

The Properties of Water Lab

(Instruction Sheet)

Activity #1 Surface Tension: PILE IT ON.

Materials: 1 DRY penny, 1 eye dropper, water.

Procedure:

1. Make sure the penny is dry.
2. Begin by estimating the number of drops of water that can be piled on the penny before it spills over (record this on your lab sheet).
3. Gently place drops of water on the penny until the water spills over.
4. Record the results on your lab sheet.

Activity #2 Surface Tension: THE "FLOATING" PAPER CLIP

Materials: paper clip, container with water, ice.

Procedure:

1. Using a steady hand, see if you can get the paper clip to rest on the surface of the water in such a way that it will not sink.
2. After you succeed, place a piece of ice in the water and answer the questions on your answer sheet.

Activity #3: WATER AS A SOLVENT

Water is called the universal solvent. A solvent is a substance that dissolves, or breaks apart, another substance (known as a solute). A general rule that determines whether a substance will dissolve in a solvent depends upon its polarity. Polar solvents dissolve polar solutes and nonpolar solvents dissolve nonpolar solutes ("like dissolves like").

In this activity, you will compare the ability of water, alcohol, and vegetable oil to dissolve certain solids. CAUTION: Rubbing alcohol is flammable, an eye irritant, and has fumes.

Materials: graduated cylinder, alcohol, 3 beakers, 6 test tubes, test-tube rack, water, vegetable oil, sugar, and salt.

1. Prepare your test tubes according to the table below:

Test Tube #:	Liquid	Solid
1	5mL water	1g sugar
2	5mL water	1g salt
3	5mL alcohol	1g sugar
4	5mL alcohol	1g salt
5	5mL vegetable oil	1g sugar
6	5mL vegetable oil	1g salt

2. Cover each test tube with your thumb and shake. How well does each solvent dissolve the solute?
3. Observe and record the results in your table