

# C1 REVISION - 5.1 Atomic Structure

Draw the symbol for sodium include its mass number and atomic number (what do they tell us)

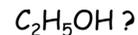
Complete the table

	Relative Charge	Relative Mass
Proton		
Neutron		
Electron		

Balance the following equation:



How many atoms and elements are there in:



Where are electrons and neutrons and protons found in an atom?

Fill in the table to show the number of electrons that can fit into the shell

Shell	Max. Electrons
1	
2	
3	

What happens to the shells as you:

i) Go **across** a **period**

ii) Go **down** a **group**

Draw **and** write the electronic configuration for:

i) Sodium

ii) Argon

**KEY WORDS:**

Electron  
Proton  
Neutron  
Shell  
Electronic Configuration  
Covalent/Ionic/Metallic

**ASSESSMENT:**



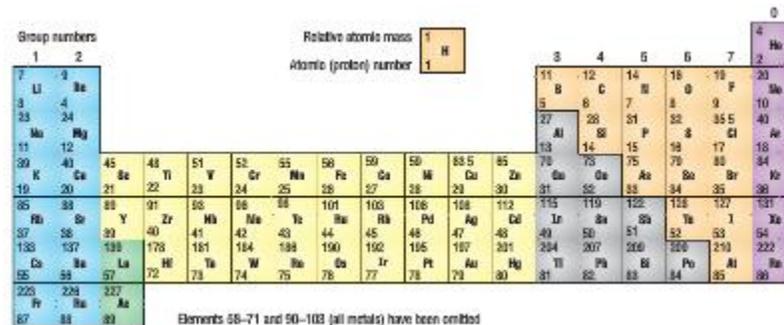
# C1 REVISION - 5.1 THE PERIODIC TABLE

State how each of these scientists aided in the development of the modern periodic table:  
Dalton:

Newland:

Mendeleev:

Describe how the modern periodic table is arranged:



Create a key for the colours displayed on the periodic table above:







## Group 1 - the alkali metals:

Describe the properties:

Describe the reactions:

## Group 0- the Nobel Gases:

Describe the physical properties:

Describe the chemical properties:

Explain why they don't form molecules:

## Group 7 -the halogens:

Describe the properties:

Describe the reactions:

### KEY WORDS:

Dalton	Non-metals	Chemical
Newland	Nobel gases	properties
Mendeleev	Melting point	Compound
Reactivity	Boiling point	Halogens
Reactive metals	Alkali metals	Displacement
Transition metals	Physical properties	

### ASSESSMENT:



# C1 REVISION - 5.2 - BONDING AND STRUCTURE

## IONIC COMPOUNDS

What type of force holds the ions together?

Draw a giant ionic lattice:

Why do ionic compounds have high melting and boiling points?

Why can ionic compounds conduct electricity when molten or dissolved in water?

## SIMPLE COVALENT MOLECULES

How strong are the forces between covalent molecules? [intermolecular forces]

How does this affect their melting and boiling point

How strong are the forces between atoms in a covalent bond? [intramolecular bonds]

## GIANT METALLIC SUBSTANCES

Why can metals be bent and shaped?

What are delocalised electrons?

Why do metals conduct electricity?

## GIANT COVALENT SUBSTANCES

Name 3 of these substances:

Why is graphite slippery and conduct electricity

## KEY WORDS:

Intermolecular    Diamond  
Intramolecular    Graphite    Delocalised

## ASSESSMENT:



# C1 REVISION - 5.3 - Quantitative Chemistry

Write how many there are in:



Electrons:

Protons:

Neutrons:

What is an isotope?

What is  $A_r$ ?

What is  $M_r$ ?

What is the  $M_r$  of  $\text{C}_2\text{H}_5\text{OH}$ ?

What is a mole?

Balance the equation and say how many moles of each substance there are:



What is the unit for concentration?

Give the equation which links concentration, volume and moles:

How do you convert between  $\text{cm}^3$  and  $\text{dm}^3$ ?

What is the state symbol for:

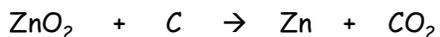
Solid:

Liquid:

Gas:

Aqueous solutions:

Add state symbols to this equation:



What is the law of conservation of mass?

Why do some reactions appear to involve a loss in mass?

**KEY WORDS:**

Relative Atomic Mass  
Relative Formula Mass  
Isotope  
Moles

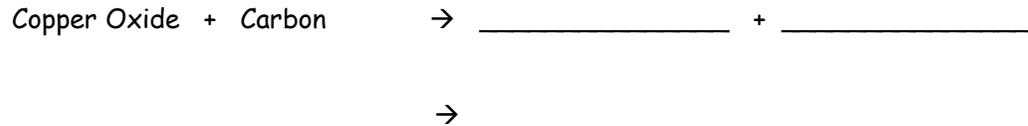
**ASSESSMENT:**



# C1 REVISION - 5.4- METALS & THEIR USES

Put these metals in their order of reactivity  
Carbon, Magnesium, Copper, Iron & Potassium

Less reactive metals are displaced by carbon. Complete the equation below and then make your own one:



Explain a bit about each of the ways to extract copper:

Smelting:

Displacement:

Electrolysis:

Why does gold not need to be extracted?

What is an ore?

How is iron extracted?

What is an alloy?

Name 2 alloys:

What is:

i) Reduction?

ii) Oxidation?

iii) Redox?

**KEY WORDS:**

DISPLACEMENT  
ORE  
BLAST FURNACE  
ALLOY  
SMELTING

**ASSESSMENT:**



# C1 REVISION - 5.4- ACIDS, ALKALIS & SALTS

What is a base?

What is an alkali

What ions make something acidic?

What is another name for an acid?

P\_\_\_\_\_ D\_\_\_\_\_

What ions make something alkali?

What is the pH scale?

What is produced when an acid and a metal react?

Acid + Metal →

Give a specific example:

What is produced when an acid and a base react?

Acid + Base →

Give a specific example:

What is produced when an acid and an alkali react?

Acid + Alkali →

What type of reaction is this?

What can we use to test the pH of a solution?

How can you tell when an Acid + Alkali reaction is completed?

What is produced when an acid and a metal carbonate react?

Acid + Metal Carbonate →

Give a specific example:

How can you tell when an Acid + Metal Carbonate reaction is completed?

KEY WORDS:

Acid  
Base  
Alkali  
pH scale  
Indicator  
Precipitate

ASSESSMENT:



# C1 REVISION - 5.4- ELECTROLYSIS

What is electrolysis?

What do we call the substance that is broken down during electrolysis

What is the positive electrode called?

What is the negative electrode called?

Label a diagram showing the electrolysis of lead bromide

What ions are formed?

Describe the movement of ions and electrons at each electrode when potassium iodide is electrolysed

What two products are formed in the electrolysis of aluminium oxide?

What is used to lower the melting temperature of aluminium oxide?

What other ions are involved when the salt is dissolved in solution?

What is the cathode rule?

What is the anode rule (s) ?

## KEY WORDS:

Electrolysis  
Cathode  
Anode  
Oxidation  
Reduction

## ASSESSMENT:



# C1 REVISION -5.5 - ENERGY & REACTIONS

What are exothermic reactions?

Give an example and explain why it is exothermic?

What are endothermic reactions?

Give an example and explain why it is endothermic

What is activation energy?

Describe what measurements you would have to take to find out if a reaction was exothermic or endothermic:

**KEY WORDS:**

Activation Energy  
Rate of Reaction  
Concentration  
Temperature

**ASSESSMENT:**



Sketch a reaction profile for each of the following and explain the energy changes taking place:

Endothermic

Exothermic:

Endothermic with Activation energy:

Exothermic with Activation energy