Layered Liquids

Objective: Identify and explain which of three liquids are the densest.

Materials:

- ¼ cup (60 ml) dark corn syrup or honey
- ¼ cup (60 ml) dishwashing liquid (optional)
- ¼ cup (60 ml) water
- ¼ cup (60 ml) vegetable oil
- ¼ cup (60 ml) rubbing alcohol (optional)
- A tall 12 ounce (350 ml) glass or clear plastic cup
- Two other cups for mixing
- Food coloring

Methods:

- Take the 12 ounce glass; pour syrup in the middle of the glass. **CAUTION:** do not get syrup on the side of the glass.
- *OPTIONAL:* tip the lass slightly and add the dishwashing liquid.
- Label one cup WATER, and mix water and food coloring in one mixing cup
- *OPTIONAL*: Label one cup ALCOHOL, and mix alcohol and food coloring in one mixing cup
- **WARNING: BE CAREFUL TO ADD THE NEXT LIQUIDS SLOWLY!!!!!!! They are less thick**
- Tip slightly the 12 ounce glass, and pour slowly down the side of the glass, add the color water, then the vegetable oil, and the alcohol *(optional)*
- In one piece of paper, make a sketch of the glass and its liquids and label each layer.

Explanation

One property that is different in all liquids is thickness (viscosity) and density. The liquids with lower density will be at the bottom, and the lighter density at the top. Another property that keeps liquid separated is that some of them are immiscible liquids (the liquids do not mix with each other). EX. Oil and water are immiscible liquids, but alcohol and water are miscible.

What will happen if you stir up the liquids in the glass? Which liquids are immiscible? Which liquids are miscible?

Reference:

Shakhashiri, B. (2010, November 15). *Science is fun*. Retrieved from http://scifun.chem.wisc.edu/homeexpts/homeexpts.html

Picture:

http://www.flickr.com/photos/ttfnrob/2946389087/sizes/l/in/photostream/

Vocabulary:

- Liquids
- Viscous

Language:

Liquids have different densities, and the lighter the liquids will float on top of the heavier liquids.

Making this an experiment:

1.
2.
3.