

CRIME BUSTERS

Description:

Participants use tests to identify unknown powders, match fingerprints and use paper chromatography to identify a note found at a crime scene.

Number of Participants: 2

Approximate Time: 60 minutes

The Competition:

1. The powders used will come from the following list: salt, granulated sugar, Plaster of Paris, salt, flour, cornstarch, baking soda, limestone and sand.
2. Each team will be given seven vials each containing one substance and two vials containing a mixture of two substances. Teams will be supplied with the following materials to aid in the identification of the powders: water, 1M hydrochloric acid (or vinegar), iodine solution (KI₃), a magnifying glass, and several plastic cups. Students will be provided with a list of the possible powders.
3. Touching, tasting or feeling of the substances is not allowed.
4. Students must bring and wear their own chemical splash-proof goggles and a lab apron or coat.
5. Students will be given a set of fingerprints from several suspects. They will be asked to match the fingerprints found at the scene.
6. Students will be asked to make a chromatogram from a pen and use this to help identify the criminals. Chromatograms will be turned in with the test sheet.
7. After all the evidence is collected the students will be asked to identify who committed the crime and why they believe this is the criminal.

Scoring:

The score will be based on the following formula: Identification of powders - 50%, chromatography - 15%, fingerprints - 10%, and identification of the criminals 25%.

