

Name: _____ Date: _____

Answer Key: Dissect the Scientific Logic: A 6th Grade General Science Quiz

Can you distinguish a prediction from a procedure? Identify core scientific steps using everyday scenarios like bicycle rust and light bulb failures.

1. A student notices that her bicycle chain is rusting after being left in the rain. Which initial step of the scientific method does this represent?

Answer: B) Making an Observation

Observation is the act of noticing and describing events or processes in a careful, orderly way using the senses.

2. When a scientist writes down a 'testable explanation' for an event, such as 'If I use a LED bulb, then the battery will last longer,' what is this called?

Answer: C) A Hypothesis

A hypothesis is a tentative scientific explanation that can be tested by further observation or by experimentation.

3. In the scientific method, after a scientist collects information through an experiment, they must perform _____ to see what the results mean.

Answer: A) Data Analysis

Data analysis is the process of inspecting and modeling data to discover useful information and support decision-making.

4. True or False: A scientist should only communicate their results if their hypothesis was proven to be correct.

Answer: B) False

Communication is vital for all results; knowing a hypothesis is wrong is just as important for scientific progress as knowing one is right.

5. Which of these is the most likely step to take immediately after you realize your flashlight won't turn on?

Answer: C) Ask a question about why it isn't working

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The scientific method usually begins with a question triggered by an observation.

6. A step-by-step list of instructions followed during an experiment is known as the ____.

Answer: B) Procedure

The procedure details the exact steps taken so that other scientists can replicate the experiment.

7. True or False: Doing research before forming a hypothesis helps a scientist make a more informed prediction.

Answer: A) True

Background research ensures the scientist isn't repeating basic mistakes and understands the existing facts about the topic.

8. If a scientist finds that their data does NOT support their hypothesis, what is the best next step?

Answer: C) Revise the hypothesis and test again

Science is an iterative process; when a hypothesis is refuted, scientists use that new knowledge to form a better, more accurate hypothesis.

9. The final step where a scientist summarizes the results and states whether the hypothesis was supported is called the ____.

Answer: C) Conclusion

The conclusion ties the data back to the original question and hypothesis.

10. True or False: The scientific method is a rigid 'rulebook' that must always be followed in the exact same order without variation.

Answer: B) False

While it provides a structured framework, real science is often fluid, with steps being repeated or looped back as new information is discovered.