SKILL ASSESSMENT

Base your answers to questions 1 through 10 on your knowledge of Earth science, the *Reference Tables* and the data in Tables I and II below. Tables I and II show the volume and mass of three samples of mineral *A* and three samples of mineral *B*.

Table I: Mineral *A*

Sample No.	Volume	Mass
1	2.0 cm^3	5.0 g
2	5.0 cm^3	12.5 g
3	10.0 cm^3	25.0 g

Table II: Mineral *B*

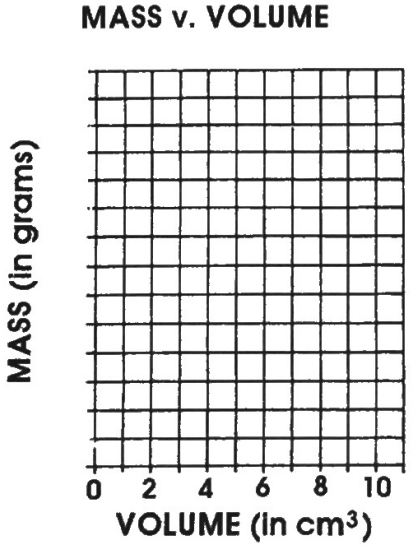
Sample No.	Volume	Mass
1	3.0 cm^3	12.0 g
2	5.0 cm^3	20.0 g
3	7.0 cm^3	28.0 g

Use the data to construct a graph on the grid provided below.

1 Mark an appropriate scale on the axis labeled "Mass (in grams)."

2 Plot a line graph for mineral *A* and label the line "Mineral *A*."

3 Plot a line graph for mineral *B* and label the line "Mineral *B*."



4 Write the formula for density:

5 Substitute the data for sample 3 of mineral *A* into the formula and determine the density of mineral *A*.

Density of *A*:

6 Substitute the data for sample 3 of mineral *B* into the formula and determine the density of mineral *B*.

Density of *B*:

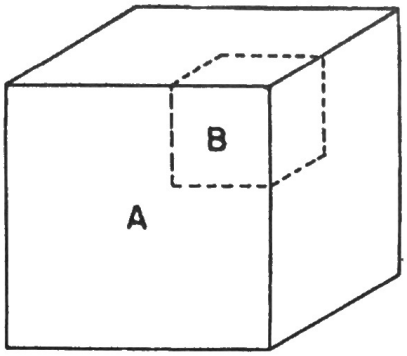
7 In one sentence tell what sample 2 of minerals *A* and *B* have in common.

8 In a sentence explain what happens to the masses of these minerals if their volume increases.

9 Predict the mass of a same amount of mineral *A* with a volume of 12.0 cm^3.

10 Explain what would happen to the density of sample 1 of mineral *B* if it is heated until it melts.

Base your answers to questions 11 through 15 on the diagram and information below and on your knowledge of Earth science.



In the diagram, object *A* represents a solid cube of uniform material having a mass of 192.0 grams and a side that is 4.0 cm. long. Cube *B* is a part of cube *A*.

11 Substitute the appropriate data into the formula for density and calculate the density of Block *A*

12 If cube *B* is removed from cube *A*, what will be the value of the remaining part of cube *A*?

13 What is the density of cube *B* apart from cube *A*?

14 If pressure is applied to cube *A* until its volume is one-half of its original volume, what will its new density be?

15 A student measured the mass of cube *B* in order to calculate its density. The cube had water on it while its mass was measured. In one sentence predict how the calculated value for density would compare with the actual density.

16 A student finds the mass of an igneous rock sample to be 48.0 grams. Its actual mass is 52.0 grams. What is the student's percent deviation?

17 Devise a classification system for the following rocks: rock salt, dolostone, rhyolite, sandstone, basalt, rock gypsum, conglomerate, shale, and granite.

In one sentence tell what property you used.

18 In one sentence, tell what property is used to classify the land-derived sedimentary rocks listed in the *Earth Science Reference Tables*.