

Name: _____

Date: _____

Answer Key: Data Detectives: Solving the Case of the Missing Track Star for 4th Grade

Evidence sorting, trend spotting, and source verification. Students apply data analysis to solve real-world mysteries using digital spreadsheets and athletic statistics.

1. The local animal shelter wants to know which food cats like best. They only ask 3 people who own dogs. Why is this data 'unreliable'?

Answer: A) The sample group does not match the topic.

To get accurate data about cats, you need to collect information from people or animals related to the topic. Dog owners may not have the right information.

2. A line graph showing a plant growing taller every day is an example of a data trend.

Answer: A) True

A trend is a general direction in which something is changing or developing, such as a plant getting taller over time.

3. When you put a list of student names in alphabetical order (A-Z) in a digital spreadsheet, you are _____ the data.

Answer: B) Sorting

Sorting is the process of organizing data into a specific order, like alphabetical or numerical, to make it easier to read.

4. If you are researching the average temperature in the Amazon Rainforest, which source is the most 'credible' (trustworthy)?

Answer: C) A 2023 report from a National Weather Organization.

Official weather organizations use scientific tools to collect accurate, up-to-date data, making them more credible than personal blogs or comments.

5. Data can only be shown in numbers; it cannot be shown in pictures or symbols.

Answer: B) False

Data can be represented in many ways, including pictographs, maps, and even colors in a legend.

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6. A digital school library system uses _____ to protect student records so that only authorized teachers can see them.

Answer: B) Encryption or passwords

Data management involves protecting privacy. Passwords and encryption ensure that sensitive information stays secure.

7. You see a chart showing that ice cream sales and shark attacks both go up in July. What is the most logical conclusion?

Answer: C) Warmer summer weather leads to more of both activities.

Just because two things happen at the same time doesn't mean one causes the other. Usually, a third factor (like summer heat) explains the trend.

8. If you find a data error in your spreadsheet, you should keep it there to show how hard you worked.

Answer: B) False

Data integrity means keeping data accurate. If you find an error, you should correct it so your conclusions are right.

9. When a scientist looks at 100 different experiments to see if they all had the same result, they are _____ the data.

Answer: D) Evaluating

Evaluating data means checking for patterns and consistency across different sources to see if the information is reliable.

10. A grocer notices that they run out of apples every Tuesday. How can they use this data to solve the problem?

Answer: B) Order more apples to arrive on Monday night.

Using data means making a decision based on the facts you found. Ordering more apples before the busy day solves the shortage.