Lab: Density by Archimedes' Principle

Name _____ Period ____

An immersed body is buoyed up by a force equal to the weight of the displaced fluid.

PURPOSE: To find the density of four minerals and one ring (or other jewelry) by Archimedes' Principle.

Show your calculations below.

1. Take only one mineral at a time, then trade it for another.

2. Hang it from a thread and mass it to the nearest 0.01g in air and under water.

3. Determine the density using **D = m/V** where **m = mass in air**, **V = loss of mass in water** (the buoyant force). *Because the density of water is* ***1g/cm^3****, we can substitute* ***cm^3*** *for the buoyant force.*

4. Calculate its Mass Density in **g/cm^3**.

5. Repeat the above for three more samples and a ring. (Gold jewelry is alloyed with copper to make it hard enough to wear because pure gold is too soft). The density of pure gold is 19 g/cm^3.

Data Table:

Description of Mineral	Mass in Air	Mass in Water	Loss of Mass	Density in g/ cm^3
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
Gold (or other) ring	.	.	.	.

Show your CALCULATIONS & CRITIQUE: