LESSON MAKER PRO

Data Display Detectives

Read the variables, then read the story in the data.

HIGH SCHOOL · MA.912.DP.1.2

MA.912.DP.1.2 "Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display."

NAME _____ DATE _____

READ THE DISPLAY

Name the variable first. Measurements or number values are numerical, while names or groups are categorical. One variable is univariate, and two paired variables are bivariate, so use labels, frequencies, and points to interpret the display.

WORKED EXAMPLE

A frequency table shows preferred lunch: Wrap 15, Salad 21, Soup 27. Classify the data and name the most common lunch.

1. The variable is preferred lunch.
2. Lunch choices are groups, so the data are categorical and univariate.
3. The greatest frequency is 27.

Answer: Categorical, univariate; Soup is the most common lunch.

PRACTICE 5 problems

1 A dot plot of commute times shows: 12: XX, 14: XXX, 16: X. Is the data numerical or categorical, and how many students have a 14-minute commute?

ANSWER _____

2 A bar graph shows club sign-ups: Art 10, Robotics 13, Drama 8. Is the data univariate or bivariate, and which club has the most sign-ups?

ANSWER _____

3 A table records travel method and study location. Library Home Bus riders 14 18 Walkers 20 16 Classify the data and state how many walkers study in the library.

ANSWER _____

4 A scatter plot has x = hours of sleep and y = caffeine milligrams before noon. It includes (2, 30), (3, 25), and (4, 20). Classify the data and interpret (3, 25).

ANSWER _____

5 A histogram of quiz scores has these bar heights: 50-59: 2, 60-69: 5, 70-79: 9, 80-89: 6. Classify the data and name the interval with the most scores.

ANSWER _____

APPLY IT Show your work

1 Student council surveys grade level and event choice. Concert Movie Grade 9 18 12 Grade 10 14 16 Classify the data. How many surveyed students chose Movie?

WORK SPACE

ANSWER _____

2 An esports club graphs practice sessions in one week, x, and points earned in a game, y. The points are (1, 40), (2, 55), and (3, 70). Classify the data, interpret (2, 55), and describe the association.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two playlists show song lengths in minutes. Playlist A: 2, 3, 3, 4, 5 Playlist B: 1, 3, 4, 4, 8 Classify each display. Compare the median and range, then decide which playlist has more consistent song lengths.

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_____

ANSWER KEY

Data Display Detectives

HIGH SCHOOL · MA.912.DP.1.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A dot plot of commute times shows: 12: XX, 14: XXX, 16: X. Is the data numerical or categorical, and how many students have a 14-minute commute?	**Numerical; 3 students.**
2	A bar graph shows club sign-ups: Art 10, Robotics 13, Drama 8. Is the data univariate or bivariate, and which club has the most sign-ups?	**Univariate; Robotics.**
3	A table records travel method and study location. Library Home Bus riders 14 18 Walkers 20 16 Classify the data and state how many walkers study in the library.	**Categorical, bivariate; 20 walkers.**
4	A scatter plot has x = hours of sleep and y = caffeine milligrams before noon. It includes (2, 30), (3, 25), and (4, 20). Classify the data and interpret (3, 25).	**Numerical, bivariate; a student slept 3 hours and had 25 milligrams of caffeine before noon.**
5	A histogram of quiz scores has these bar heights: 50-59: 2, 60-69: 5, 70-79: 9, 80-89: 6. Classify the data and name the interval with the most scores.	**Numerical, univariate; 70-79.**

PART 2 · APPLY IT

1. **Categorical, bivariate; 28 students chose Movie.** Grade level and event choice are both categorical variables. Add the Movie counts: 12 + 16 = 28.
2. **Numerical, bivariate; 2 practice sessions are paired with 55 points; the association is positive.** Each point pairs two numerical measurements. As practice sessions increase, points increase.

CHALLENGE

Both displays are numerical and univariate. Playlist A has median 3 and range 3. Playlist B has median 4 and range 7. Playlist A is more consistent because its range is smaller.

Accept equivalent descriptions such as “two categorical variables” for bivariate categorical data. For the challenge, accept any correct comparison that uses the medians and ranges.