Crime Scene Investigator

Project Skills:
Measuring, collecting, recording, and analyzing information

Life Skills:
Teamwork, Problem Solving, Critical Thinking, Decision Making

Academic Standards:
SC.H.3.2, #2 and #4; MA.3.S.7.1; MA.5.G.5.3

Grade Level(s): 3-5

Time: 60-90 minutes

Supplies Needed:
- Crime Report Packs
- Leader guide
- Evidence Bags
- Coffee filters
- Plastic cups
- Straws
- Rulers
- Hole Punch
- Magnifying glasses
- Rubbing alcohol
- Index cards
- Wide scotch tape
- Pencils

BACKGROUND
With so many shows on television based around crime scene investigators, it provides a wonderful opportunity to teach youth about the scientific method and how to conduct experiments. The televisions can make forensic science seem very glamorous or exciting, but in reality it requires lots of patience, dedication, and hard work. This lesson will use two forensic techniques to solve the mystery of who stole the teacher’s laptop.

INTRODUCTION
Crime scene investigators collect and record clues left behind by criminals to help figure out who committed the crime. Today, each of you is a CSI at the University of Florida Crime Lab. You will use some of the techniques that CSI’s use to solve a crime that has been committed. To be a good CSI, you need to be very alert and attentive to everything going on around you. You also have to be patient and follow directions exactly so that you don’t contaminate or destroy the evidence.

Earlier today, your teacher’s laptop was stolen! The only clues left behind were a ransom note and some fingerprints found on a bottle of water that was on the floor beside the teacher’s desk. Working in teams of _____, you will use chromatography to decide which suspects wrote the ransom note. You will also analyze fingerprints to see who was in the teacher’s office at the time the crime was committed. Your crime report pack will contain the directions for your experiment.

Every good experiment follows the scientific method. Let’s take a moment to review:

1. What is our problem or goal?
2. What type of research or observations do we have to make? (Background information on chromatography and fingerprints are in the crime report packs).
Advance Preparation:
- Divide the group into teams of 4 or 5
- Read over the leader guide
- Check to make sure all of the materials are in the crime packs.
- Set up a crime lab for each group (table or pod)
- Practice each experiment ahead of time

*Adapted from Crime Investigations Science Workshop by Linda S. Hodges, North Texas University

NOTES:

3. After reading the suspect list, what is your hypothesis about who you think committed the crime?
4. Conduct the Experiment. We will do the chromatography experiment first; and while waiting for the paper to dry, conduct fingerprinting activity.
5. Conclusion. Based on the results of your experiments, each team will form a conclusion as to who they think committed the crime.

WHAT TO DO
Give each team a copy of their crime report pack, and send them to their “crime lab.” Assign one youth on each team to be the data recorder. Start with the chromatography activity:
1. Have youth take turns reading the background information on chromatography.
2. Make sure you have used one of the pens to write a “ransom note” and place it in evidence bag “A”. After showing the youth the note, cut the note into 1” strips and give a strip to each group for testing.
3. Have each group test a pen from the other evidence bags (B, C, or D) and perform the same test.
4. While waiting for the strips to dry, conduct the fingerprint activity.
5. Have youth take turns reading the background information on fingerprinting.
6. Have each youth make a print of their right index finger and determine what type of pattern they have.
7. Next, have youth compare the fingerprint lifted from the water bottle (evidence bag E) against the fingerprints from the suspects (evidence bags F, G, and H).
8. Once the strips are dry, have them measure the color spread with a ruler and record it on their crime report worksheet.
9. Based on the data they collected; ask youth to form a conclusion about who they think committed the crime.
10. Have each group share their conclusion before sharing the correct answer.
TALK IT OVER

Sharing-
- How do you feel about this topic?
- What was the hardest part of this activity?
- What were some of the challenges working as a team?

Processing-
- What different methods did you use to determine who stole the laptop?
- What other types of evidence do you think crime scene investigators would look for besides fingerprints or ransom notes?

Generalizing-
- What other situations in life require you to make observations to solve a mystery?
- Have you ever used data to prove a point?
- Why is it important to collect all the information before making a judgment?

Applying-
- Can you think of other situations where the scientific method could help solve crimes?
- What would you do differently if you had to do this activity again?
- What other situations have required you to make an educated guess, and how did it turn out?

ENHANCEMENT

Invite a detective or CSI to visit your group. Help youth prepare interview questions in advance. For more information and activities, the following books and websites are recommended: www.courttv.com/forensics_curriculum; Crime Scene Investigations by Pam Walker and Elaine Wood; Detective Science by Jim Wiese

TRAINER TIP

The youth really enjoy acting the scenario out. If possible, set up the teacher’s desk as a real crime scene and have the students visit the scene to collect the evidence. You can even have volunteers play the role of each suspect. Once the youth have practiced the investigation techniques, they can write their own scenarios and “who-dun-it” stories.