Name: _____ Period: _____

Density Tower

What is density tower?
A density tower is a column of different liquids which are immiscible with each other. Since these liquids are immiscible, they form different layers in the liquid column according to their densities.

Safety:
Students should be instructed not to taste the liquids

Materials:
- Tall, narrow glass container (like a cup)
- Vegetable oil
- Rubbing alcohol
- Water
- Dish soap
- Honey
- Paper clip
- Ping pong ball
- Metal bolt (something heavy)
- Grape
- Food coloring

Note:
You can use different liquids and objects if you need to. There are several videos online of density columns. If you pick something different, be sure to write it on your lab. While pouring liquids into the glass make sure that, you pour them along the wall so as not to disturb the liquid below. Avoid any disturbances to the liquid column.

Procedures:

1. Pour a little water into a separate container, not your tall glass. Add a few drops of food coloring and stir.
2. Pour a little rubbing alcohol into a different container, not the tall glass and not the same as the water. Add a few drops of food coloring (a different color than the water) and stir.
3. Pour some honey into your tall glass (you only need about a ¼ inch).
4. Pour about the same amount of dish soap into your tall glass.
5. Pour about the same amount of your colored water into the tall glass.
6. Pour about the same amount of vegetable oil into your tall glass.
7. Pour about the same amount of colored rubbing alcohol into your tall glass.
8. Wait for all the layers to settle and draw your tower in the data section.
9. Gently, place the metal bolt in your density tower. Wait till the layers settle.
10. Put the paper clip in your density tower. Wait till the layers settle.
11. Put the grape in your density tower.
12. Put the ping pong ball in your density tower.

Data:

1. Draw your density tower and label the layers.

2. Which layer did the metal bolt go to? _____
3. Which layer did the paper clip go to? _____
4. Which layer did the grape go to? _____
5. Which layer did the ping pong ball go to? _____

Conclusion: Why did the layers form? Why did the liquids not mix together? Why did the objects float in different layers?