

Name _____

Period ____

Measurement and Density Lab

This lab is designed to give students practice in using a triple beam balance, graduated cylinder and meter stick to make metric measurements of mass, volume and length. It also will introduce students to the measurement of the density of different materials.

Density is a measurement of the mass of a material per unit of volume. Water has a density of 1.0 grams per milliliter, or 1.0 kilogram per liter. Materials that have a density of less than 1.0 g/mL will float in water. Materials that have a density of more than 1.0 g/mL sink in water. Note that 1 mL is equal to 1 cm³.

Students will work individually in this lab, and each student must fill out his own lab report worksheet.

1. Select one block of wood and one small rock. You will also need a ruler marked in centimeters, and a graduated cylinder
2. On a triple beam balance, measure the mass of the small rock and block of wood. Record the two mass measurements in the spaces below.
3. Using the metric ruler, measure the length, width and height of the wood block, in centimeters. Record the results in the spaces below.
4. Using the graduated cylinder, measure the volume of the rock, by first partially filling the graduated cylinder with water, recording the volume, then putting the rock in the partially filled graduated cylinder and noting the new volume. Subtract the first volume from the second to get the volume of the rock.

Wood Block Number: _____

Volume of Wood Block: _____ cm x _____ cm x _____ cm = _____ cm³

Mass of Wood Block: _____ grams

Density of Wood Block: _____ grams / cm³ = _____ g/cm³

Rock Number: _____

Volume of Rock: _____ mL - _____ mL = _____ mL
(rock + water) (water w/o rock) (rock)

Mass of Rock: _____ grams

Density of Rock: _____ grams / cm³ = _____ g/cm³

Amount of water in 100 mL graduated cylinder: _____ mL.

Amount of water in 50 mL graduated cylinder: _____ mL.