Name: _____ **Date:** _____

Are Your Findings Fact or Friction? 4th Grade Data Sleuth Quiz

Imagine you're a city planner deciding on a new park location—these challenges require you to weigh conflicting evidence and spot bias in complex datasets.

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1. A wildlife biologist wants to prove that local wolf populations are growing. She only counts the wolves in one small forest where they are common, ignoring the surrounding fields. What is wrong with her data collection?

A. The data is too old to be useful
B. The sample is biased and not representative
C. She used a digital scale instead of a ruler
D. There are too many data points to analyze

2. When you look at a graph and decide what the numbers actually mean for a real-world problem, you are performing data _____.

A. Collection
B. Storage
C. Interpretation
D. Encryption

3. True or False: If two graphs show the exact same numbers but use different scales on the side, they can lead people to two different conclusions.

A. True
B. False

4. You find a website claiming that '90% of kids hate broccoli,' but the survey was funded by a company that sells chocolate. Why should you be skeptical?

A. The data is likely accurate because it is a high percentage
B. The source has a conflict of interest
C. The website uses too many bright colors
D. Kids usually prefer broccoli over chocolate

5. A library wants to protect its digital records from being stolen by hackers. The best way to manage this data safely is through _____.

A. Alphabetizing
B. Deletion
C. Encryption
D. Printing

6. Two weather apps show different forecasts for tomorrow. One uses data from five years ago, and the other uses data from the last hour. Which is more reliable?

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A. The five-year-old data because it is more established
B. The five-year-old data because it has a larger sample
C. The one-hour-old data because it is more current
D. Neither, because weather data cannot be measured

7. True or False: Using 'Metadata' (data about data) like the date a photo was taken can help you determine if an image is being used to spread misinformation.

A. True
B. False

8. An oceanographer collects thousands of temperature readings from the Atlantic Ocean. To find a pattern over 10 years, which method would be most effective?

A. Reading every single number out loud
B. Using a data visualization tool to create a trend line
C. Storing the data in a locked wooden chest
D. Deleting any numbers that are lower than average

9. If a researcher only shares the data that supports their idea and hides the data that proves them wrong, they are guilty of _____.

A. Data Mining
B. Cherry-picking
C. Categorizing
D. Backing-up

10. True or False: Information found on a government (.gov) or university (.edu) website is generally considered more credible than a social media post.

A. True
B. False