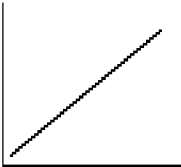


not drawn to scale

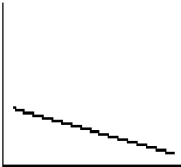
<b>Group</b>	<b>Density g/cm<sup>3</sup></b>
<i>A</i>	1.0-3.9
<i>B</i>	4.0-7.9
<i>C</i>	8.0-11.9
<i>D</i>	12.0-15.9

MASS



VOLUME

MASS



VOLUME

MASS



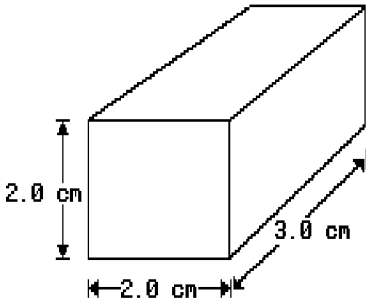
VOLUME

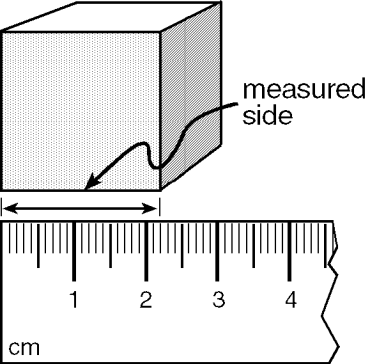
MASS

VOLUME



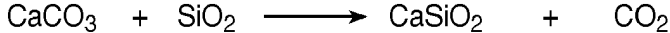
Density =  $2.7 \text{ g/cm}^3$







## Metamorphism



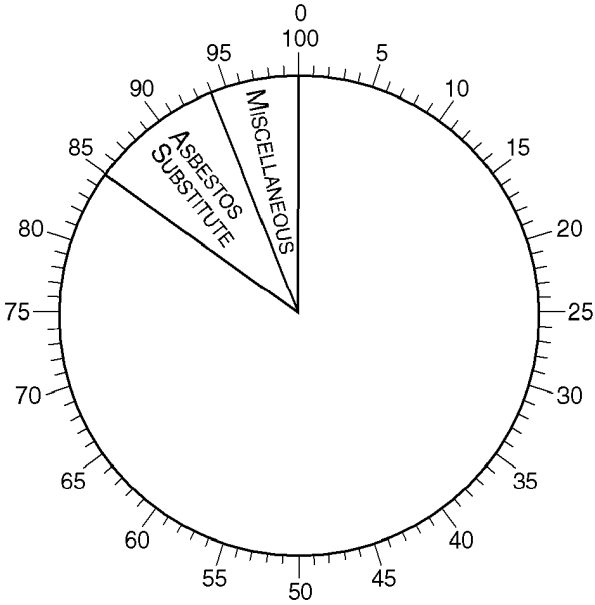
MINERAL 1

MINERAL 2

WOLLASTONITE

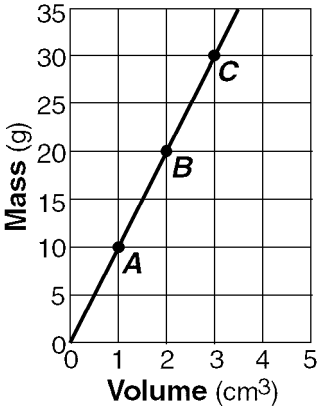
CARBON DIOXIDE

Percent



# **Industrial Uses of Wollastonite in the United States**

<b>Industrial Uses of Wollastonite</b>	<b>Percent of Total Use</b>
Plastics	37
Ceramics	28
Metallurgy	10
Paint	10
Asbestos substitute	9
Miscellaneous	6



④

$$D = 1.0 \text{ g/cm}^3$$

③

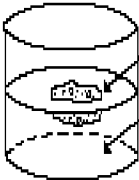
$$D = 1.8 \text{ g/cm}^3$$

②

$$D = 2.3 \text{ g/cm}^3$$

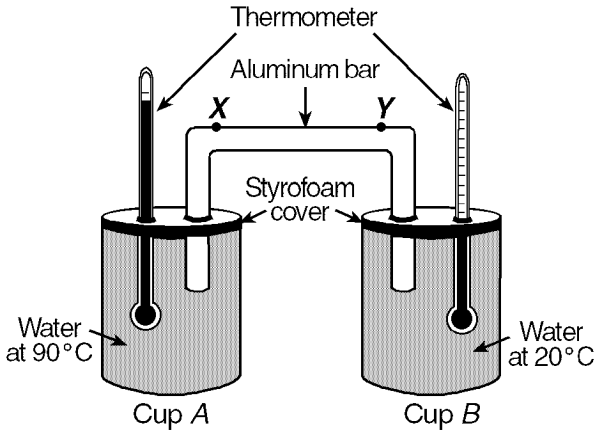
①

$$D = 3.0 \text{ g/cm}^3$$

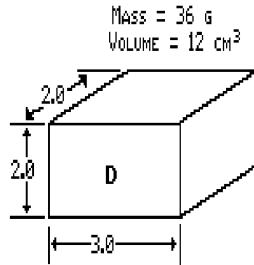
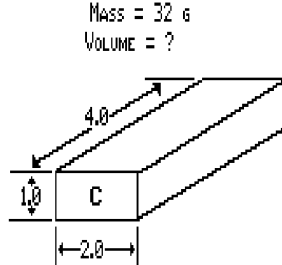
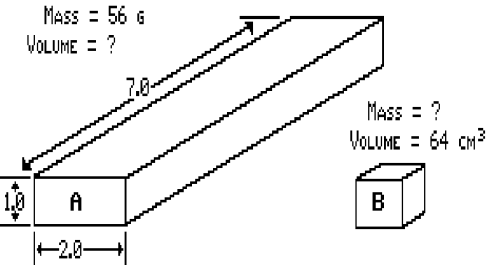


Rock

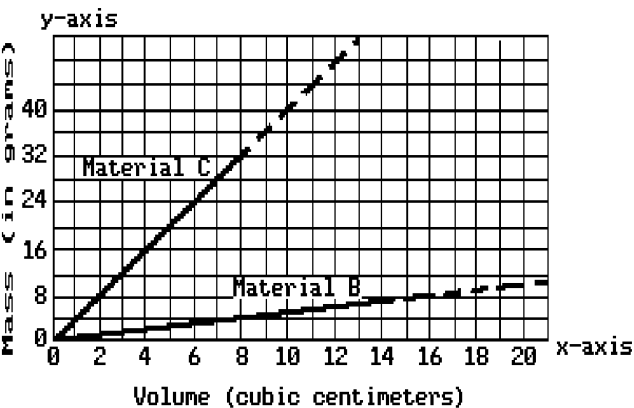
Liquid



	Temperature of Water ( $^{\circ}\text{C}$ )			Temperature of Water ( $^{\circ}\text{C}$ )	
Minute	Cup A	Cup B	Minute	Cup A	Cup B
0	90	20	11	76	23
1	88	20	12	75	23
2	86	20	13	74	23
3	85	21	14	73	23
4	83	21	15	72	24
5	82	22	16	71	24
6	81	22	17	70	24
7	80	22	18	69	24
8	79	22	19	68	25
9	78	23	20	67	25
10	77	23			



(not to scale)





**Amount of  
Magnetic Activity**



**Number of  
Sunspots**

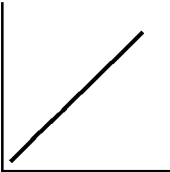
**Amount of  
Magnetic Activity**



Number of Sunspots	Amount of Magnetic Activity
Low	Low

**Number of  
Sunspots**

**Amount of  
Magnetic Activity**



**Number of  
Sunspots**

**Amount of  
Magnetic Activity**

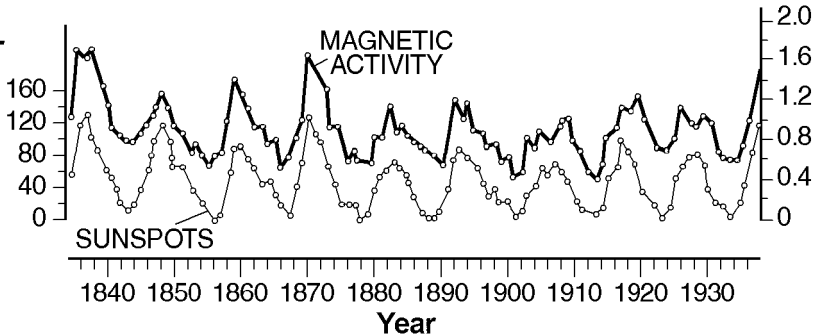


The graph consists of a vertical y-axis and a horizontal x-axis. The y-axis is labeled 'Amount of Magnetic Activity' and has an upward-pointing arrow. The x-axis is labeled 'Number of Sunspots' and has a rightward-pointing arrow. A solid black line is drawn on the graph, sloping downwards from the upper left to the lower right, indicating a negative correlation between the two variables.

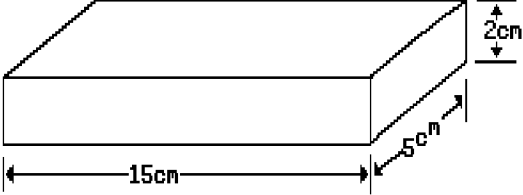
**Number of  
Sunspots**

# Solar Sunspots and Magnetic Activity

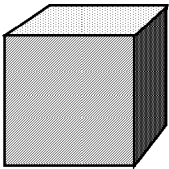
Number of Sunspots



Magnetic Activity Scale

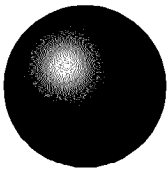


not drawn to scale



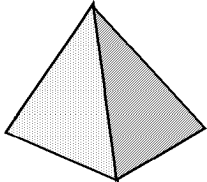
**A**

Mass = 8.00 g  
Volume = ?



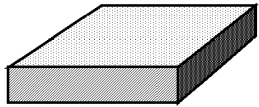
**B**

Mass = 6.30 g  
Volume = 3.15 cm<sup>3</sup>



**C**

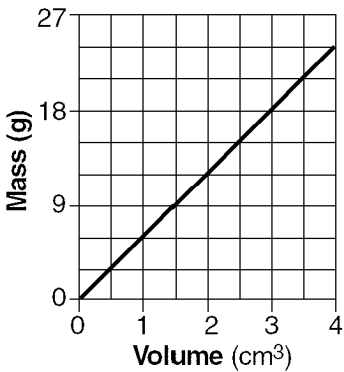
Mass = 4.00 g  
Volume = 2.00 cm<sup>3</sup>



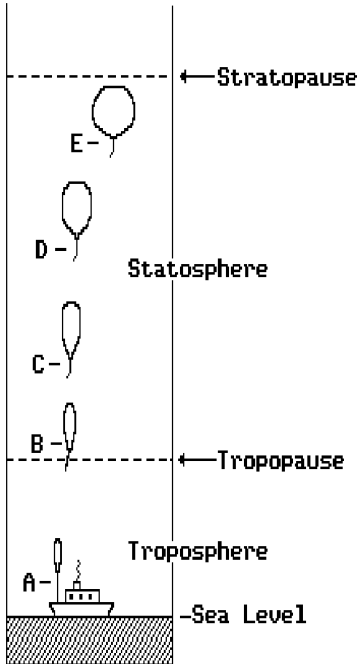
**D**

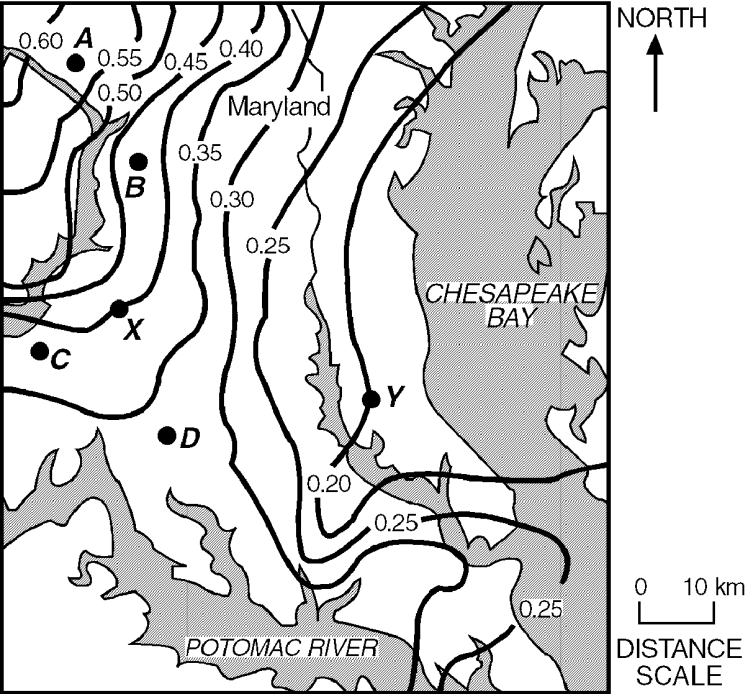
Mass = 3.50 g  
Volume = 1.75 cm<sup>3</sup>

(not drawn to scale)











*A*



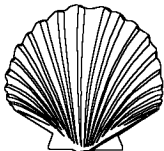
*B*



*C*



*D*



*E*



*F*



*G*



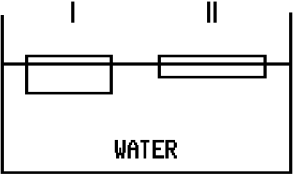
*H*



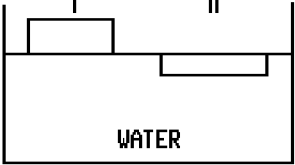
*I*



*J*



WATER



I

II

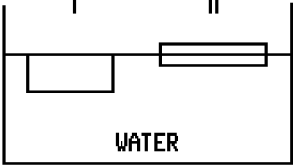
WATER

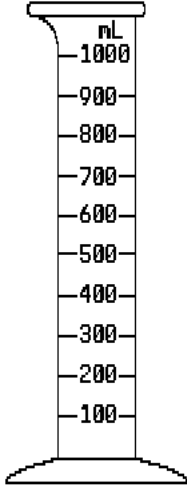
I

II



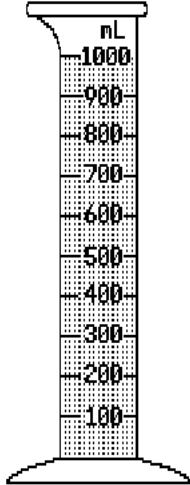
WATER





**EMPTY**

Mass - 250.0 g



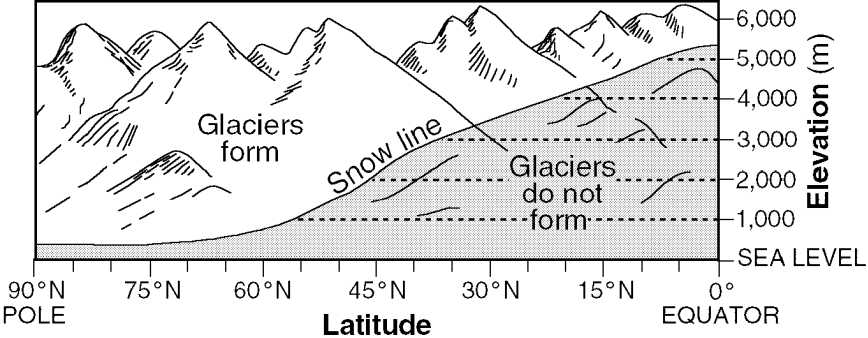
**FILLED**

Mass - 1300.0 g

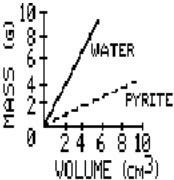


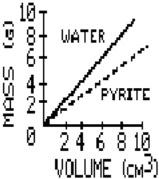
# Rock Collection

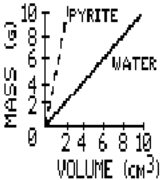
Group	Rock	Mass (g)	Volume (cm <sup>3</sup> )	Density (g/cm <sup>3</sup> )	Description
X	A	82.9	34.4	2.41	Grey, smooth, rounded
	B	114.2	42.6	2.68	Brown, smooth, rounded
	C	144.7	63.2	2.29	Black, smooth rounded
Y	D	159.4	59.7		Black and grey crystals, angular
	E	87.7	33.1	2.65	Clear and pink crystals, angular
	F	59.6	21.0	2.84	White, grey, and black crystals, angular
Z	G	201.1	68.4	2.94	Grey, shiny, flat
	H	85.1	39.8	2.14	Brown, sandy feel, flat
	I	110.2	47.3	2.33	Dark grey, flaky, flat

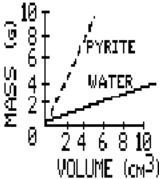


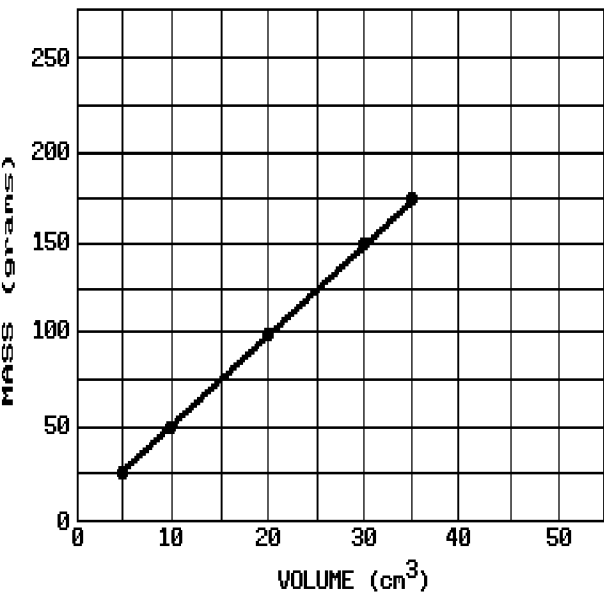
Student	Density Determined
1	2.69 g/cm <sup>3</sup>
2	2.71 g/cm <sup>3</sup>
3	2.72 g/cm <sup>3</sup>
4	2.69 g/cm <sup>3</sup>



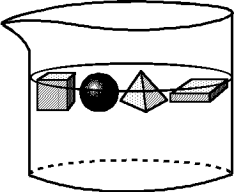


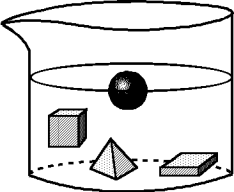


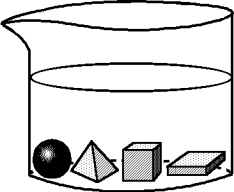


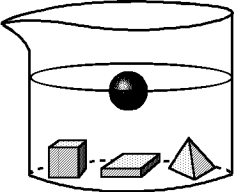


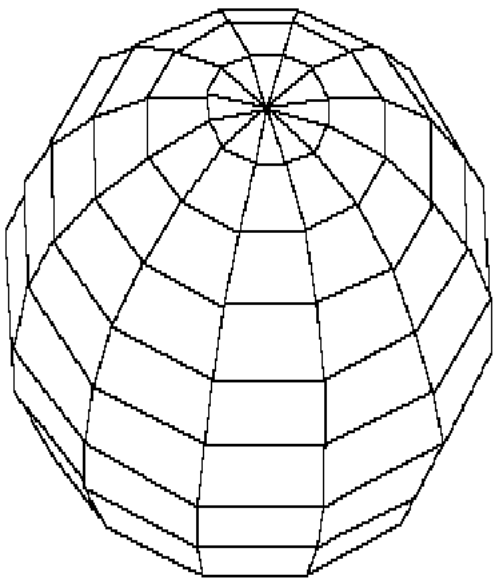












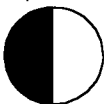
**MASS = 80.0 grams**

**VOLUME = 25 cm<sup>3</sup>**

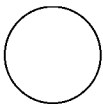
New Moon



First quarter



Full Moon



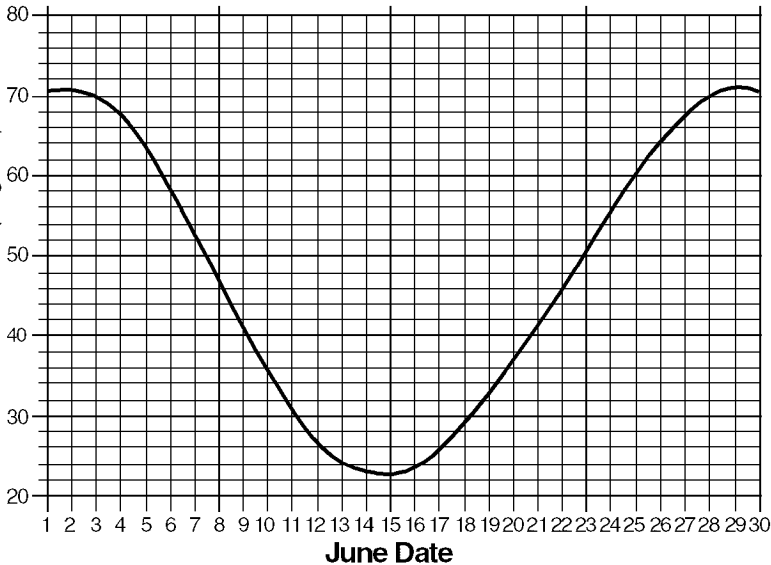
Last quarter



New Moon



**Moon's Maximum Altitude Above the Horizon (degrees)**



# Percentage of Copper

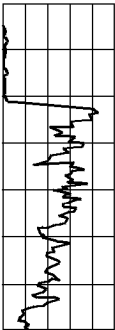
GROUND SURFACE

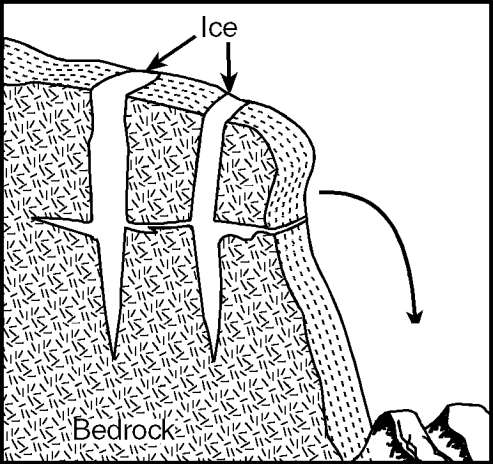


0 1 2 3 4 5

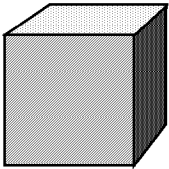
Depth (ft)

0  
100  
200  
300  
400  
500  
600  
700



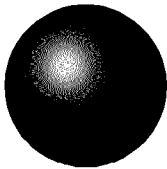






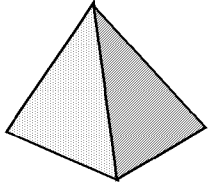
**A**

Mass = 8.00 g  
Volume = ?



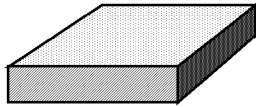
**B**

Mass = 6.30 g  
Volume = 3.15 cm<sup>3</sup>



**C**

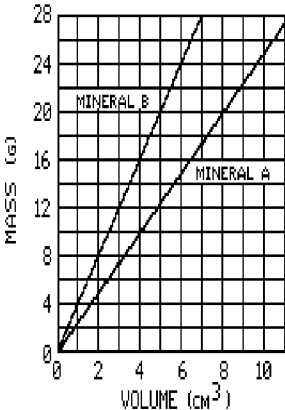
Mass = 4.00 g  
Volume = 2.00 cm<sup>3</sup>

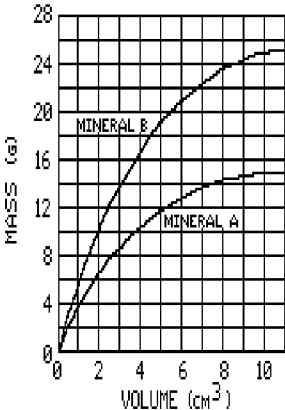


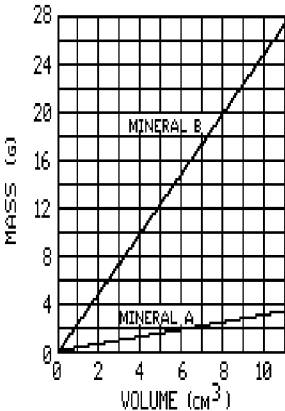
**D**

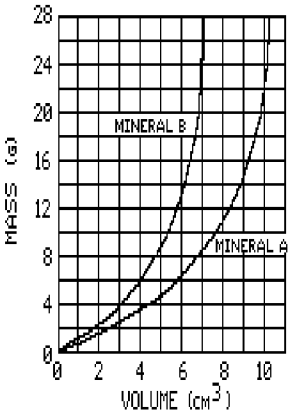
Mass = 3.50 g  
Volume = 1.75 cm<sup>3</sup>

(not drawn to scale)







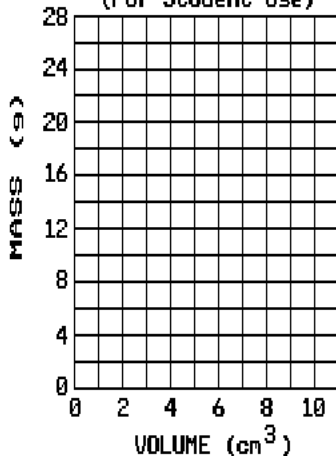


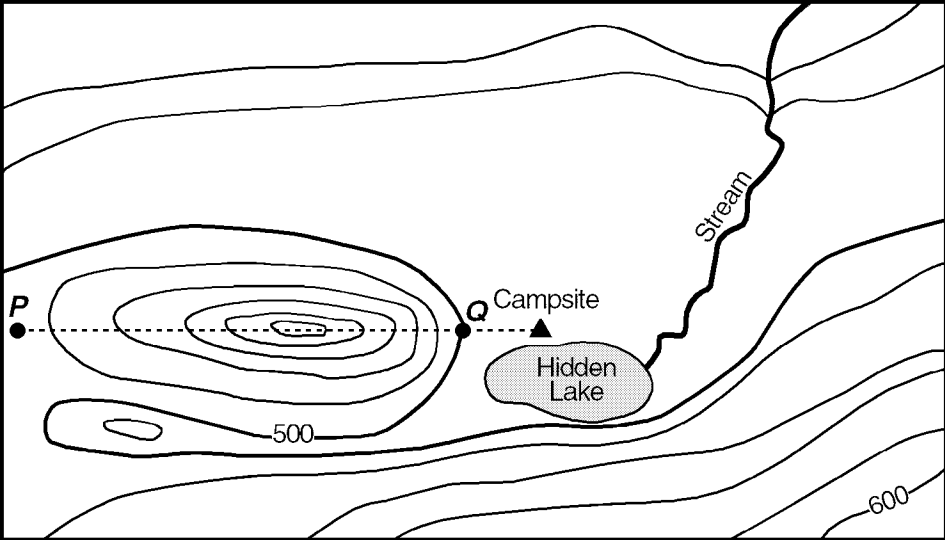
**Table I: Mineral A**

Sample No.	Volume	Mass
1	2.0 cm <sup>3</sup>	5.0 g
2	5.0 cm <sup>3</sup>	12.5 g
3	10.0 cm <sup>3</sup>	25.0 g

**Table II: Mineral B**

Sample No.	Volume	Mass
1	3.0 cm <sup>3</sup>	12.0 g
2	5.0 cm <sup>3</sup>	20.0 g
3	7.0 cm <sup>3</sup>	28.0 g

**MASS v. VOLUME  
(For Student Use)**



**KEY:**

- ▲ Campsite
- ..... Bike trail

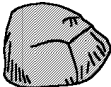
0 1 2 3 miles

Contour interval: 20 feet

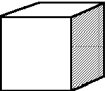
N  
↑



TIME







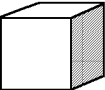
TIME  
→



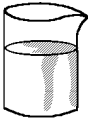


TIME

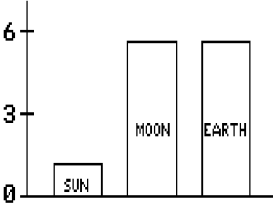


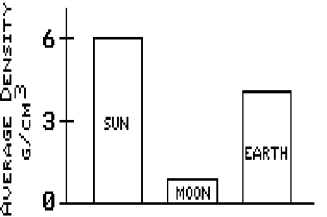


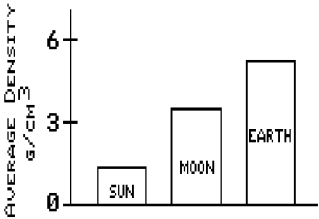
TIME



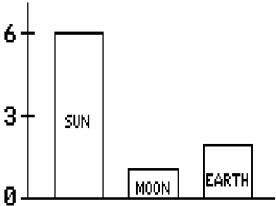
AVERAGE DENSITY  
 $\text{G}/\text{CM}^3$

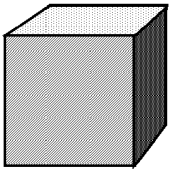






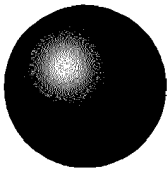
AVERAGE DENSITY  
 $\text{g/cm}^3$





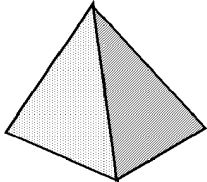
**A**

Mass = 8.00 g  
Volume = ?



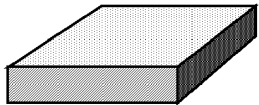
**B**

Mass = 6.30 g  
Volume = 3.15 cm<sup>3</sup>



**C**

Mass = 4.00 g  
Volume = 2.00 cm<sup>3</sup>

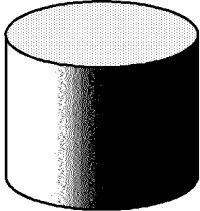


**D**

Mass = 3.50 g  
Volume = 1.75 cm<sup>3</sup>

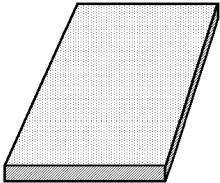
(not drawn to scale)





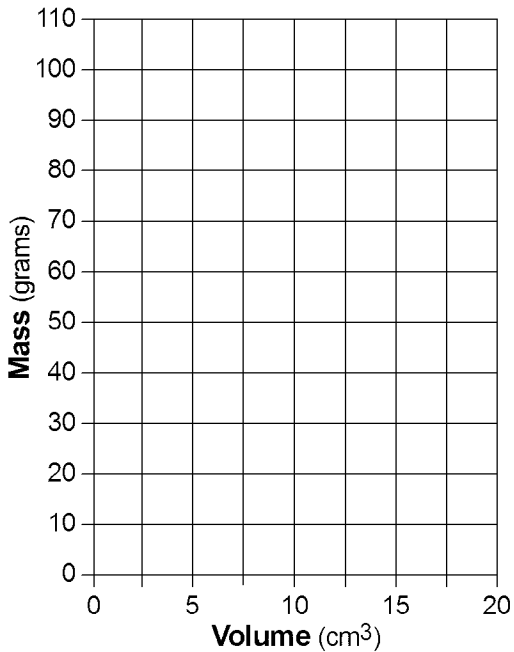
**Object A**

(density =  $0.8 \text{ g/cm}^3$ )



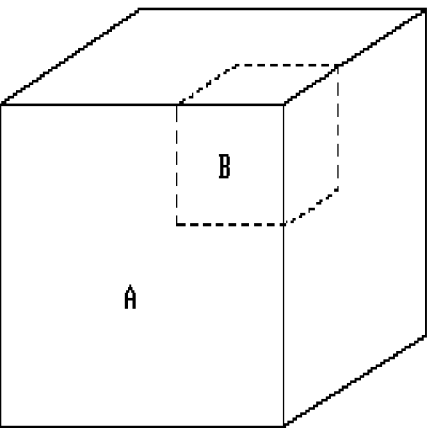
**Object B**

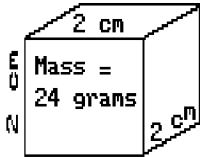
(density =  $1.2 \text{ g/cm}^3$ )



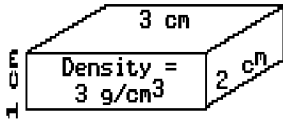
# Pyrite

Sample	Volume (cm <sup>3</sup> )	Mass (g)
A	2.5	12.5
B	6.0	30.0
C	20.0	100.0

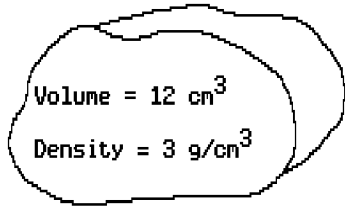




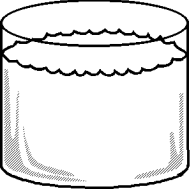
A



B



C



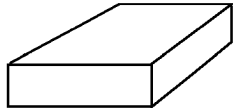
Water  
20°C



Basalt  
20°C



Granite  
20°C



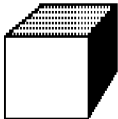
Copper  
20°C

**GRANITE**  
Temp. = 10.°C



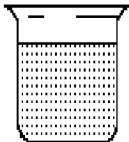
Mass = 10. g  
Volume = 3.7 mL

**IRON**  
Temp. = 20.°C



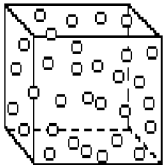
Mass = 10. g  
Volume = 1.3 mL

**WATER**  
Temp. = 30.°C

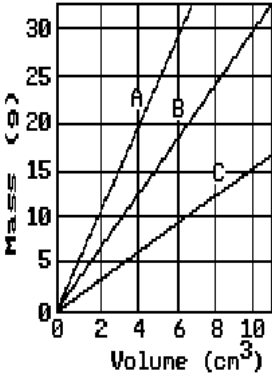


Mass = 10. g  
Volume = 10. mL

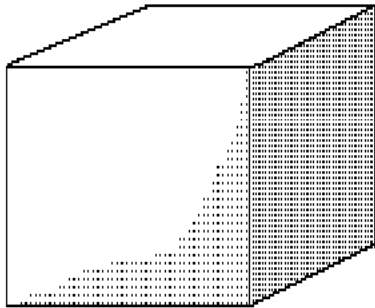
**DRY AIR**  
Temp. = 40.°C



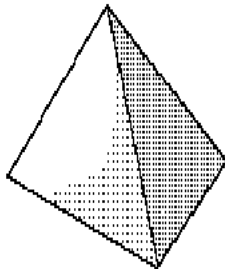
Mass = 10. g  
Volume = 8,300 mL



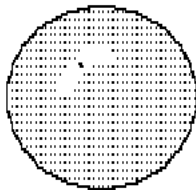


**CUBE**

$$M = 81.0 \text{ g}$$
$$V = 27.0 \text{ cm}^3$$

**PYRAMID**

$$M = 17.1 \text{ g}$$
$$V = 5.7 \text{ cm}^3$$

**SPHERE**

$$M = 21.3 \text{ g}$$
$$V = 7.1 \text{ cm}^3$$