fish \| Frequency 4 \| 3 5 \| 2 6 \| 1 7 \| 1** |
| 2 | Make a line plot for these amounts of juice, in cups: 1/4, 1/2, 1/4, 3/4, 1/2. | **1/4 \| XX 1/2 \| XX 3/4 \| X** |
| 3 | Use the line plot to find the total number of ribbons measured. Length in feet 1 \| X 1 1/4 \| XXX 1 1/2 \| XX | **6 ribbons** |
| 4 | Make a stem-and-leaf plot for these numbers: 12, 14, 17, 14, 21, 23. Use the tens digit as the stem. | **Stem \| Leaves 1 \| 2 4 4 7 2 \| 1 3** |
| 5 | Write the data shown in this stem-and-leaf plot. Use the tens digit as the stem. Stem \| Leaves 3 \| 1 3 3 8 4 \| 0 2 | **31, 33, 33, 38, 40, 42** |
| 6 | A weather station recorded these amounts of rain, in inches: 3/4, 1, 3/4, 1 1/4, 1, 3/4. Make a frequency table. | **Rainfall \| Frequency 3/4 \| 3 1 \| 2 1 1/4 \| 1** |

## PART 2 · APPLY IT

1. **1/4 | XX 1/2 | XXX 3/4 | X 1 | X 3 students read for 1/2 hour.** Place one X for each reading time. Count the three Xs above 1/2.
2. **Stem | Leaves 1 | 2 2 5 8 2 | 1 1 3 5 12 cm and 21 cm occurred twice.** Sort the ones digits under stems 1 and 2. The leaves 2 under stem 1 and 1 under stem 2 each appear two times.

## CHALLENGE

**Frequency table: Birdseed | Frequency 1/4 | 3 1/2 | 2 3/4 | 3 1 | 1 Line plot: 1/4 | XXX 1/2 | XX 3/4 | XXX 1 | X 1/4 cup and 3/4 cup are tied for appearing most often.**

Accept equivalent clear line plots with one X per data value and values in order. In stem-and-leaf plots, accept leaves in a different order only if every value is represented correctly.