Name: _____ **Date:** _____

Protocol & Precaution: 9th Grade Lab Safety Logic Quiz

Challenge students with scenario-based analysis of SDS data and hazard containment during their next bell-ringer or pre-lab assessment.

---

1. A student is heating a test tube over a Bunsen burner. To adhere to standard safety protocols, how should the test tube be positioned?

A. Capped with a rubber stopper to prevent vapor loss
B. Pointed at a slight angle away from themselves and others
C. Held vertically to ensure even heat distribution
D. Positioned so the opening is facing the instructor for inspection

2. If a concentrated acid is spilled on the laboratory bench, the first step is to immediately neutralize it with a strong base.

A. True
B. False

3. When diluting a concentrated acid, you should always add the ___ slowly to the ___ to safely dissipate the heat of reaction.

A. water; acid
B. acid; water
C. base; acid
D. solvent; solute

4. While searching the Safety Data Sheet (SDS) for a new reagent, you see a '4' in the red diamond of the NFPA 704 symbol. What does this indicate?

A. Extremely high health toxicity
B. Severe reactivity or instability
C. Extreme flammability with a low flash point
D. Low risk; the substance is non-combustible

5. Which piece of safety equipment is most appropriate for extinguishing a fire that has ignited the clothing of a fellow student?

A. Class C fire extinguisher
B. Chemical fume hood
C. Safety shower
D. Fire blanket

6. Safety goggles are only required when working with corrosive liquids, not when handling dry solids or glassware.

A. True

B. False

7. You accidentally break a mercury thermometer. Which action is the most scientifically sound next step?

A. Sweep it into the regular trash immediately
B. Wash the area with soap and water before it dries
C. Notify the instructor to use a specialized spill kit
D. Vacuum the beads to ensure all vapor is captured

8. Before beginning a titration using a glass burette, you should inspect the equipment for 'stars' or 'hairlines' which are types of ____.

A. optical illusions
B. manufacturing flaws
C. glassware stress fractures
D. chemical residues

9. Contact lenses are generally discouraged in the lab because they can trap chemical vapors against the cornea.

A. True
B. False

10. A 9th-grade student needs to identify an unknown gas produced in a reaction. What is the correct technique to assess its odor?

A. Inhale deeply with the nose directly over the vessel
B. Waist-level breathing while holding the vessel far away
C. Wafting the air toward the nose with a hand motion
D. Testing the gas with a pH strip instead of smelling it