Glue this side down into your Science Notebook using only 4 dots of glue

"A dot is a lot."

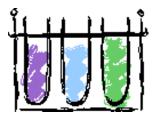
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2009

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# Rainbow Lab

#### What are solutions made of?

- Liquids mixed with other liquids
- Solids dissolved in liquids
- Gases dissolved in liquids or mixed with other gasses



If you mix things up and they stay at an even distribution, it is a solution. A simple solution is basically two substances that are going to be combined. One of them is called the **solute**. A solute is the substance to be dissolved. The other is a **solvent**. The solvent is the one doing the dissolving. As a rule of thumb, there is usually more solvent than solute. (www.Chem4kids.com)

#### **Procedure Part 1:**

- 1. Label 6 test tubes in order: A, B, C, D, E & F.
- 2. Fill a beaker half full with water. Use this to rinse your graduated cylinder and test tubes.
- 3. The second beaker is for contaminated waste water.
- 4. Into test tube **A**, measure **25** mL of **RED** liquid.
- 5. Into test tube C, measure 17 mL of YELLOW liquid.
- 6. Into test tube E, measure 21 mL of BLUE liquid.

#### **Procedure Part 2:**

- 1. From test tube **C**, measure **4** mL and pour into test tube **D**.
- 2. From test tube **E**, measure **7** mL and pour into test tube **D**. Swirl.
- 3. From test tube **E**, measure **4** mL and pour into test tube **F**.
- 4. From test tube **A**, measure **7** mL and pour into test tube **F**. Swirl.
- 5. From test tube **A**, measure **8** mL and pour into test tube **B**.
- 6. From test tube C, measure 3 mL and pour into test tube B. Swirl.

**Save your results**. Measure the contents of each test tube and record how many mL were found in each test tube.

**Data Table: Test Tube Results** 

Test Tube	Color of Liquid	Amount of Liquid (mL)
Α		
В		
С		
D		
E		
F		
Total Liquid in Test Tubes A-F		mL

### **Analysis and Results:**

## Answer the following questions in complete sentences.

- Name the three different solutes in this experiment and the one solvent.
- The solutions you made are also mixtures. Is mixing the colors together a physical change or a chemical change? Explain.
- How many mL of liquid (total) did you have at the end of the lab? How many should you have? (Hint, look at the procedures)
- 4. What are some reasons why you may have more or less liquid compared to what you started out with?
- 5. Look at your hands. Do you have any stains on your hands? If so, those stains represent **chemicals** that would be on your skin **right now!**

#### Conclusion:

Write 2 – 3 complete sentences on what you learned in this lab.