Summary 1.1

Section 1 Summary

1.1 Elements

a) There are about **100 elements** from which everything in the world is made from. An Element is made up of only **one type of atom**.

b) Every element has its own **name, symbol** and **atomic number** (p1 of data booklet)

e.g. Magnesium, Mg, atomic number 12

c) Elements are arranged in the **Periodic Table**

- If a substance is not on the periodic table then it is not an element.

d) There are **more metals than non-metals** in the periodic table.

- A heavy black line on the Periodic Table divides the metals from the non-metals. Metals lie to the left of the line.

e) Many elements are **solid** at room temperature

e.g. carbon, gold, iron.

f) **Mercury** and **Bromine** are the only two liquid elements at 20°C.

g) Some elements are **gases** at room temperature

e.g. hydrogen, nitrogen, oxygen and helium

h) Some elements have been **known for a very long time**

e.g. gold, silver, copper, tin, lead, iron, mercury

i) The most **recently discovered** elements are made by scientists.

j) Elements in the **same column** (called a group) have the **same chemical reactions** and properties

e.g. Potassium, sodium and lithium metals all react fast with water.

k) Chlorine, Bromine, Iodine and Fluorine are all non-metals in the same group and have the similar chemical properties.

Summary
1.2

Section 1 Summary

1.2 Compounds and Mixtures

a) **Compounds** are formed when 2 or more elements **join together**.

b) A compound is a **new substance** formed and is different from the elements from which the compound is made.

c) Compound have names derived from the elements inside them

i. Compounds ending in –**IDE**

–ide compounds contain only the two named elements.

e.g. sodium chloride contains **sodium + chlorine**

ii. Compounds ending in –**ATE**

–ate compounds contain the two named elements **and oxygen**

e.g. sodium chlorate contains **sodium + chlorine + oxygen**

iii. Compounds ending in –**ITE**

–ite compounds contain the two named elements **and oxygen**

e.g. sodium chlorite contains **sodium + chlorine + oxygen**

d) **Mixtures** happen when 2 or more substances come together without chemically joining

e) **Air** is a mixture of gases approx 80% nitrogen gas
approx 20% oxygen gas

f) **Oxygen** gas **relights a glowing splint**

- Air does not relight a glowing splint not enough oxygen in air to get the fire going again in the glowing splint.

Summary
1.3

Section 1 Summary

1.3 Solutions

a) A **solution** is when a solid is dissolved in a liquid

b) **Soluble** means a substance which does dissolve

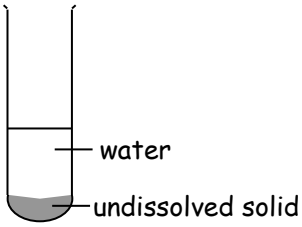
c) **Insoluble** means a substance which does **not** dissolve

d) A solid which is dissolved in a liquid is the **solute**. e.g. salt

A liquid that does the dissolving is the **solvent**. e.g. water

A **solution** is formed by dissolving a **solute** in a **solvent** e.g. salt water solution

e) When a substance is insoluble in water, the solid substance does not dissolve and settles at the bottom of the water. The undissolved solid can be removed by filtering



f) When no more solid dissolves the solution is a **saturated** solution.
- The extra solid lies on the bottom of the container
- Extra solid can be removed by filtering.

g) A **dilute** solution has less substance dissolved in it than in a **concentrated** solution

h) A solution is **diluted** by adding more water to it

i) Carbon dioxide turns **lime water milky**

j) Fizzy drinks have the gas **carbon dioxide** dissolved in it.

k) **Fluoride** is added to drinking water to reduce tooth decay.

l) **Chlorine** is added to drinking water to kill bacteria.

m) **Lead** dissolved in drinking water can be harmful to your health.

Section 1 Summary

1.4 Hazards & Safety

a) Learn the following **Hazard Warning Labels**.

Toxic
(Poisonous)

Corrosive

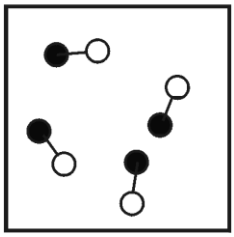
Flammable

Radioactive

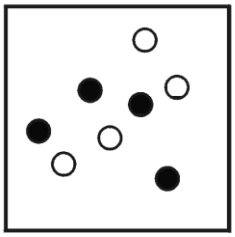
Harmful
(Irritant)

Explosive

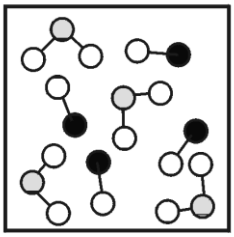
b) Learn the following **Elements, Compounds and Mixtures** Diagrams



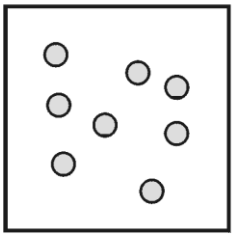
pure compound



mixture of elements



mixture of compounds



Pure element