**Density Tower Experiment**

Grade 6: Big Idea- “Everyday materials are often mixtures.”

There is a section under “content,” then “mixture” that states:

“separated using a difference in component properties” with a section on density.

**Materials:**

1. water mixed with food colouring

2. oil

3. molasses

4. dish soap

5. clear plastic cups (5 for each group)

6. popcorn kernels

7. coloured pencils/markers (that match colours of each liquid)

8. dice (optional)

9. marbles (optional)

10. paper clips (optional)

**Procedure:**

1. Examine each liquid in the plastic cups

2. Create a hypothesis using the attached worksheet

3. Carefully pour the molasses (dark brown liquid) into the center of the empty cup

4. Pour the green liquid soap on top of the molasses

5. Pour the water on top of the liquid soap

6. Pour the oil on top of the water

7. Record observations on the attached worksheet

**Discussion:**

1. What happened when you poured all the liquids into the jar? (did they mix together?)

2. Which liquid is the most dense?  How do you know?

3. Which liquid is the least dense?  How do you know?

**Considerations:**

1. Safety- Prior to starting the experiment, inform the students not to drink or touch the liquids

2. If there’s time, have the students choose which order to pour in the liquids and allow time for the density tower to settle

3. Different liquids can be added to create more layers in the density tower

4. Students can drop different items into the density tower and hypothesize which layer they will settle in

5. Cleanup- Rinse the cups and reuse/recycle them

6. Set up experiment while students are out of the classroom. Have each station set up before they come in and have them gather on the carpet for instructions so they are not distracted.