

The Density Lab

Name: _____

Period: _____

Date: _____

During this lab, your knowledge of density will be tested as you calculate the density of various objects. In all cases we will measure the mass using a balance. But, we will use several different methods to measure volume.

Remember the formula for density is $D = m / v$

Part A: Density of Wooden blocks

Procedure:

1. Measure the mass of each block on the electronic balance. (to nearest 0.01g)
2. Using a ruler or caliper, measure the length, width, and height of both of the wooden blocks. (mm or cm)
3. Convert your mm measurements to cm
4. Calculate the volume of each block using $L \times W \times H$ in cm!! (Show your calculation)
5. RECORD ALL INFORMATION IN CHART!!

Sample	Mass (g)	Dimensions		Volume (cm ³)	Density (g/cm ³)
Block #1		L=	mm cm		
		W=	mm cm		
		H=	mm cm		
Block #2		L=	mm cm		
		W=	mm cm		
		H=	mm cm		

Part B: Density of Irregular objects

Procedure:

1. Measure the mass of the steel ball and the rubber stopper
2. Fill a graduated cylinder with at least 30 mL of water. Be sure to record the exact volume (to nearest mL) Record this as “starting volume”.
3. GENTLY place the object into the graduated cylinder. Record the new volume as “finishing volume”.
4. Calculate the total volume of the object (final volume – starting volume)
5. Calculate the density of each object
6. RECORD ALL INFORMATION IN CHART!!

Object	Mass (g)	Volume (mL)	Total Volume (mL)	Density (g/mL)
Steel Ball		Start:		
		Finish:		
Rubber Stopper		Start:		
		Finish:		