

Knowledge Organiser for Year 6 Chemistry: Matter and Change

What I should already know:

Year 1/2- Physical properties of materials.

Links to future learning: KS3- states of matter; atoms, elements and compounds; chemical reactions.

Tier 3 Vocabulary

Matter	Matter is anything that takes up space; matter exists as <u>solids</u> , <u>liquids</u> and <u>gases</u> and each state has its own distinct properties.
Particle	The basic units from which all substances are made, such as atoms or molecules
Atom	The smallest part of every substance composed of <u>protons</u> (+), <u>neutrons</u> and <u>electrons</u> (-)
Molecule	The particle that is formed when two or more atoms are joined together
Nucleus	The centre of an atom, made up of protons and neutrons
Element	A pure substance made from only one type of atom
Compound	Consists of two or more elements strongly joined together
Mixture	A collection of elements and/or compounds that have not bonded together
Solution	A mixture of substances in a liquid
Bond	A link between atoms in a molecule
Periodic Table	A table showing all known elements in order of increasing atomic number (the number of protons in the nucleus of an atom of a certain element)
Chemical symbol	One or two letters that stand for an element's name, for example, He for helium

Chemical and Physical Change

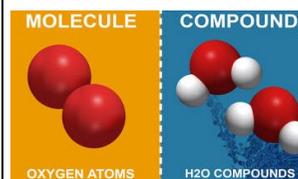
Chemical change:

When atoms in one substance combine with atoms in another substance to form a new substance.

Physical change: When the appearance of a substance changes, but the atoms inside it do not change

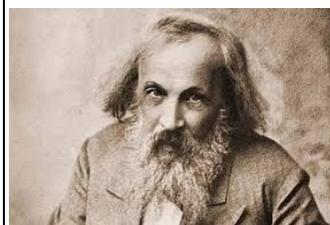
Chemical	Physical
<p>Before Wood log</p> 	<p>Before Whole lemon</p> 
<p>During Log getting burned</p> 	<p>During Lemon getting sliced</p> 
<p>After (new substance) Pile of ash</p> 	<p>After (same substance) Slices of lemon</p> 

What is the difference between a molecule and a compound?



When an atom bonds with another atom (the same O₂ or different H₂O) it is called a molecule.
A compound is created when the atoms of **two different elements** combine.

This makes it a molecule (because two atoms are joined together) but also a compound because the elements are different.



Dmitri Mendeleev

1834-1907

Russian chemist and inventor.

Considered to be the most important contributor to the development of the periodic table.

Mendeleev's version of the periodic table organized elements into rows according to their atomic mass and into columns based on chemical and physical properties.

