

Dot Plot Detectives

Show measurement data with one dot for each measurement.

GRADE 4 • 4.MDR.6.3

4.MDR.6.3 "Create dot plots to display a distribution of numerical (quantitative) measurement data."

NAME _____

DATE _____

BUILD A DOT PLOT

A dot plot shows measurement data on a number line. Write the measurement values in order, then place one dot above or beside a value for each time it appears. Stack dots when measurements are the same.

WORKED EXAMPLE

Create a dot plot for these notebook widths in centimeters: 16, 18, 17, 16, 18, 16.

1. List 16, 17, and 18 in order.
2. Count 16 three times, 17 one time, and 18 two times.
3. Place one dot for each measurement beside its value.

Answer: 16 | ••• 17 | • 18 | •• Each dot = 1 notebook

PRACTICE 6 problems

- 1** Create a dot plot for the heights, in inches, of six bean plants: 6, 8, 7, 6, 9, 6.

ANSWER _____

- 2** Create a dot plot for the amounts of juice, in ounces, in seven cups: 20, 22, 21, 20, 23, 22, 20.

ANSWER _____

- 3** Create a dot plot for the weights, in pounds, of five puppies: 11, 10, 12, 11, 10.

ANSWER _____

- 4** Create a dot plot for the lengths, in centimeters, of eight ribbon pieces: 30, 32, 31, 30, 33, 31, 30, 32.

ANSWER _____

- 5** Create a dot plot for the lengths, in inches, of six craft sticks: $2\frac{1}{2}$, 3, $2\frac{1}{2}$, $3\frac{1}{2}$, 3, $2\frac{1}{2}$.

ANSWER _____

- 6** Create a dot plot for the temperatures, in degrees Fahrenheit, recorded on seven mornings: 40, 42, 41, 43, 42, 40, 42.

ANSWER _____

APPLY IT Show your work

- 1** At robotics club, students timed a small robot moving through a maze. Its times, in seconds, were 11, 9, 10, 11, 8, 10, 11, 9. Create a dot plot to show the times.

WORK SPACE

ANSWER _____

- 2** A paper-airplane team measured flight distances in centimeters. The distances were 24, 26, 25, 27, 26, 24, 28, 25, 26. Create a dot plot to show the distances.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A maker club measured seven pieces of string in meters: $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{2}$, $1\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{2}$, 1. Create a dot plot with labels at every $\frac{1}{4}$ meter from $\frac{1}{2}$ through $1\frac{1}{4}$. Then, in one sentence, explain why 1 is included as a label.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Create a dot plot for the heights, in inches, of six bean plants: 6, 8, 7, 6, 9, 6.	6 ••• 7 • 8 • 9 • Each dot = 1 plant
2	Create a dot plot for the amounts of juice, in ounces, in seven cups: 20, 22, 21, 20, 23, 22, 20.	20 ••• 21 • 22 •• 23 • Each dot = 1 cup
3	Create a dot plot for the weights, in pounds, of five puppies: 11, 10, 12, 11, 10.	10 •• 11 •• 12 • Each dot = 1 puppy
4	Create a dot plot for the lengths, in centimeters, of eight ribbon pieces: 30, 32, 31, 30, 33, 31, 30, 32.	30 ••• 31 •• 32 •• 33 • Each dot = 1 ribbon piece
5	Create a dot plot for the lengths, in inches, of six craft sticks: 2 1/2, 3, 2 1/2, 3 1/2, 3, 2 1/2.	2 1/2 ••• 3 •• 3 1/2 • Each dot = 1 craft stick
6	Create a dot plot for the temperatures, in degrees Fahrenheit, recorded on seven mornings: 40, 42, 41, 43, 42, 40, 42.	40 •• 41 • 42 ••• 43 • Each dot = 1 morning

PART 2 • APPLY IT

- 8 | • 9 | •• 10 | •• 11 | ••• Each dot = 1 robot trial** List the times from 8 through 11 seconds. Count each time and place one dot for every trial.
- 24 | •• 25 | •• 26 | ••• 27 | • 28 | • Each dot = 1 flight** List the distances from 24 through 28 centimeters. Count the flights at each distance and draw that many dots.

CHALLENGE

1/2 | ••• 3/4 | •• 1 | • 1 1/4 | • Each dot = 1 string 1 is included because one string measured 1 meter.

Accept dot plots arranged horizontally or vertically if the measurement labels are in order and each dot matches one data value. Accept a clear key such as “each dot = 1 measurement.”