

Heavy, Heavy, Hangs over Your Head

Objectives:

Students will operationally define density.

Students will construct a density column.

Materials:

Baby oil, food color, water, cooking oil, lamp oil, syrup, sandwich size zip bag, several graduated cylinders

Procedure:

1. Hold the bag so that the left bottom corner hangs down below the right. Put 10 ml of syrup into the bag by carefully pouring it down the left side of the bag. Use this technique to add the other liquids.
2. Add 10 ml of water and 2 drops of food color.
3. Add 10 ml of lamp oil, 10 ml of cooking oil, and 10 ml of baby oil.
4. Zip the bag shut and observe the liquids.

Results:

1. Describe the results of adding the liquids to the bag.
2. Why did the liquids behave as they did?
3. If you were to add another 10 ml of water to the bag, what would happen? How do you know?
4. If something is less dense than water, it floats on water. If it is denser than water, it sinks in water. If it has the same density as water, it mixes with water. What does density mean?

