

ATOMS AND MOLECULES

LI 5: We are learning that everything is made out of different combinations of atoms and that different materials have different properties.

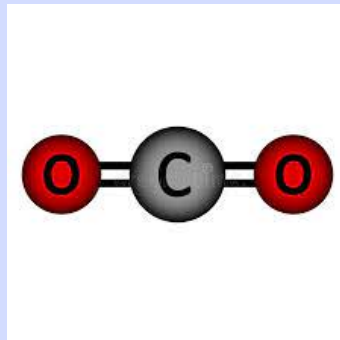
Everything is made up of different combinations of these atoms. For example, water molecules are made up of two hydrogen atoms and one oxygen atom. That is why water is also called H₂O.

What is the difference between a molecule and an atom?

Atoms are single neutral particles. Molecules are neutral particles made of two or more atoms bonded together.

Atoms also come in different sizes, depending on how many electrons they have. An oxygen atom is a lot (16 x) larger than a hydrogen atom. Draw a picture (and take a photo) or create an image on google draw of a water molecule H₂O. It contains 2 hydrogen atoms and one oxygen atom.

Example = this is a carbon dioxide atom.



Different materials have different properties. For example, they have different melting and boiling points, different mass (weight), density and some are stronger than others. This is caused by their molecular structure.

We need to keep this in mind when designing different products. For example, we make saucepans out of metal because they won't melt on our stoves. However, if we tried to place a plastic pan on the stove it would melt because it has a lower melting point. We can create strong metal by creating a metal alloy (by combining one type of metal with another metal or element). These alloys can be stronger than the metal on its own.

Now go ahead and make your very own water molecule H₂O!

