

Is Black Really Black?

Eighth Grade

Activity: 3

Time: 1 Class Period

General Description

Students will use the process skills of observation, questioning while investigating what solvents and solutes make up black ink

Objectives

Students will use process skills to determine what colors of ink make up black ink

Students will identify the solvent and the solute in this activity

Arizona State Standards

SC08 S1C1 PO1 Formulate questions based on observations that lead to the development of a hypothesis

SC08 S1C2 PO1 Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry

SC08 S1C2 PO4 Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers)

SC08 S1C2 PO5 Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs

SC08 S1C3 PO1 Analyze data obtained in a scientific investigation to identify trends

SC08 S1C4 PO1 Communicate the results of an investigation

W08 S3C3 Write a variety of functional text (e.g., directions, recipes, procedures, rubrics, labels, poster, graphs/tables)

Teacher Information

Make sure that you model the correct procedure to the students. Allow them plenty of time to make observations and predictions. Warn students that if the ink gets on their clothes it will stain the clothes. You could do this activity with ball point pens and finger nail polish but it is recommended that the teacher do this as a demonstration and not allow the students to work with the solvents.

Materials

Several different brands of washable black markers

Coffee filters or filter paper

Pipe cleaners, color does not matter

Small beakers or clear plastic cups

String for a clothes line

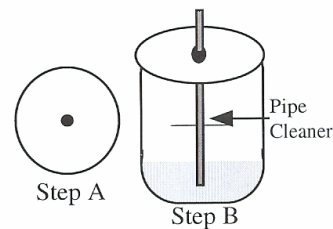
Clothes pins or large paper clips

Activity Card 8-3

Science Journal

Procedures/Exploration

1. Look at the diagram to the right as you read the directions.
2. Use one brand of marker and draw a dark circle in the center of the filter paper; the circle should be the size of a dime.
3. Insert one end of the pipe cleaner into the center of the ink mark. Have the opposite end long enough that it will reach the water.
4. Place the long end of the pipe cleaner into the water.
5. Do this for all three brands of markers.
6. Give all three types time to soak up the water and the pigments to separate.
7. Record your observations in your science journal or on Activity Card 8-3.
8. If you are not using Activity Card 8-3, answer the following questions in your journal.
 - a. What did you observe about the black ink?
 - b. What colors did you observe for each pen
 - c. Identify the solute and the solvent for this activity.
 - d. What will happen if you use a permanent marker? Explain why you believe that will happen using evidence from this activity.



Is Black really Black?

**Eighth Grade
Activity: 3
Activity Card: 8-3**

Student's Name:

Date:

Answer the following questions using complete sentences.

1. What did you observe about the black ink?
2. What colors did you observe for each pen?
 - a.
 - b.
 - c.
3. Identify the solute and the solvent for this activity.
4. What will happen if you use a permanent marker? Explain your reasoning based on the evidence in this activity.