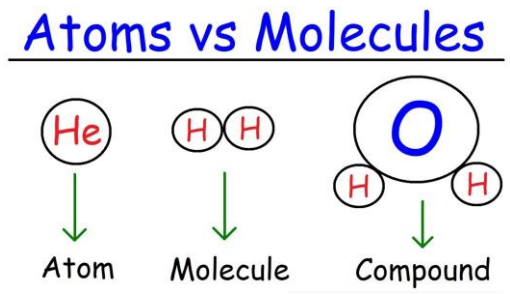
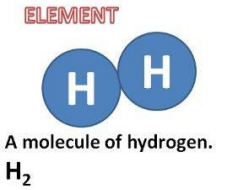
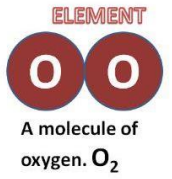
Chemistry 8F The Periodic Table

1	Elements and compounds combine during chemical reactions in fireworks to produce their displays. Most fireworks contain a mixture called black powder which is the main source of its energy. Black powder is a mixture of carbon (as charcoal), sulfur and saltpetre (potassium nitrate).
2	Reactions in fireworks need oxygen which is supplied by the air but mostly by potassium nitrate known as an oxidizer. The carbon and sulfur dioxide react with the oxygen to form carbon dioxide and sulfur dioxide gas.
3	All matter is made up of tiny particles called atoms. All atoms in an element are identical but each element has its own type of atom. Atoms are indestructible and cannot be created or destroyed.
4	In compounds, each atom of an element is always joined or bonded to a fixed number of other atoms of other elements.
5	During chemical reactions atoms re-arrange themselves to make a new substance called product.
6	Dimitri Mendeleev was the pioneer of the periodic table arranging elements in order of increasing relative atomic mass and into groups with similar physical and chemical properties.
7	The modern periodic table is arranged in order of increasing atomic number.
8	Chemical properties of a substance describe how it reacts with other substances. Flammability and reactions with acids are examples.
9	Properties that describe a substance or element on its own are known as physical properties.
10	The ratio of elements in a compound can be shown in a chemical formula such as H_2O. Water has 2 atoms of hydrogen bonded to 1 atom of oxygen.

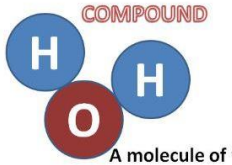




A molecule of hydrogen. H_2

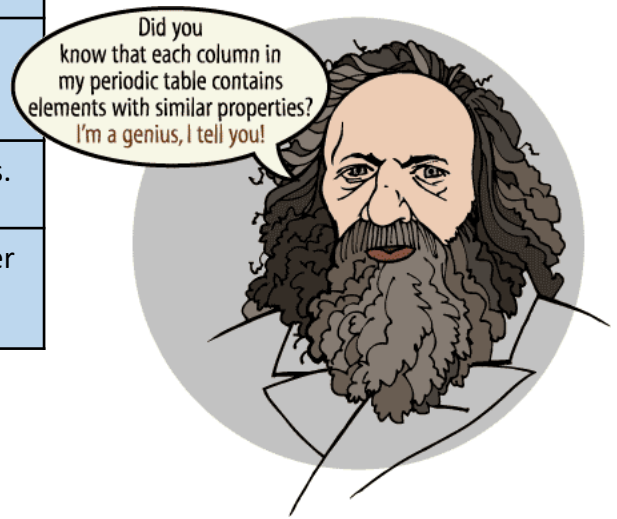


A molecule of oxygen. O_2



A molecule of water, H_2O

A molecule of carbon dioxide, CO_2



Reactants → Products

$A + B \longrightarrow AB$

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11	When a solid is heated its temperature rises until reaches melting point, where it will change from a solid into a liquid.
12	When a liquid reaches its boiling point it will start to evaporate and turn into a gas.
13	Melting and freezing point are also the same.
14	The periodic table has many trends such as changes in reactivity when you go down a group such as group 1. Alkali metals of group 1 get more reactive as you go down the group. Their melting points also decrease as you go down the group.