



Lab Station H: Surface Area to Volume Effects... Bet I Can Beat'cha!

Purpose

The purpose of this lab activity is to demonstrate the effect of varying surface area to volume ratios of the same materials on the rate of reaction.

Safety Precautions

- Wear goggles during this lab investigation.
- Don't eat or drink anything at your lab station.
- Deposit chemical waste according to the instructions of your teacher. Do not flush solution into the drain.
- Use caution when handling glassware.

Reagent

- One teaspoon $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$ crystals, per group

Materials

- One teaspoon
- One glass stirring rod
- Two 100 mL beakers
- Two squares, 2 inches x 2 inches, of aluminum foil
- A pair of tongs
- Paper towels and a solid waste disposal
- A clock or watch with a second hand display

Procedures

1. Fill each of the 100 mL beakers about half full with tap water.
2. Add 1 teaspoon of $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$ crystals to each of the beakers of tap water and mix well with the stirring rod.
3. Form 1 piece of aluminum foil into a loose ball; leave the other piece as is.
4. Put each of the aluminum foil pieces into their own beaker.
5. On your lab sheet, record the time that it takes for each reaction to be complete.
6. Dispose of solution and waste according to your teacher's instructions.

Teacher Notes

Cu^{2+} is a heavy metal and must be disposed of properly according to local and state regulations.