

Scatter Story Detectives

Describe direction, form, strength, and outliers.

GRADE 8 • MA.8.DP.1.2

MA.8.DP.1.2 "Given a scatter plot within a real-world context, describe patterns of association."

NAME _____

DATE _____

READ THE PATTERN

Look for whether points rise, fall, or show no clear direction. Then describe whether the pattern is linear or curved, how closely points fit it, and any outlier.

WORKED EXAMPLE

A scatter plot of months of practice and songs learned has points (2,3), (5,6), (8,9), and (11,12). Describe the association.

1. The points rise from left to right.
2. They lie on a straight line.
3. No point is far from the pattern.

Answer: Strong positive linear association with no outliers.

PRACTICE 5 problems

- 1** A plot of practice laps and running time has points (1,4), (4,7), (7,10), and (10,13). Describe the association.

ANSWER _____

- 2** A plot of outdoor temperature and hot-chocolate sales has points (1,16), (4,14), (7,10), and (10,7). Describe the association.

ANSWER _____

- 3** A plot compares locker number and backpack mass. Its points are (4,17), (7,1), (10,19), and (13,4). Describe the association.

ANSWER _____

- 4** A plot of horizontal distance and a kicked ball's height has points (0,4), (4,12), (7,18), (10,12), and (13,4). Describe the association.

ANSWER _____

- 5** A plot of distance traveled and travel time has points (0,0), (4,12), (7,21), (10,30), and (13,1). Describe the association and name the outlier.

ANSWER _____

APPLY IT Show your work

- 1** A basketball player plots weekly free-throw practice sessions and free-throw percentage: (1,42), (4,56), (7,70), (10,84). Describe the pattern. Does the plot prove that practice caused the higher percentages?

WORK SPACE

ANSWER _____

- 2** A student plots minutes of social media after 7 p.m. and next-day alertness rating out of 20: (10,19), (20,16), (30,13), (40,10), (50,7). Describe the pattern.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two scatter plots compare minutes reviewing science notes and quiz score. In Plot A, the points are close to an upward-sloping line. In Plot B, the points also rise, but they are spread much farther from a line. Which plot shows the stronger association? Explain.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A plot of practice laps and running time has points (1,4), (4,7), (7,10), and (10,13). Describe the association.	Strong positive linear association with no outliers.
2	A plot of outdoor temperature and hot-chocolate sales has points (1,16), (4,14), (7,10), and (10,7). Describe the association.	Strong negative linear association with no outliers.
3	A plot compares locker number and backpack mass. Its points are (4,17), (7,1), (10,19), and (13,4). Describe the association.	No clear association.
4	A plot of horizontal distance and a kicked ball's height has points (0,4), (4,12), (7,18), (10,12), and (13,4). Describe the association.	Strong nonlinear, curved association. There is no positive or negative linear association.
5	A plot of distance traveled and travel time has points (0,0), (4,12), (7,21), (10,30), and (13,1). Describe the association and name the outlier.	Positive linear association with an outlier at (13,1).

PART 2 • APPLY IT

- Strong positive linear association with no outliers. No, the plot does not prove that practice caused the higher percentages.** The points form a rising line. Scatter plots show association, not proof of cause.
- Strong negative linear association with no outliers.** As social media minutes increase, alertness ratings decrease in a straight-line pattern.

CHALLENGE

Plot A shows the stronger positive linear association because its points are closer to a line.

Accept equivalent descriptions such as upward or downward for positive or negative. For nonlinear patterns, accept curved or arch-shaped when the response also states that the pattern is not linear.