

**Experiment 2**  
**Metric Measurements**

**DO NOT TURN THIS IN; IT WILL NOT GRADED. DO NOT RECORD DATA HERE. IF I SEE YOU DOING THAT, I WILL TAKE IT AWAY. DATA IS RECORDED IN YOUR BOOK.**

**Data Tables**

**Part 1: Mass of metal sample**

Sample number	Mass (g, 0.01 g)
Example: Metal sample 4, Niobium	20.23 g
Metal sample 1	

**Part 2: Linear Measurements of First Piece of Metal**

Length	Width	Height

**Part 3: Volume by Displacement of Water of First Piece of Metal**

Final volume of water in graduated cylinder	
Initial volume of water in graduated cylinder	

**Part 4: No Data Collection: See calculation section**

**Part 5: Density of Water-ski[**

Final mass of water and 10-mL cylinder	
Initial mass of empty 10-mL cylinder	
Volume of water in cylinder	

**Part 6: Predicting a volume of a new piece of metal**

Sample number	Mass (g, 0.01 g)
Metal sample 2	
Final volume of water	
Initial volume of water	

**Calculations**

**Part 1: Mass of metal sample—No calculation**

**Part 2: Volume measurements**

	Volume in cm <sup>3</sup> (show calculation below)
Metal sample 1	

**Part 3: Volume by displacement**

Show calculation below for the volume of metal displaced by water.

**Part 4: Density of the metal sample**

Density by linear measurement	Density by water displacement
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**Part 5: Density of water**

Volume of water in graduated cylinder	
Density of water & the percent error in density determination of water	
Density of water	Percent error

**Part 6: Predicting a volume**

From the mass of the metal sample and the density you obtained in calculation from <b>Part 3</b> , calculate the predicted volume of the metal sample 2.	
Calculate the percent difference between the actual and predicted volumes of the new metal sample.	

**Results**

**Results table:** [shows the results of cancellations. Reflects the information needed for supporting the purpose.]

<b>Part 4</b>	Density of metal sample 1 by linear measurement	
	Density of metal sample 1 by displacement	
<b>Part 5</b>	Density of water	
	% Error	
<b>Part 6</b>	Predicted volume for metal sample 2	
	% Difference	