Knowledge Organiser for Year 6 Science: Matter and Change.

What I should already know:
Year 1/2 - Physical properties of materials.
Year 4/5 - Materials and their properties

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 solids, liquids and gases 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 protons (+), neutrons and electrons (-)
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 the atom)
Chemical symbol	One or two letters that stand for an element's name, for example, **He** for helium

Elements and Compounds

When an atom **bonds** (joins) with another atom, it forms a **molecule**.

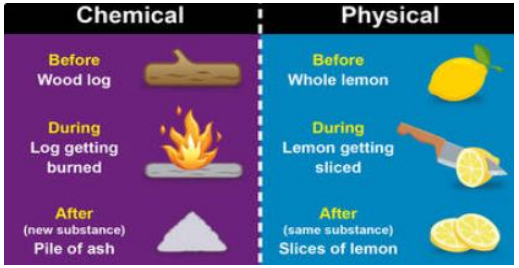
If a substance is made up of molecules that have only **one type of atom**, it is an **element**. There are **118** different elements. Oxygen and gold are elements.

If a substance is made up of molecules that have **two different types of atom,** it is a **compound.** Water is a compound, made up of hydrogen and oxygen**.**

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



Dmitri Mendeleev 1834-1907

Russian chemist and inventor.

He was an important contributor to the development of the **Periodic Table.**

Mendeleev's Periodic Table organized elements into a table according to their chemical and physical properties.