

Worksheet 8.2

Metals and reactivity

- 1 The table shows the properties of some metals. (The tensile strength of a material is a measure of how strong it is under tension, when two ends of a piece of it are pulled apart.)

Metal	Density / g/cm ³	Melting point / °C	Tensile strength
aluminium	2.7	660	70
copper	8.9	1084	130
gold	18.9	1064	78
iron	7.9	1540	211
lead	11.3	327	16
mercury	13.6	-39	-
sodium	0.97	98	low
tungsten	19.4	3410	411

- a Which metal is:
- i the most dense?
 - ii the least dense?
 - iii the strongest?
- b Which property do all metals have?
- c Which metal is a liquid at room temperature?
- d Why is tungsten used as the filament in electric light bulbs?
.....
.....
- e A lump of gold is dropped into some mercury. Will it float or sink? Explain your answer.
.....
.....

2 Complete the table comparing the general properties of alkali metals and transition metals. Use the words and phrases listed below.

very reactive less reactive high low sink in water can float on water
 colourless often coloured

Property	Alkali metals	Transition metals
reactivity		
density		
melting and boiling point		
colour of salts		

3 Complete these sentences using the words below to fill in the gaps.

electrolysis air bases reducing ores properties reactive
 salt water carbon

Metals have many that make them useful. Most metals react with other substances such as and Because of this, most metals are found combined with other elements as The method used to extract the metal depends on how it is. Moderately reactive metals can be extracted by the oxide with The most reactive metals must be extracted by Some metal compounds react with acids – they are called When an acid reacts with a base, a is formed.