

Dots Tell Data

Build clear line plots from numbers.

GRADE 5 • 5.PS.1.c

5.PS.1.c "Organize and represent a data set using a line plot (dot plot) with a title, labeled axes, and a key, with and without the use of technology tools. Line plots (dot plots) may contain whole numbers, fractions, or decimals."

NAME _____

DATE _____

PLOT IT CLEARLY

A line plot uses stacked Xs to show how often each value appears. Give your plot a title, label the horizontal axis with the measured thing, label the vertical axis Frequency, and include a key.

WORKED EXAMPLE

Make a line plot for beanbag distances: 1.2, 1.4, 1.4, 1.8.

1. Order the values: 1.2, 1.4, 1.4, 1.8.
2. Title the plot Beanbag Distances.
3. Label the axes Distance (m) and Frequency.
4. Place 1 X at 1.2, 2 Xs at 1.4, and 1 X at 1.8.

Answer: Title: Beanbag Distances. Horizontal axis: Distance (m). Vertical axis: Frequency. Key: X = 1 throw. Dots: 1.2: X, 1.4: XX, 1.8: X.

PRACTICE 5 problems

- 1** Make a line plot titled Snack Points for: 2, 5, 2, 3, 5. Label both axes and add a key.

ANSWER _____

- 2** Make a line plot titled Bike Miles for: 0.5, 1.0, 0.5, 1.5. Label both axes and add a key.

ANSWER _____

- 3** Make a line plot titled Ribbon Lengths for: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{2}$. Label both axes and add a key.

ANSWER _____

- 4** Make a line plot titled Reading Minutes for: 6, 8, 7, 6. Label both axes and add a key.

ANSWER _____

- 5** Make a line plot titled Game Scores for: 10, 10, 12, 11, 12, 12, 13. Label both axes and add a key.

ANSWER _____

APPLY IT Show your work

- 1** The school esports club recorded the number of rounds won by five teams: 14, 16, 14, 15, 17. Make a line plot for the club poster. Include a title, labeled axes, and a key.

WORK SPACE

ANSWER _____

- 2** At a skate park, six students counted successful jumps in one minute: 21, 23, 22, 21, 23, 23. Make a line plot. Include a title, labeled axes, and a key.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Make a line plot titled Model Rocket Flight Times for: $\frac{1}{8}$, $\frac{3}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{7}{8}$, $\frac{7}{8}$, $\frac{7}{8}$. Use tick marks every $\frac{1}{8}$. Include labeled axes and a key. Then name the most common flight time.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Make a line plot titled Snack Points for: 2, 5, 2, 3, 5. Label both axes and add a key.	Title: Snack Points. Horizontal axis: Points. Vertical axis: Frequency. Key: X = 1 score. Dots: 2: XX, 3: X, 4: 0, 5: XX.
2	Make a line plot titled Bike Miles for: 0.5, 1.0, 0.5, 1.5. Label both axes and add a key.	Title: Bike Miles. Horizontal axis: Miles. Vertical axis: Frequency. Key: X = 1 ride. Dots: 0.5: XX, 1.0: X, 1.5: X.
3	Make a line plot titled Ribbon Lengths for: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{2}$. Label both axes and add a key.	Title: Ribbon Lengths. Horizontal axis: Length (yard). Vertical axis: Frequency. Key: X = 1 ribbon. Dots: $\frac{1}{4}$: XX, $\frac{1}{2}$: XX, $\frac{3}{4}$: X.
4	Make a line plot titled Reading Minutes for: 6, 8, 7, 6. Label both axes and add a key.	Title: Reading Minutes. Horizontal axis: Minutes. Vertical axis: Frequency. Key: X = 1 student. Dots: 6: XX, 7: X, 8: X.
5	Make a line plot titled Game Scores for: 10, 10, 12, 11, 12, 12, 13. Label both axes and add a key.	Title: Game Scores. Horizontal axis: Score. Vertical axis: Frequency. Key: X = 1 player. Dots: 10: XX, 11: X, 12: XXX, 13: X.

PART 2 • APPLY IT

- Title: Esports Rounds Won. Horizontal axis: Rounds Won. Vertical axis: Frequency. Key: X = 1 team. Dots: 14: XX, 15: X, 16: X, 17: X.** Count each number of rounds, then stack one X for each team at that number.
- Title: Successful Skate Jumps. Horizontal axis: Jumps. Vertical axis: Frequency. Key: X = 1 student. Dots: 21: XX, 22: X, 23: XXX.** The values 21, 22, and 23 occur 2, 1, and 3 times.

CHALLENGE

Title: Model Rocket Flight Times. Horizontal axis: Time (minute). Vertical axis: Frequency. Key: X = 1 rocket. Dots: $\frac{1}{8}$: X, $\frac{2}{8}$: 0, $\frac{3}{8}$: XX, $\frac{4}{8}$: 0, $\frac{5}{8}$: X, $\frac{6}{8}$: 0, $\frac{7}{8}$: XXX. Most common flight time: $\frac{7}{8}$ minute.

Accept equivalent line-plot layouts when the title, both axis labels, scale, and key are clear. Accept equivalent fraction labels, such as $\frac{2}{8}$ or $\frac{1}{4}$, when they mark the same location.