

Objective: Students will predict the mass of two plastic blocks by using vernier calipers and metric rulers for measurements and given density values.

Instructions: Obtain a plastic block and complete the following chart using your metric ruler. When you have finished your calculations bring it to the front of the room to be checked. **You must write your mass prediction in ink to 4 significant figures (5 if over 100 grams).** Repeat with another block of a different color using vernier calipers for measurements.

Color of Block	Density (g/cm <sup>3</sup> )
white	0.541
milky-white	0.908
black	0.985
clear	1.18
gray	1.42

Volume = length x width x height

Density = mass/volume

	Block #1	Block #2
Block #		
Color of Block		
Length (cm)		
Width (cm)		
Height (cm)		
volume (cm <sup>3</sup> )		
Given Density (g/cm <sup>3</sup> )		
Mass Prediction (g)		

*Instructions: Show all math set-up work on the back of this sheet.*

Calculate the percent error between the actual mass and your predicted mass:

$$\text{percent error} = \frac{|\text{predicted mass} - \text{actual mass}|}{\text{actual mass}} * 100$$

Block #1 % error: \_\_\_\_\_ Block #2 % error: \_\_\_\_\_