Name: _____ **Date:** _____

Answer Key: Protocol and Prevention: Your 4th Grade Lab Safety Briefing

Analyze complex high-stakes scenarios and structural hazards to maintain a secure environment for scientific inquiry.

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1. You notice your lab partner is heating a liquid in a test tube while pointing the opening directly toward a nearby group of students. What is the most responsible action to take?

Answer: B) Immediately ask them to tilt the tube away from everyone.

Safety is proactive; chemicals can 'bump' or splash out of a heated tube, so the opening must always face away from people.

2. Even if a substance looks and smells clearly like plain water, you should never taste it in a laboratory setting.

Answer: A) True

Clear liquids in labs can be dangerous acids or bases; tasting or touching unknown substances is strictly forbidden to prevent poisoning or burns.

3. When you finish an experiment, the proper way to handle leftover materials is to ____.

Answer: C) Follow your teacher's specific disposal instructions

Some chemicals can damage pipes or react dangerously; teachers provide specific disposal protocols (like hazard bins) that must be followed.

4. While investigating friction, a heavy wooden block falls and cracks a glass beaker. The glass has not spilled any liquid yet. What is your priority?

Answer: C) Inform the teacher immediately and keep others away from the area.

Broken glass is a major hazard; students must never handle it themselves, and the instructor must manage the cleanup with proper tools.

5. If a student has long hair, they should ____ before beginning a lab involving pulleys, fans, or heat sources.

Answer: B) Tie it back securely with a hair tie

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Loose hair can easily get caught in moving mechanical parts or accidentally dip into chemicals or flames.

6. Identify the standard procedure for identifying the odor of a chemical substance without inhaling a dangerous amount of vapor.

Answer: B) Use your hand to wave the scent toward your nose (wafting).

Wafting allows you to detect the scent safely by mixing the vapors with air before they reach your respiratory system.

7. It is acceptable to run in the lab only if you are rushing to get a fire extinguisher for an emergency.

Answer: B) False

Even in an emergency, running can cause trips and collisions that make the situation worse; walking quickly and calmly is the safest protocol.

8. During a circuit-building activity, you notice the plastic coating on a wire is melted and the wire is glowing. What is the correct evaluation of this hazard?

Answer: C) This is a short circuit; disconnect the power source immediately.

Melted insulation and glowing wires indicate excessive heat from a short circuit, which is a fire risk that requires cutting the power.

9. A safety data sheet (SDS) for a classroom substance would be most useful for ____.

Answer: B) Finding out how to clean up a large spill of the substance

SDSs provide technical information on hazards, first aid, and specific cleanup procedures for any chemical.

10. If you are wearing prescription eyeglasses, you do not need to wear safety goggles over them.

Answer: B) False

Standard eyeglasses do not have side shields or impact-resistant seals; specialized lab goggles must be worn over them to provide full protection.