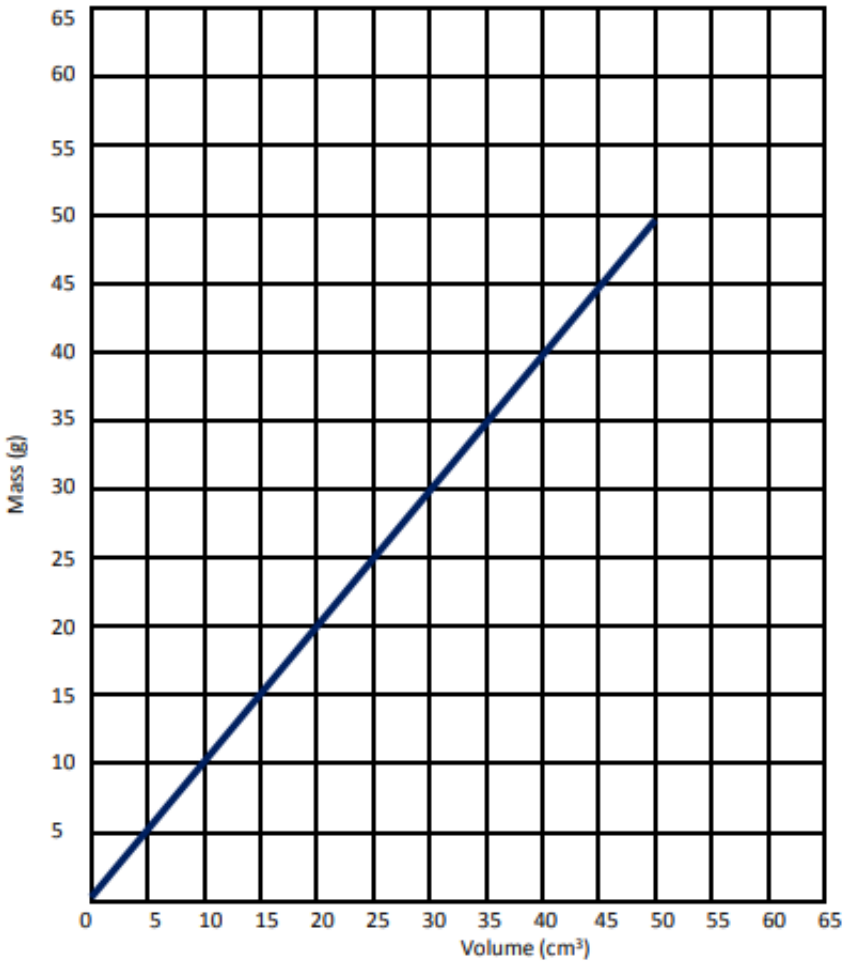
Interpreting Mass vs. Volume Graphs

https://youtu.be/gYm6vVZjwF4

Name: _____ Date: _____

Graphing is a very important tool in science since it enables us to see trends that are not always obvious. We are going to graph the mass and volume of various liquids and determine their densities graphically.



Data Chart for <u>WATER</u>:

Volume (mL)	Mass (g)
5 mL	5 g
25 mL	25 g
50 mL	50 g
55 mL	
	65 g
25 mL	

1. As the volume of the sample increases from 20 mL to 30 mL, does the mass increase or decrease?

2. Calculate the density of water using the graph. Show your work.

Graph the following mass and volume measurements for unknown liquids on the graph below. This graph is a line graph and will look like the graph on the other side of this sheet.

1. **Graph the data below on the previous graph. Use colour to distinguish each line and label it clearly.**

Substance A

Volume (mL)	Mass (g)
10	5
20	10
30	15
40	20
50	25

Substance B

Volume (mL)	Mass (g)
5	10
10	20
15	30
25	50
-	-

Substance C

Volume (mL)	Mass (g)
15	20
30	40
45	60
-	-
-	-

2. Using the **slope method** (rate of change) calculate the density for each liquid. Show your work clearly like in the video example. [recall: $Density = Slope$]

Substance A **Substance B** **Substance C**

3. Draw and label how the fluids, including water, would be layered if they were combined in a beaker.

4. For **substance C**; if you had **25 mL** of it how much mass would it have (read from the graph)?

5. For **substance B**; if you had **25 g** of it how much volume would it occupy (read from the graph)?