

Paper Chromatography Lab

Forensic Lesson Plan

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Description:

Analyze paper chromatography on ink samples collected from three different pens and the partial ransom note.

Objective:

Learners will analyze the chromatography to determine which type of pen could have been used to write the note.

Materials Needed:

Paper chromatography

Partial ransom note (each learner's group will need a piece of the note large enough to cut into three sections)

Two chromatography chambers with plastic lids, per group

Three sample pens labeled A, B, and C, per group

Filter paper

Rubbing alcohol

Pencil

Labeling tape

Paper clips

Stirring rod

Safety goggles

Lesson Description:

At the beginning of class, students will learn about paper chromatography and how it might be useful in an investigation. They will also learn how to perform the test properly and analyze their findings. They will then perform paper chromatography of ink samples collected from various pens.

Background Information:

Make copies of ransom note you create before cutting it into pieces. You will need these for handwriting analysis for the next lesson.

Lesson Steps:

- 1) Find three types of pens to use as sample pens for the experiment. Use black, felt tip pens; one permanent (not soluble in water but soluble in alcohol), and two water-soluble pens. Each group needs to have all three pen types. One of the pens should be the one with which you write the ransom note.
- 2) Cut filter paper into pieces, approximately 3-4 cm. wide and 10 cm. long, you can use thick coffee filters for this. Each group will need 12 pieces of filter paper.
- 3) At the conclusion of this lab, the learners will be able to match and describe the samples comparing the analysis of each by using science and forensics.

Lab Execution:

- 1) Review information gathered in the investigation.
- 2) Distribute the “Paper Chromatography” handout to students and discuss the set-up of the experiment.
- 3) Instruct students to complete the experiment and discuss the results and what impact they may have on an investigation.

Conclusion:

Write a paragraph on the results of the laboratory experiment. Was the data conclusive? Why or why not?

Note:

If you have any questions or would like to request more information, please contact Dr. Gale Rabalais, PhD.Psy.
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