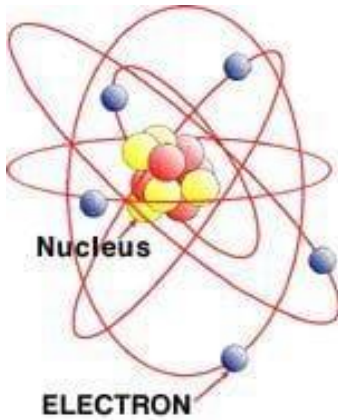


Atoms and Electricity



ATOMS

Everything around us, including ourselves, is made up of extremely tiny particles called atoms.

Each **atom** is made of a tiny nucleus, which is made up of **positively** charged **protons** (and neutrons with no charge). Surrounding the nucleus of each atom are fast-moving, **negatively** charged **electrons**. Even though the electrons are flying around very quickly, they mostly stay around the nucleus as part of that atom.

CHARGES IN ATOMS

Atoms are **neutral**. This means that their charges are balanced so that they are not **positive** or **negative**. They are described as having **no charge**. This is because the number of positively charged protons in the nucleus matches the number of negatively charged electrons surrounding the nucleus.

ELECTRICITY

Static electricity and current electricity both depend on electrons. Sometimes, when atoms receive an input of extra **energy**, an electron can escape from an atom. These negative electrons can get loose and flow away from one atom and toward another atom. A continuous flow of electrons from one atom to the next creates an **electric current**. If this happens, the atom is no longer neutral, because the number of positive protons and negative electrons no longer matches. When this happens, atoms start pulling on each others' electrons to try to regain that balance. When electrons move from one atom to another trying to balance charge, it creates an electric current. This is what we think of as electricity.

1. In your own words, tell what is an **atom**?

2. What are the positive parts of an atom? _____

3. What are the negative parts of an atom? _____

4. Where in the atom are the negative parts? _____

5. Why is an atom **neutral**?

6. In your own words, describe what causes current electricity.
