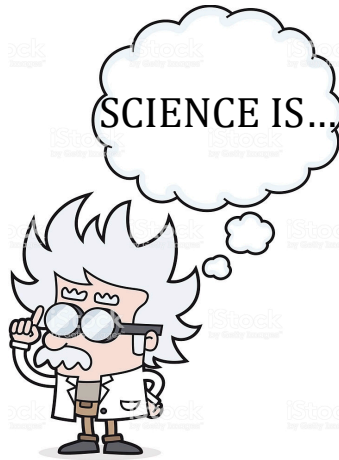


Name:

Pattern:

Science 8 Introductory Lab
Senator Joyce Fairbairn Middle School

1. What Is Science? Fill in a thought bubble below based on class discussion



2. Define *science*:
3. Define *variable*:
4. In a good science experiment, how many variables are changed at once?
Why?
5. Define *controlled variable*
6. Define *independent variable (sometimes called manipulated variable)*:
7. Define *dependent variable (sometimes called responding variable)*:

Name:

Pattern:

Problem: What effect does temperature have on an aluminum can containing three teaspoons of water when it is turned upside down in large container of cold water?

Materials: Hot plate, two aluminum cans, teaspoon, beaker tongs, safety glasses, larger container for cold water

SAFETY

- **Does this lab require safety glasses?**
- **Where is the fire extinguisher?**
- **Where is the emergency eyewash station?**
- **The primary fire exit is...**
- **The secondary fire exit is ...**
- **Describe the hazards associated with a hot plate?**
- **What should you always assume about a hot plate?**
- **What eventually happens to water when it is heated?**
- **What does the verb *scald* mean?**
- **Describe how boiling water in a can could be harmful?**
- **How should you move the hot aluminum can?**

Procedure

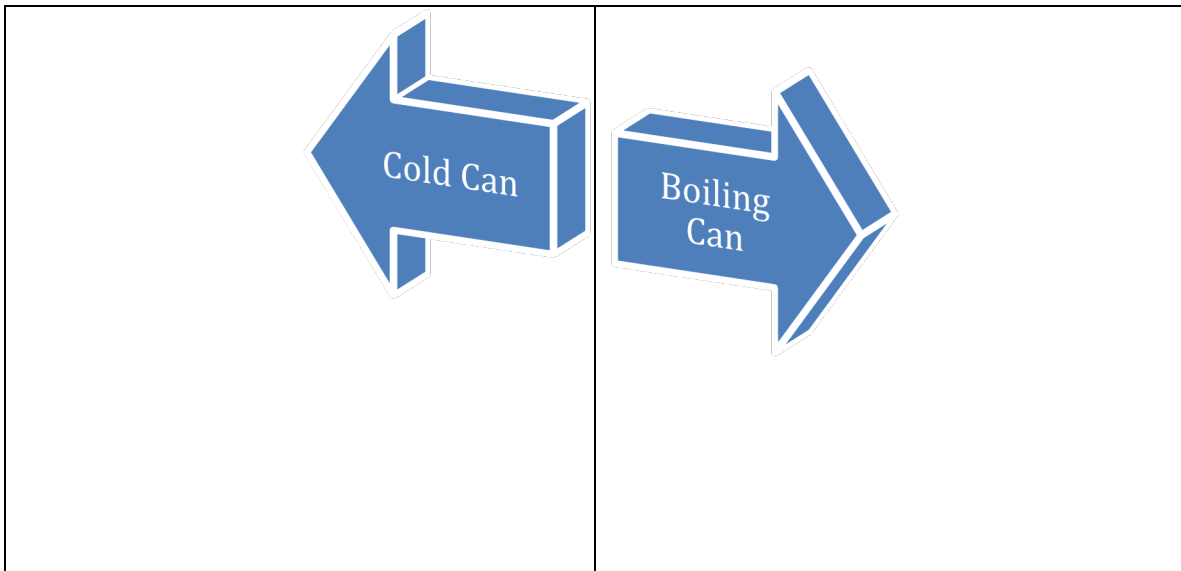
1. Turn on hot plate to highest setting
 2. Put three teaspoons of water in each can
 3. Place one can on the hot plate, wait a few minutes for the water to boil
- WHILE YOU WAIT FOR THE CAN TO BOIL:**
4. Use the beaker tongs to pick up the other can (the one not on the hot plate). Quickly turn the can upside down in the container of cold water so the top is completely submerged. Record your observations on the next page
 5. When steam is rising from the top of the can on the hot plate, use the beaker tongs to quickly turn it upside down, completely submerging the top of the can in cold water. **BE CAREFUL NOT TO SPLASH BOILING WATER OUT OF THE CAN, IT WILL SCALD YOU.** Record your observations on the next page.
 6. Turn the hot plate off but do not unplug it. Use paper towels to clean up any spilled water. Throw wet paper towels in the garbage can.

Name:

Pattern:



Observation Chart:



List four *controlled variables* for this experiment:

What was the *independent (manipulated) variable*?

What was the *dependent (responding) variable*?