

Sprout Data Story

Use repeated trials and means to build a clear bar graph.

8.1.F “construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the full sentence beginning “To find the mean.” Circle the four graph instruction parts in the last paragraph: title, horizontal axis, vertical axis, and vertical scale.

From Seed Counts to a Graph

- ① Students tested whether soil moisture affected radish seed germination. In each of three trials, they planted ten seeds in moist soil and ten seeds in dry soil. All trays received the same light and temperature. After seven days, they counted the sprouts. The table records the raw results, not a conclusion.

RADISH SPROUTS AFTER SEVEN DAYS

Trial	Moist Soil Sprouts	Dry Soil Sprouts
1	7	3
2	8	4
3	9	5

- ② Repeated trials reduce the influence of an unusual tray or counting mistake. To find the mean for one soil condition, add its three sprout counts and divide by three. The mean is a single value that represents the set of trials. Keep the raw table because it shows how much the trial results varied.
- ③ A bar graph clearly compares the two mean values because the conditions are categories. Give the graph a title that names moisture and sprout count. Put soil condition on the horizontal axis and mean number of sprouts on the vertical axis. Start the vertical scale at zero, use equal intervals, and draw one bar for each condition.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Calculate the mean number of sprouts in moist soil. Show the addition and division.

2 Calculate the mean number of sprouts in dry soil. Show the addition and division.

3 Which type of graph should show these results? What quantity should the height of each bar show?

4 Name two graph-design choices from the passage that help a reader compare the results accurately.

3 YOUR TURN _____ Your own words

Use the grid to construct a bar graph of the mean radish sprout counts for moist soil and dry soil. Include a descriptive title, labeled axes, a vertical scale that starts at zero with equal intervals, and one bar for each soil condition.

PART 1 • READ AND MARK

Underline the full sentence beginning “To find the mean.” Circle the four graph instruction parts in the last paragraph: title, horizontal axis, vertical axis, and vertical scale. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Calculate the mean number of sprouts in moist soil. Show the addition and division.	$(7 + 8 + 9) \div 3 = 8$ sprouts
2	Calculate the mean number of sprouts in dry soil. Show the addition and division.	$(3 + 4 + 5) \div 3 = 4$ sprouts
3	Which type of graph should show these results? What quantity should the height of each bar show?	Use a bar graph. Each bar should show the mean number of sprouts for one soil condition.
4	Name two graph-design choices from the passage that help a reader compare the results accurately.	Answers include a title that names the variables, labeled horizontal and vertical axes, a vertical scale starting at zero, and equal scale intervals.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Title: Soil Moisture and Mean Radish Sprouts After Seven Days. Horizontal axis: Soil Condition. Vertical axis: Mean Number of Sprouts, scaled from 0 to 10 by 1. Bar heights: Moist Soil, 8; Dry Soil, 4.

Accept means of 8 sprouts for moist soil and 4 sprouts for dry soil. The graph should have accurately plotted bars, clearly labeled axes, a descriptive title, and an equal-interval vertical scale beginning at zero.