LESSON MAKER PRO

Data Display Lab

Show what a data set tells you.

GRADE 6 · 6.NR.2.2

6.NR.2.2 "Summarize categorical and quantitative (numerical) data sets in relation to the context: display the distributions of quantitative (numerical) data in plots on a number line, including dot plots, histograms..."

NAME _____ DATE _____

CHOOSE THE RIGHT DISPLAY

Put numerical data in order before you graph it. In a dot plot, each X stands for one value, while a histogram groups values into equal-size intervals and a box plot shows the minimum, lower quartile, median, upper quartile, and maximum. Use a bar graph when the data are categories, not measurements.

WORKED EXAMPLE

Make a dot plot for the data set: 35, 37, 37, 39, 44.

1. List the values in order: 35, 37, 37, 39, 44.
2. Write the values on a number line from 35 to 44.
3. Place one X above each value. Place two Xs above 37.
4. Dot plot: 35: X; 37: XX; 39: X; 44: X

Answer: 35: X; 37: XX; 39: X; 44: X

PRACTICE 6 problems

1 Make a dot plot for the data set: 2, 4, 4, 6, 7, 7, 7, 9.

ANSWER _____

2 Draw a histogram for these numbers of pages read: 11, 12, 14, 15, 16, 17, 19, 21, 23, 24. Use intervals 10-14, 15-19, and 20-24.

ANSWER _____

3 Draw a box plot for this ordered data set: 1, 3, 5, 6, 8, 9, 10, 12, 13, 14, 17. Do not include the overall median when finding the lower and upper quartiles.

ANSWER _____

4 A survey asks students which club they want to join. Make a bar graph using a scale of 1 square = 1 vote. Art: 8, Coding: 11, Drama: 14, Sports: 16.

ANSWER _____

5 A dot plot is shown by this list: 4: X; 5: XX; 6: XXXX; 7: X. What are the mode and the range?

ANSWER _____

6 A box plot has minimum 2, lower quartile 7, median 10, upper quartile 15, and maximum 21. What are the interquartile range and the median?

ANSWER _____

APPLY IT Show your work

1 The gaming club records the number of minutes students spent testing a new game: 3, 5, 7, 9, 11, 12, 13, 16, 18, 22, 24, 25. Draw a histogram using intervals 0-9, 10-19, and 20-29. Which interval has the most sessions?

WORK SPACE

ANSWER _____

2 Students vote for an after-school activity. Robotics gets 14 votes, Art gets 9 votes, Basketball gets 17 votes, and Music gets 11 votes. Draw a bar graph using a scale of 1 square = 1 vote. Which activity has the most votes, and how many more votes does it have than Art?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two groups record practice scores and make box plots. Group A has minimum 4, lower quartile 7, median 10, upper quartile 13, and maximum 18. Group B has minimum 3, lower quartile 8, median 11, upper quartile 12, and maximum 19. Which group has more consistent scores in its middle half? Explain using the interquartile range.

_____

_____

ANSWER KEY

Data Display Lab

GRADE 6 · 6.NR.2.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Make a dot plot for the data set: 2, 4, 4, 6, 7, 7, 7, 9.	**2: X; 4: XX; 6: X; 7: XXX; 9: X**
2	Draw a histogram for these numbers of pages read: 11, 12, 14, 15, 16, 17, 19, 21, 23, 24. Use intervals 10-14, 15-19, and 20-24.	**10-14: 3; 15-19: 4; 20-24: 3**
3	Draw a box plot for this ordered data set: 1, 3, 5, 6, 8, 9, 10, 12, 13, 14, 17. Do not include the overall median when finding the lower and upper quartiles.	**Minimum 1, lower quartile 5, median 9, upper quartile 13, maximum 17**
4	A survey asks students which club they want to join. Make a bar graph using a scale of 1 square = 1 vote. Art: 8, Coding: 11, Drama: 14, Sports: 16.	**Art: 8; Coding: 11; Drama: 14; Sports: 16**
5	A dot plot is shown by this list: 4: X; 5: XX; 6: XXXX; 7: X. What are the mode and the range?	**Mode: 6; range: 3**
6	A box plot has minimum 2, lower quartile 7, median 10, upper quartile 15, and maximum 21. What are the interquartile range and the median?	**Interquartile range: 8; median: 10**

PART 2 · APPLY IT

1. **0-9: 4; 10-19: 5; 20-29: 3. The interval 10-19 has the most sessions.** Count the data values in each interval. The 10-19 interval contains 5 values, which is more than either other interval.
2. **Robotics: 14; Art: 9; Basketball: 17; Music: 11. Basketball has the most votes and has 8 more votes than Art.** Make one bar for each category with its vote total. Subtract 9 from 17 to compare Basketball with Art.

CHALLENGE

Group B. Its interquartile range is 4 because 12 - 8 = 4. Group A's interquartile range is 6 because 13 - 7 = 6.

Accept correctly drawn graphs that use the stated scale or intervals and show the listed frequencies. For box plots, accept equivalent correct placements of the five-number summary.