

List of Possible Unknowns

Solids

Sodium Acetate
Sand [white]
Calcium Carbonate
Vitamin C
Salt
Sugar
Flour
Plaster of Paris
Corn Starch
Baking Soda
Powdered Gelatin
Powdered Alka-Seltzer
Yeast

Metals

Aluminum
Iron
Zinc
Magnesium

Liquids

Lemon Juice
Rubbing Alcohol
Household Ammonia
Water
Vinegar
Hydrogen Peroxide
Soap

Identification of Unknowns

Instructions: Identify the names of each unknown substance and write its name on the line matching the number of the container in which it is found.

- | | |
|----------|-----------|
| 1. _____ | 9. _____ |
| 2. _____ | 10. _____ |
| 3. _____ | 11. _____ |
| 4. _____ | 12. _____ |
| 5. _____ | 13. _____ |
| 6. _____ | 14. _____ |
| 7. _____ | 15. _____ |
| 8. _____ | |

Crime Scene Evidence

Two **powdered, non-metallic** substances were found at the crime scene. The powders match those in containers 1 and 6. On the lines provided **write the last name[s] of the suspect[s]** from whom similar powder sample[s] were collected.

Container 1: _____

Container 6: _____

Two **metallic** substances were found at the crime scene. The metals match those in unknown containers 10 and 14. On the lines provided **write the last name[s] of the suspect[s]** from whom similar metal sample[s] were collected.

Container 10: _____

Container 14: _____

Two **liquid** substances were collected at the crime scene. The liquids match those in unknown containers 9 and 15. On the lines provided, **write the last name[s]** of the suspect[s] from whom similar liquid sample[s] collected.

Container 9: _____

Container 15: _____

Several drops of blood were discovered on a broken bottle found at the scene of the crime. Blood samples were taken from each of the suspects. The DNA recordings have been attached to the rear of this packet. On the line provided, **record the name of the suspect** whose blood sample matches the blood found at the scene.

The bottle was brushed for fingerprints, and one usable print was found. That fingerprint plus those lifted from the suspects are attached to the rear of this packet. Attempt to match the fingerprint found with those collected from the suspects. On the line provided, **record the name of the suspect** whose fingerprint matches the one found on the bottle.

A note, found at the crime scene, reflects frustration with the extra effort resulting from Science Olympiad activities. A chromatogram was made of the ink used in writing the note. That chromatogram is attached to the rear of this packet. Match the chromatogram with those made from each suspect's pen. On the line provided, **record the name[s] of the suspect[s]** whose ink match[es] the chromatogram of the ink discovered at the scene.
