Surface Tension Lab

Introduction
Surface tension is defined as the attractive forces* that hold a liquid together in the smallest possible surface area. In this lab you will investigate the surface tension of several liquids. [* These attractive forces between particles are also known as intermolecular forces. We will learn much more about these forces in Unit 5.]

Materials
• 3 pennies
• 3 plastic pipettes
• Paper towels
• ~ 100 mL each of tap water, hexane, and propanol.

Data Collection
1. You will record how many drops of liquid you can fit on a penny before the liquid spills off the penny. You’ll repeat this experiment three times for each of the 3 liquids. In addition to recording the results of each trial in your data table calculate the average # of drops and include this in your data table.

2. Prepare a data table (use the back of this sheet) to record your data. Number your table and give it a descriptive title that tells the reader what you are measuring. Be sure to include units of measurement. Think about the most efficient way to set up your table.

Procedure
1. Place a penny on a paper towel.
2. Fill the plastic pipette with the liquid. Always use the same pipette for a liquid. Do not contaminate the pipette with one of the other liquids.
3. Carefully place drops of liquid on the penny until the liquid spills off the penny. Remember to count the drops as you are doing this.
4. Record the number of drops that fit on the penny in your data table.
5. Dry off the penny.
6. Repeat steps #2 - #5 until you have three data points for each of the 3 liquids.

Post Lab Questions (continued on back)

1. Which liquid had the highest surface tension?

2. How did you know this liquid had the highest surface tension?

3. Why did this liquid have the highest surface tension?
4. Which liquid had the lowest surface tension?

5. How did you know this liquid had the lowest surface tension?

6. Why did this liquid have the lowest surface tension?