



California State University of Bakersfield, Department of Chemistry

Make a paper clip float



Standards:

8th : 2. b, c, d, e Students know when forces are balanced, the motion of the object does not change. 8. c, d Students know how to determine whether an object will float or sink

Introduction:

Have you ever noticed that some things float while other things sink? The reason things sink or float is all determined by densities. An object that has an overall density lower than the density of the fluid it is placed in will float. While an object that has an overall higher density than the density of the fluid it is placed in will sink. So is it possible to have an object with a density higher than that of water float in water? This experiment may answer that question.

Materials:

- Clean dry paper clips
- Tissue paper
- A bowl of water
- Pencil with eraser

Safety:

- Always have an adult with you to help you during your experiment.

Procedure:

1. Fill the bowl with water
2. Try to make the paper clip float... not much luck, huh?
3. Tear a piece of tissue paper about half the size of a dollar bill
4. GENTLY drop the tissue flat onto the surface of the water

5. GENTLY place a dry paper clip onto the tissue (try not to touch the water of the tissue)
6. Use the eraser end of the pencil to carefully poke the tissue (not the paper clip) until the tissue sinks. With some luck, the tissue will sink and leave the paper clip floating!

Data and Observations:

Record your observations in this space

What did you see? Anything you were not expecting? Describe it here.

Questions:

1. How many paperclips can the surface tension hold?
2. Does the shape of the paper clip affect its floating ability?
3. What liquids have the strongest surface tension?
4. Can the surface tension of water be made stronger?

References:

1. Sciencebob.com
<http://www.sciencebob.com/experiments/paperclip.php>
(accessed July 23, 2012)