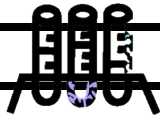


/ as you read. X as you do!

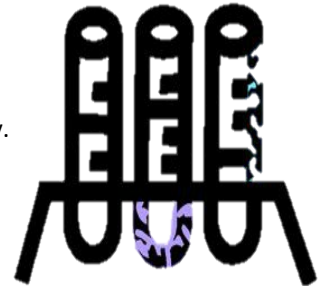


Vocabulary: **Properties** are characteristics of or “things about” substances and have to do with their **changes**.

- __1 **Physical properties** are measurable characteristics that have to do with **physical change** and include density, boiling point, melting point, color, solubility, hardness, state of matter at room temperature.
- __2. **Chemical properties** describe how the substance reacts or changes in **chemical reaction or chemical change**, and include if it burns, how much heat it produces, how easily it reacts, and if it combines with oxygen (oxidation).
- __3. **Density**, a **physical property**, is the **mass per volume** of a substance. The density value of a substance is compared to the density of water, which is **1 (one g/ml)**. **The density of a substance tells you if it floats or sinks in water. Substances layer according to their density. _____ floats on, and _____ sinks in, water.**
- __4. **Solubility** is a physical property and tells if a substance (the **solute**) **dissolves** or goes in **solution** with another substance (the **solvent**). **Dissolving** is a _____ **CHANGE**. Water is a **solvent** for many other substances.
Or: **A solute dissolves in a solvent to make a solution.**

Use layers to compare the density of water to salt water, alcohol & solid substances.

- __5. Obtain 3 test tubes with a test tube rack to hold them.
- __6. In your first tube, obtain < (less than) $\frac{1}{2}$ test tube of salt water.
- __7. In your second tube, obtain < $\frac{1}{2}$ test tube of plain water with color.
- __8. Obtain 10-15 ml of alcohol.
- __9. Layer liquids in test tube 3 by slanting and pouring each liquid very slowly.
 - __a) salt water
 - __b) plain water
 - __c) alcohol
- __10. ← **DRAW in color** and label your observations.
- __11. More Layers: Add tiny objects that will float or sink and not dissolve.
Try bits of eraser, a staple, bits of different plastic and woods.
- __12. Try to get a tiny object above and below all layers.
- __13. ← Draw and **label** your result. Number . each.
- __14. Write how many you have _____.
- __15. **SHOW YOUR TEACHER.**



- __16. **Summary: From least to greatest density, write the substances you tested in order of density. Include water, salt water, & alcohol.**
