LESSON MAKER PRO

Pick the Best Graph

Match the data to the display.

GRADE 8 · 8.PS.2.i

8.PS.2.i "Given a contextual situation, justify which graphical representation (e.g., pictographs, bar graphs, line graphs, line plots/dot plots, stem-and-leaf plots, circle graphs, histograms, and boxplots) best represents the data."

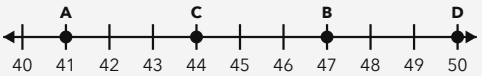
NAME _____ DATE _____

CHOOSE BY PURPOSE

Choose a graph that matches what you want viewers to notice. Bar graphs compare categories, line graphs show change in order or time, and circle graphs show parts of one whole. Dot plots and stem-and-leaf plots show individual values, histograms group values into intervals, and boxplots compare center and spread.

WORKED EXAMPLE

The figure shows four temperature readings, recorded in order from A to D. Which graph best shows the change in temperature?



1. The readings are in an order.
2. The goal is to show change over the readings.
3. A line graph shows ordered change clearly.

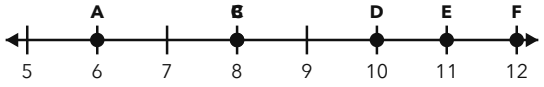
Answer: Line graph.

PRACTICE 4 problems

1 A snack survey asks students to choose fruit, chips, popcorn, or yogurt. Which graph best compares the choices? Explain.

ANSWER _____

2 The figure marks six shoe sizes from a team. Which graph best shows every size and any repeated sizes? Explain.

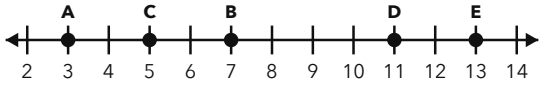


ANSWER _____

3 A scientist measures butterfly wing lengths and groups the results into 1-cm intervals. Which graph best shows how often lengths fall in each interval? Explain.

ANSWER _____

4 The figure shows points scored in five games, in order from A to E. Which graph best shows the scoring trend? Explain.



ANSWER _____

APPLY IT Show your work

1 Maya wants to see how her after-school phone minutes changed across the week. Which graph should she make? Explain.

PHONE MINUTES AFTER SCHOOL

Day	Minutes
Monday	22
Tuesday	28
Wednesday	31
Thursday	26
Friday	33

ANSWER _____

2 Students cast 90 votes for a field trip: 27 for the zoo, 25 for the science center, 21 for the aquarium, and 17 for the art museum. The principal wants to show each choice's share of all votes. Which graph is best? Explain.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A coach records sprint times, in seconds, for two teams. Team A: 14, 15, 15, 16, 17, 18. Team B: 12, 14, 16, 18, 20, 22. The coach wants to compare each team's median time and spread. Which graph is best? Explain.

WORK SPACE AND ANSWER

ANSWER KEY

Pick the Best Graph

GRADE 8 · 8.PS.2.i

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A snack survey asks students to choose fruit, chips, popcorn, or yogurt. Which graph best compares the choices? Explain.	**Bar graph, because it compares counts in categories.**
2	The figure marks six shoe sizes from a team. Which graph best shows every size and any repeated sizes? Explain.	**Dot plot, because it shows each shoe size and repeated values.**
3	A scientist measures butterfly wing lengths and groups the results into 1-cm intervals. Which graph best shows how often lengths fall in each interval? Explain.	**Histogram, because it shows frequencies for numerical intervals.**
4	The figure shows points scored in five games, in order from A to E. Which graph best shows the scoring trend? Explain.	**Line graph, because it shows how the scores change from game to game.**

PART 2 · APPLY IT

1. **Line graph, because the days are ordered and Maya wants to see change over time.** Use day as the horizontal axis and phone minutes as the vertical axis. Connect the five points in order.
2. **Circle graph, because the vote choices are parts of the total 90 votes.** The four category counts add to one whole, 90 votes. A circle graph shows each category's share of that whole.

CHALLENGE

Side-by-side boxplots, because they show and compare each team's median and spread.

Accept "bar chart" for bar graph and "pie chart" for circle graph. Require a reason connected to categories, time order, individual values, intervals, parts of a whole, or comparison of median and spread.