

Welcome to **A Spark of Science**

We are all scientists

In this shocking issue of A Spark of Science we will be exploring all things electric. Try out some static electricity experiments at home and learn about the electric eel.

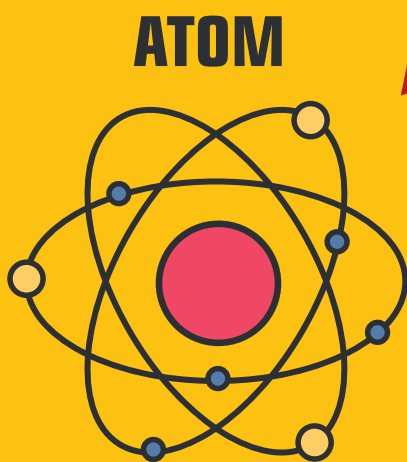


What is Electricity?

Electricity is the movement of tiny particles called electrons, which are found in atoms. Everything in the universe is made from atoms.

Each atom is made up from even smaller particles called protons, neutrons and electrons.

Protons and neutrons huddle together in the middle of the atom - called the nucleus - and the electrons orbit around them.



Electrical charges

Protons have a positive charge

Neutrons have no charge

Electrons have a negative charge

Positive and negative charges pull towards each other. Particles of the same charge will push away from each other.

Electrifying animals

The electric eel is one of 350 known species of fish that can send out high-voltage shocks. It uses unique cells in its body called 'electrocytes' to generate an electric charge.

Eels have thousands of these cells in their body and can use them in many ways.

They can use short pulses of electricity like radar to find their way through muddy water or to detect prey.

They can also generate a whopping 650 volts of electricity to shock and immobilise their prey before eating it alive!



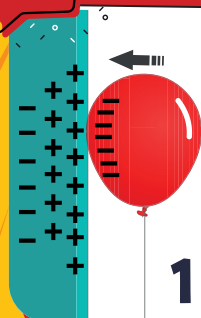
What is Static Electricity?

Static electricity is the build-up of electrical charge on the surface of an object.

Electrons can be transferred from one object to another when different materials are rubbed together, generating a positive or negative charge.



? What Happens?



Rip up some small pieces of paper and put them onto a plate.

Rub a balloon on your T-shirt for 10 seconds then hold the balloon close to the paper.

1



Place an empty drinks can on its side on a table.

Rub a balloon on your T-shirt, and hold the balloon close to the can.

2



Tie a piece of string around the middle of an uncooked sausage. Ask a friend to hold onto the string so the sausage is hanging freely. Rub a balloon on your T-shirt then bring the balloon towards the sausage.

3