EARTH SCIENCE **NAME**_____
LAB **DATE: / /**

MINERAL DENSITY

Procedure:

1. Using the balance measure the mass of one sample of mineral A to the nearest tenth of a gram.
2. Fill an overflow can with water and allow the water to drain out into a sink until the water stops flowing.
3. Hold a graduated cylinder under the spout of the overflow can.
4. Gently place the mineral sample into the can and catch the overflowing water in the graduated cylinder.
5. The mineral's volume is equal to the volume of water in the graduated cylinder.
6. Record the mineral's volume to the nearest whole cm^3.
7. Using the formula density = M/V calculate the mineral's density to the nearest tenth of a gm/cm^3.
8. Repeat the procedure for one sample each of minerals B and C.

Data Table:

Mineral	Mass (gm)	Volume (cm^3)	Density (gm/cm^3)
A			
B			
C			

Questions:

1. What are the units used when recording the volume of a material?_____
2. What are the units used when recording the mass of a material?_____
3. What is the instrument used to measure the mass of a material?_____
4. What is the precision of this instrument?_____
5. What effect does the size of a mineral have on its density?_____
6. What do you believe will happen to the density of a mineral if it is broken into several pieces?
   _____
7. What are the likely identities of each of the minerals?_____
   _____

Uncertainty Analysis:

What is one way of improving the procedure used in this lab? _____
_____
_____

Why was it important to gather the data from all of the lab groups? _____
_____
_____

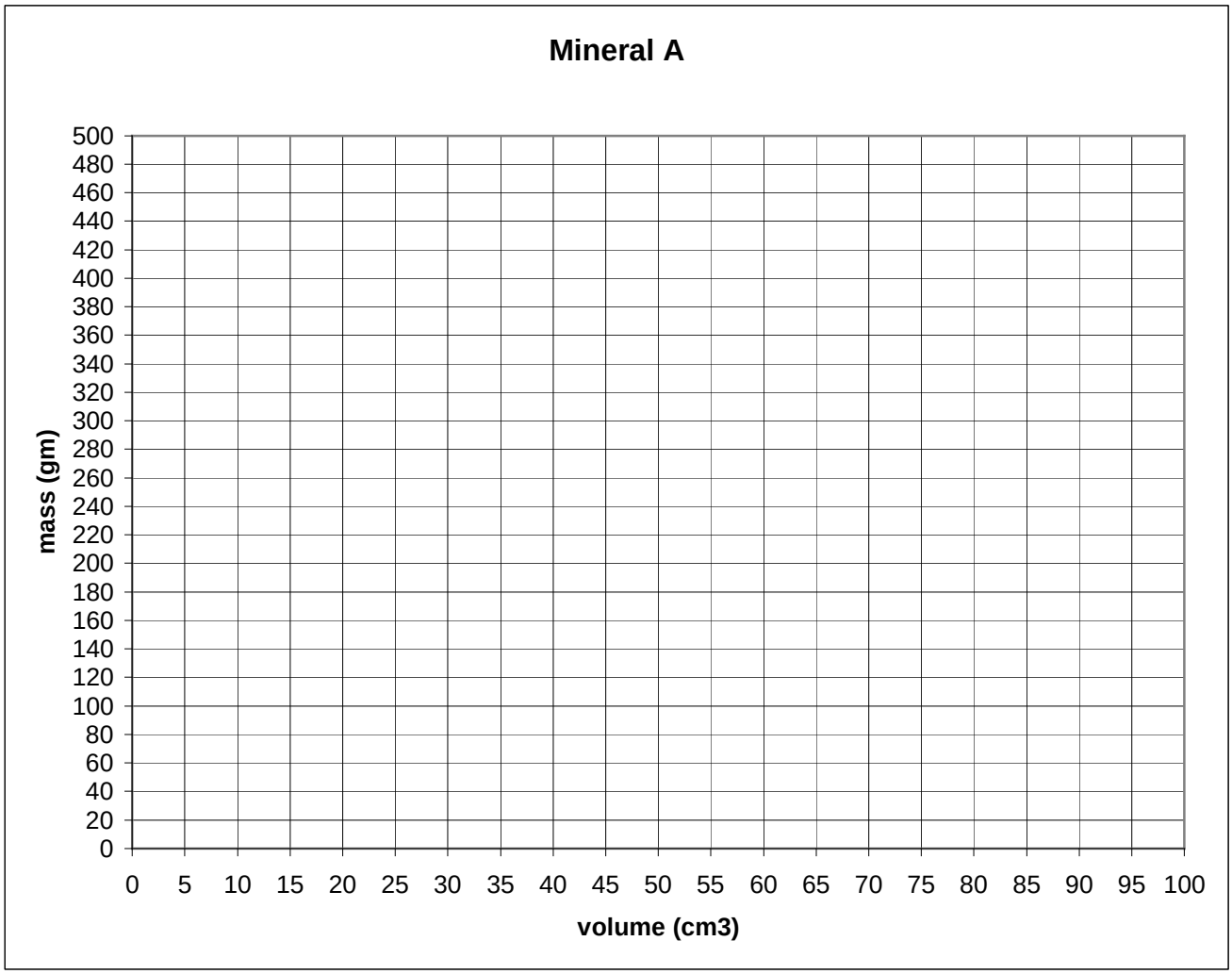
Give two reasons that explain why all of the samples of a mineral did not have the exact same density.
_____
_____
_____
_____

Data Analysis:

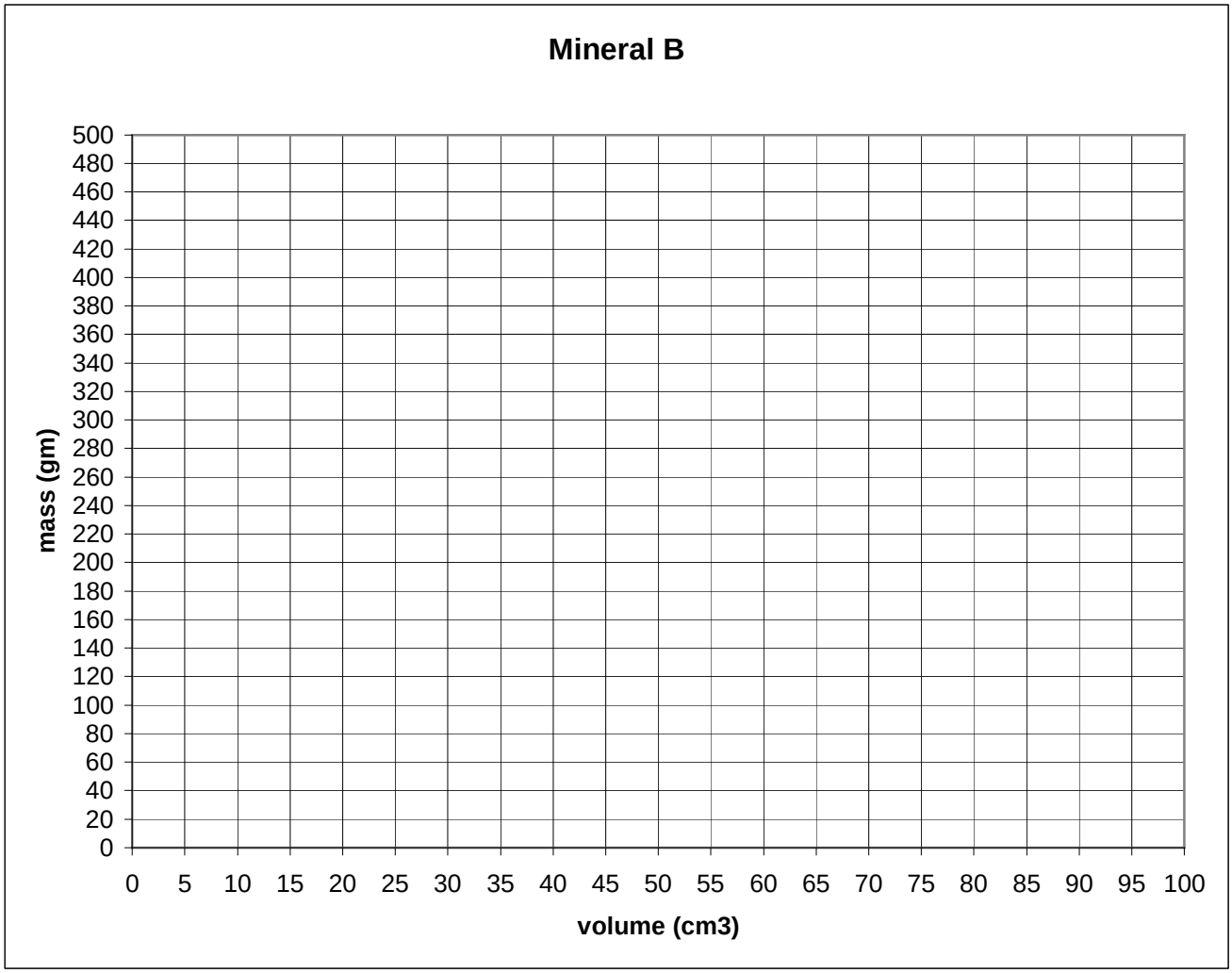
Graph the mass and volume of each of the samples on the appropriate graph.

Draw a best fit line through the points.

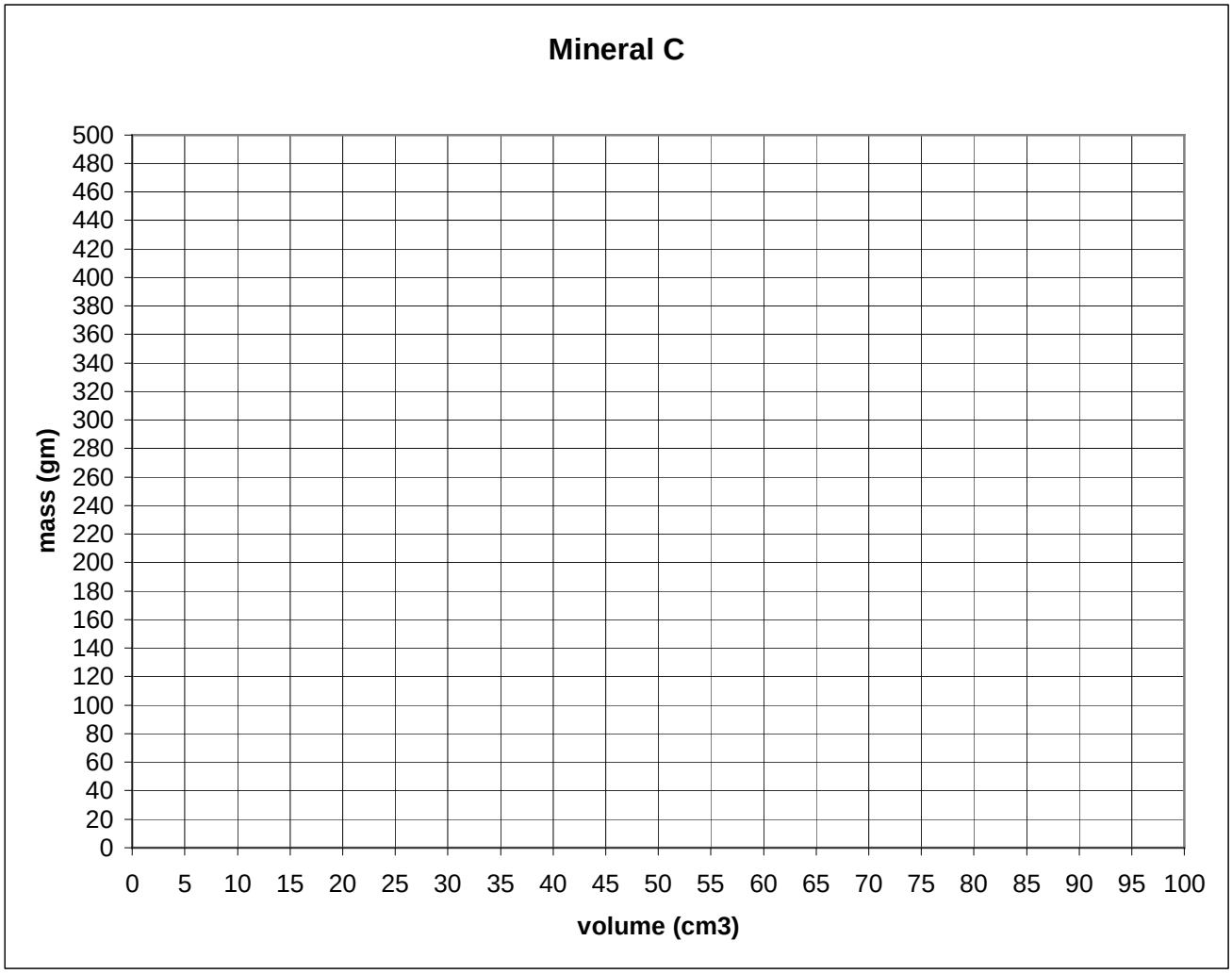
In the space under each graph calculate the density of each mineral at a volume of 20, 50, and 80 cm^3.



Density of 20cm^3 sample	Density of 50cm^3 sample	Density of 80cm^3 sample



Density of 20cm^3 sample	Density of 50cm^3 sample	Density of 80cm^3 sample



Density of $20cm^3$ sample	Density of $50cm^3$ sample	Density of $80cm^3$ sample