

**EXPLORATION TIPS****How Dense Can You Be?**

This exploration can be played online or adapted for use as a classroom activity. It is an exploration of the principle of density.

**Materials**

- 1 16 oz. plastic soda bottle with cap
- 1 measuring cup
- tap water
- cooking oil

**Setup**

If you wish to do this exploration in the classroom, print the pages from the online version and use them as handouts.

On the first page of the online version of the exploration, students must use their mouse to lift the measuring cups over to the bottle and pour the liquids into it.

**Objective**

Gas, water, and oil are usually located together underground. Students will learn from this exploration that when a geologist drills a borehole (a well) into a trap, the three substances will be found in order of their density, with the densest substance at the bottom.

**Density Chart Answers**

To find the density of each substance in the chart, have students divide the mass by the volume. (Answers: air is .00125 g/ml; oil is .92 g/ml; and water is 1.0 g/ml.) Of the three substances, water is the densest and air is the least dense.