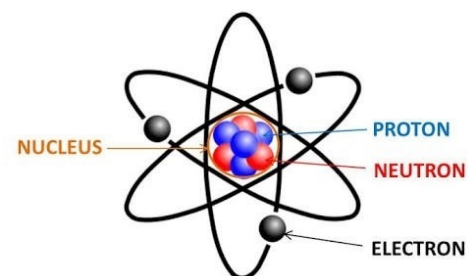


### Transition Component Unit: An introduction to Chemistry and Physics

Vocabulary	Meaning
atom	the smallest particle of chemical element that can exist
electron	a particle with a charge of negative electricity, found in all atoms
proton	a particle occurring in the centre of the atom with a positive electrical charge
neutron	a particle of about the same mass as a proton, but without an electric charge (neutral).
static charge	an imbalance of electric charges within or on the surface of a material
molecule	a group of atoms held together by chemical bonds
bond	the join created when two or more atoms come together
protein	a substance necessary for the body to grow, repair itself and stay strong
hydrate	to make the body absorb water or liquid
lubricate	a substance which makes something work more easily, or to stop something sticking, rubbing
interact	react in such a way so as to have an effect on one another
transfer	move from one place to another
solute	the thing you are dissolving
solvent	the thing you are dissolving the solute on

### Key knowledge – What is the makeup of an atom?



The atom is the basic building block for all matter in the universe.

Atoms are extremely small and are made up of a number of even smaller particles.

The basic particles that make up an atom are: **electrons, protons, and neutrons.**

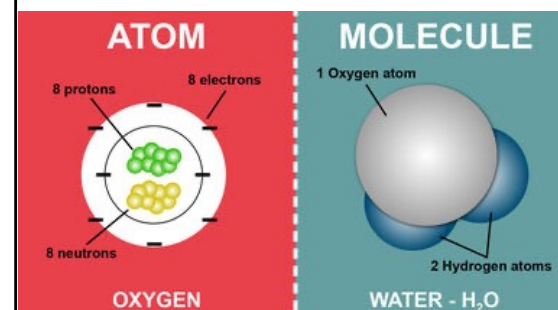
Atoms fit together with other atoms to make up matter (solids, liquids and gases).

### Key knowledge – What is a molecule?

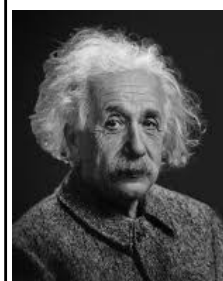
A **molecule** is made up of **2 or more atoms bonded together**. These can be the same element or different elements.

In the example, the water molecule is made up of 3 atoms:

What is the **difference between an atom and a molecule?**



### Key Individuals who have made a significant contribution



**Albert Einstein (born 1879 and died 1955)**

Best known for? His theory of relativity

- Initially he trained as a teacher.
- Went on to obtain his PhD in Physics
- Discovered the formula  $E=mc^2$  (figuring out how particles can be turned into energy).