

Heading**QUICK LAB: Mixtures (p. 39 text)****PURPOSE**

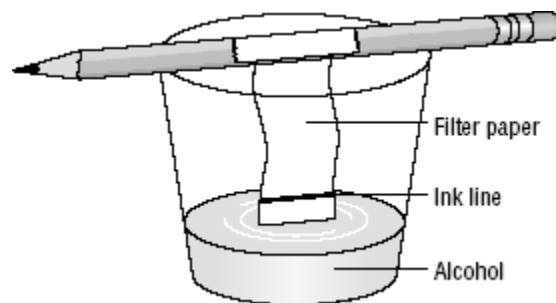
To separate a mixture using paper chromatography.

Background Information**Hypothesis****Equipment**

- green marking pen
- metric ruler
- pencil
- clear plastic drinking cup
- filter paper strip
- clear plastic tape
- rubbing alcohol
- clear plastic wrap

Procedures

1. Use the marking pen to draw a line across a strip of filter paper as shown in the drawing. The line should be 2 cm from one end of the strip.
2. Tape the unmarked end of the filter paper to the center of a pencil so that the strip hangs down when the pencil is held horizontally.
3. Working in a well-ventilated room, pour rubbing alcohol into a plastic cup to a depth of 1 cm.
4. Rest the pencil on the rim of the cup so that the ink end of the strip touches the alcohol, but does not extend below its surface. Use plastic wrap to cover the top of the cup.
5. Observe the setup for 15 minutes.
6. You can also try using food coloring of different colors (make dots on the paper) and use water as the solvent in place of alcohol.



Calculations and Data

1. How did the appearance of the filter paper change during the procedure?

Conclusions

Address Hypothesis

Analysis

Questions

1. What evidence is there that green ink is a mixture?
2. How could you use this procedure to identify an unknown type of green ink?

Errors

Bibliography

If you do not have the household materials to do this lab, try the following video (ignore the “ R_f value” portion):

<https://screencast-o-matic.com/watch/cFQQFOq5ml>

CALCULATIONS & DATA

1. How did the appearance of the filter paper change during the procedure?

Bands of colors appeared as the alcohol moved up the paper.

CONCLUSIONS

1. What evidence is there that green ink is a mixture?

The bands of colors indicate that green ink is a homogeneous mixture because it separated out into component colors. Solutions (homogeneous mixtures) can be separated by distillation, chromatography, and electrophoresis. Heterogeneous mixtures can be separated by filtration, magnetism, and centrifugation, but solutions cannot be.

2. How could you use this procedure to identify an unknown type of green ink?

The color pattern of the unknown ink could be compared with color patterns from known types of green ink.