

Sample #	1	Description	Bolt
A	What is the level of the water in the graduated cylinder with the empty, corked tube floating in it?		<u>62</u> mL
B	Without removing the tube from the cylinder, carefully slide the sample into the tube, replace the cork, and put it back into the graduated cylinder. What is the water level now?		<u>76</u> mL
C	Subtract the level with the empty tube from the level observed with the sample in the tube. 1 mL of water weighs 1 gram, so this is the mass of the sample.	$\overset{\text{B}}{76} \text{ mL} - \overset{\text{A}}{62} \text{ mL} = \overset{\text{C}}{14} \text{ mL (g)}$	
D	Remove the corked tube. What is the level of water in the graduated cylinder now?		<u>50</u> mL
E	Remove the sample from the tube. Raise the wire coil, place the sample on it, and lower the coil slowly until it rests on the bottom again. What is the water level now?		<u>52</u> mL
F	Subtract the level without sample from the level observed with the sample in the tube. 1 mL of water = 1 cm ³ , so this is the volume of the sample.	$\overset{\text{E}}{52} \text{ mL} - \overset{\text{D}}{50} \text{ mL} = \overset{\text{F}}{2} \text{ mL (cm}^3\text{)}$	
G	Divide the mass of the sample by its volume to obtain the density of the sample.	$\overset{\text{C}}{14} \text{ g} / \overset{\text{F}}{2} \text{ cm}^3 = \overset{\text{G}}{7} \text{ g/cm}^3$	

	A	B	C = B - A	D	E	E - D	C / F	
Sample #	Water level with empty tube (mL)	Water level with sample in the tube (mL)	Mass of the sample (1 mL = 1 g)	Water level, no sample (mL)	Water level, with a sample (mL)	Volume of the sample (1 mL = 1 cm ³)	Density of the sample (g/cm ³)	What material is the sample made out of?
2	64.5	69.0	4.5	52.5	53.0	0.5	9.0	Copper
3	64.5	93.0	28.5	52.0	54.25	2.25	12.7	Lead
4	64.5	83.0	18.5	52.0	54.0	2.0	9.25	Alloy?
5	64.5	72.0	7.5	52.5	55.0	2.5	3.0	Aluminum
6	64.5	75.0	10.5	52.0	54.0	2.0	5.25	Alloy?