

MSET – DENSITY

Purpose

Develop an understanding of how the density of different materials varies, introduce basic volumetric calculations, weight measurements, and how they are used to calculate density, and specific gravity

Density

The density of liquids varies with their molecular structure, temperature, and atmospheric pressure. If two liquids such as vinegar and water are mixed together they will separate with the denser liquid settling to the bottom substances varies with less dense materials



Theory

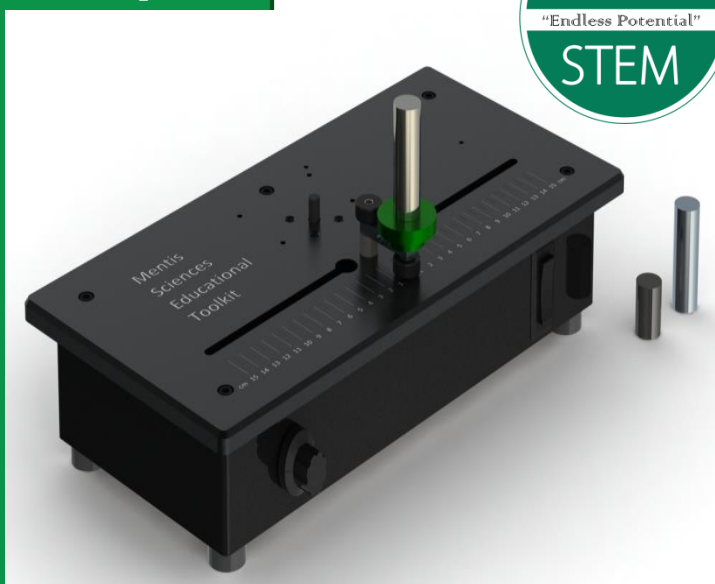
The density of a material can be determined by measuring the mass "M", and volume "V" equated as follows:

$$\rho = M/V$$

Specific gravity "Sg" is used to define the relative density of materials and is the ratio of the density of material "X" to that of water.

$$Sg = \rho^X / \rho^{Water}$$

Setup



Results

A number of MSET components will be weighed and volumetrically quantified to allow for the density to be determined. Results will be converted to specific gravities and then used to hypothesize what the material is.

