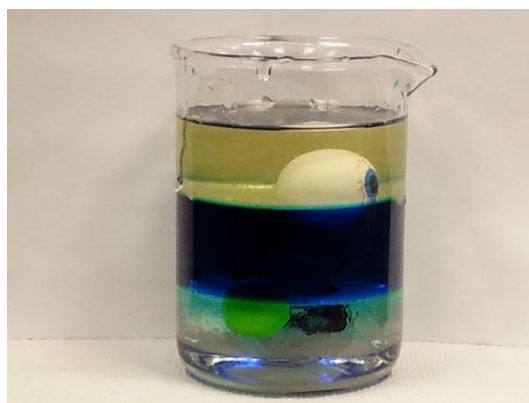




California State University of Bakersfield, Department of Chemistry

## Marble Density Experiment



### Standards:

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.]

5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

### Introduction:

*What is density? Density of a substance is its mass per unit volume. This experiment will demonstrate that different liquids and objects have different densities.*

### Materials:

- Clear glass beaker
- ½ cup of water
- ½ cup of corn syrup
- ½ cup vegetable oil
- Marble
- Rubber bouncy ball
- Mini marshmallow
- Food coloring

### Safety:

- Always have an adult with you to help you during your experiment.
- Always wear eye protection and gloves when doing chemistry experiments

*This material is based upon work supported by the CSUB Revitalizing Science University Program (REVS-UP) funded by Chevron Corporation. Opinions or points of view expressed in this document are those of the authors and do not necessarily reflect the official position of the Corporation or CSUB.*

**Procedure:**

1. Mix a ½ cup of water with your desired food coloring. Then pour into the glass beaker.
2. Next, pour in the corn syrup into the beaker. What's happening?
3. Next, carefully pour the vegetable oil into the beaker. What's happening?
4. Drop the marble in. What happened?
5. Drop the rubber bouncy ball in. What happened?
6. Drop in your other objects in. Do they sink or float?

**Data and Observations:**

1. Record your observations here.

**Questions:**

2. What can you tell about the densities of the objects?

**References:**

1. Smith, Shelly  
[www.education.com/science-fair/artical/density-simple-exploration/](http://www.education.com/science-fair/artical/density-simple-exploration/)  
(Accessed: July 28, 2014).