

Properties of Some Elements						
Name	Phase At Room Temperature	Density (g/cm ³)	Density (g/L)	Melting Point (°C)	Boiling Point (°C)	Appearance
Aluminum	solid	2.7		659.7	2057	silvery
Argon	gas		1.78	-189.2	-185.7	colorless
Bismuth	solid	9.8		271.3	1470	silvery-white or reddish
Bromine	liquid	2.928		-7.2	58.8	dark red
Calcium	solid	1.54		848	1240	silvery-white
Chlorine	gas		3.214	-103	-34.6	greenish-yellow
Cobalt	solid	8.9		1495	3550	silvery-gray
Copper	solid	8.92		1083	2595	reddish luster
Gold	solid	19.3		1063	2600	yellow
Helium	gas		0.18	-272 (at high pressure)	-268.9	colorless
Hydrogen	gas		0.09	-259	-252.8	colorless
Iodine	solid	4.93		113-114 sublimes	184.4	silvery blackish solid, violet gas
Iron	solid	7.86		1535	3000	silvery
Lead	solid	11.3		327	1515	silvery-black
Magnesium	solid	1.74		651	1107	silvery-white
Mercury	liquid	13.59		-38.87	356.58	silvery-white
Nickel	solid	8.90		1455	2730	silvery
Oxygen	gas		1.429	-218.4	-183	colorless
Phosphorus	solid	1.82		44.1	280	yellow or white
Silver	solid	10.5		960.8	1950	silvery white
Sulfur	solid	2.0		112.8	444.6	yellow
Zinc	solid	7.14		419.5	907	bluish-white, lustrous

Sublimes: turns directly from solid to gas
Helium's melting point is determined under 26 atm of pressure and Argon's, under 47 atm.

PART I

- Generally, it is recognized by a bright yellow color. It is brittle and has a boiling point of 444.6°C.

- This foil has a luster and can conduct electricity. its density is 2.7 g/cm³

- A dull surface hides the luster of this solid, which has a density of 11.34 g/cm³. The great density makes it possible for the solid to hold a fishline under fresh water.

4. You can't see this colorless gas, which is slightly denser than hydrogen. It is used to fill balloons.

5. This yellow, malleable substance is used to make rings. Its density is 19.3 g/cm³.

6. Sometimes you find this substance as gray crystals. At higher temperatures you can see it as a violet gas. It is often used in making an antiseptic to treat cuts.

7. There is a rosy luster to this electrical conductor's appearance. It melts at approximately 272°C.

8. Scientist X has discovered a silvery white solid that is lighter in density than aluminum. **its melting point is 848°C**

9. This material is a dark red liquid at room temperature. It does not conduct electricity.

10. This element is dull and brittle. It is a nonconductor of electricity. It melts at 44°C

5. The following data is obtained from the procedures of Experiment 3.3:

DATA CHART

Property of Substance	Sample Number				
	1	2	3	4	5
Electrical conductor	no	yes	yes	yes	no
Ductile	no	yes	yes	yes	no
Malleable	no	yes	yes	yes	no
Mass	9.86 g	89.0 g	39.4 g	5.46 g	26.0 g
Volume	2.0 cm ³	10.0 cm ³	5 cm ³	3.0 cm ³	130.0 cm ³
Density $\frac{\text{mass}}{\text{volume}}$					

INFO

1
Metals are ductile, malleable, and are conductors of heat and electricity.

Which of the above samples is (are) a metal?

Which of the above samples is (are) a nonmetal?

Which sample has the smallest density?

Which sample has the greatest density?

If water has a density of 1 g/cm³, which samples are lighter than water and will float?
