**Density is defined as the** **ratio** **of the mass of a given sample of a substance (M) to its** **volume** **(V). It is usually measured in units such as kg/m3, g/cm3, or g/mL.**

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Reading a Density Graph Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use** the graph of Mass vs. Volume to answer the questions.

mL = cm3

**A**

**B**

**C**

1. As the volume of a sample increases A from 200 cm3 to 300 cm3, how does the mass change? (support your answer with data)
2. Find the density of samples A, B and C.

3. For sample B, estimate the change in volume if the mass increases from 100 g to 400 g. Cite data from the graph using a full sentence(s).

4. Based the chart below, what substance was represented by the data displayed on the graph? The densities are measured in g/mL or g/cm3 . The small letters represent the state of the substance at room temperature: **s**olid, **l**iquid, or **g**as. SUPPORT YOUR ANSWER WITH DATA.

|  |  |
| --- | --- |
| Substance | Density (g/cm3) |
| Hydrogen(g) | 0.00009 |
| Mercury(l) | 13.5 |
| carbon(s) | 2.3 |
| ammonia(g) | 0.008 |
| water(l) | 1.00 |
| sucrose(s) | 1.6 |