

Lesson Plan: What is Density?

Subject: Physical Science

Age Group: 3rd-4th Grade

Supplies Needed:

- Clear plastic cups
- Water
- Food Coloring
- Corn Syrup
- Vegetable Oil
- Nickels
- M&M's
- Grapes

Introduction:

- Ask the students if they know what density is or might be.
- After explaining what density is, ask where they might have seen an example of density in everyday life.

Instructions:

- 1) Ask the students if they think a grape will sink or float in water.
- 2) In Corn Syrup? In Vegetable Oil?
- 3) In a plastic cup, pour water in about 1/3 of the way and put a few drops of food coloring in.
- 4) Do the same with the Corn Syrup & Vegetable Oil (without food coloring).
- 5) Drop one grape into each of the cups and observe.
- 6) In which cups do the grapes float and sink?
- 7) Try the same thing with the nickels and M&M's.
- 8) Combine each of the liquids into one cup. What happens?
- 9) Ask the students why this happened.

10) Tell them to order the liquids into highest to lowest density, and then reveal the answers.

Follow-up:

- Density is the measure of “heaviness” of an object; it’s what allows some objects to float.
- The 3 different liquids form layers on top of each other because they have different densities.
- The corn syrup is the densest, then water in between, and then oil is the least dense.

Source: <http://pbskids.org/zoom/activities/sci/whatsmoredense.html>