



Section 1: Key Vocabulary	
Key Word	Definition
Malleable	Can be bent or hammered into shape without shattering
Ductile	Capable of being stretched into a thin wire without becoming weaker
Sonorous	Produces a ringing sound when struck
Conductor	Allows heat and electricity to travel through it easily
Reactivity	The tendency of a substance to undergo chemical reaction
State Symbol	State symbols give more information about the reactants and products e.g. s, l, g, aq
Displacement	When a more reactive metal replaces a less reactive metal in a compound
Metal	A solid material which is typically hard, shiny, malleable, and ductile, with good electrical and thermal conductivity
Non-metal	An element not having the character of a metal
Lustrous	Shiny
Effervescence	Giving off a gas or bubbles
Brittle	Shatter when bent or hit

Section 2: Quick Questions	
Where on the Periodic table are metals found?	On the left, from aluminium, germanium, antimony and polonium
Do metals have high or low densities?	Typically, they have high densities, though a few can float on water
What do the different state symbols stand for?	(s) = solid (l) = liquid (g) = gas (aq) = aqueous (in solution)
What is the general equation for the reaction between metals and acids?	Metal + Acid → Salt + Hydrogen
How do we name salts?	The first part of the name is from the metal, the second from the acid
What are the salt names for common acids?	Hydrochloric → chlorides Nitric → nitrates Phosphoric → phosphate
What is formed when a metal reacts with oxygen?	A metal oxide e.g. magnesium oxide, calcium oxide
How can you compare the reactivity of metals?	Either compare the vigour of their reactions with acids or water, or through displacement reactions
What happens in a displacement reaction?	The more reactive metal is about to displace the less reactive metal in the compound

Section 3: Helpful Diagrams

Reactivity series and experiments showing reactivity

potassium most reactive K
 sodium Na
 calcium Ca
 magnesium Mg
 aluminium Al
 carbon C
 zinc Zn
 iron Fe
 tin Sn
 lead Pb
 hydrogen H
 copper Cu
 silver Ag
 gold Au
 platinum least reactive Pt

H
 He
 Li Be B C N O F Ne
 Na Mg Al Si P S Cl Ar
 K Ca Sc Ti V Cr Mn Fe Co Ni Cu Zn Ga Ge As Se Br Kr
 Rb Sr Y Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I Xe
 Cs Ba La Hf Ta W Re Os Ir Pt Au Hg Tl Pb Bi Po At Rn
 Fr Ra

■ solids ■ liquids ■ gases at room temperature

metals non-metals

magnesium and sulfuric acid → magnesium sulfate
 aluminium and hydrochloric acid → aluminium sulfate
 zinc and nitric acid → aluminium chloride
 aluminium and sulfuric acid → zinc nitrate
 lead and hydrochloric acid → lead chloride

magnesium + sulphuric acid → magnesium sulfate + Hydrogen
 $Mg + H_2SO_4 \rightarrow MgSO_4 + H_2$

Section 4: Video Links