

SMALL BEGINNINGS

Press a button and the television comes on. Flick a switch and the room lights up. Turn a dial and the microwave heats up your lunch. All of these things use electricity. The energy of electricity flows through our lives in numerous ways—but what is it?

Imagine how different this street would be if all the electricity was switched off!

What Is Electricity?

Electricity is a form of energy that is caused by the movements of some of the tiny particles that make up atoms. Atoms are incredibly tiny units of matter. The biggest is just half a billionth of a inch across. They make up

everything and everyone around us, including yourself. Each atom is made up of a number of even smaller particles. Normally, there are a number of particles called **protons** at its center or **nucleus**. Protons have a **positive electric charge**. Around the outside of the atom is a cloud of **electrons**. Electrons have a **negative electric charge**. In an atom, the positive and negative charges cancel each other out, so the whole atom is neutral. It has no charge at all.





Electricity Spelling Words

Electricity

Static Electricity

Electron

Current Electricity

Load

Parallel Circuit

Renewable

Repulsion

Electromagnet

Conductor

Source

Proton

Insulator

Attraction


Neutron

Non-Renewable

Switch

Series Circuit






A form of energy

Electricity that does not flow on a given path


A sub-atomic particle with a negative charge

An uncharged particle (neutral) equal in weight to a proton



A particle with a positive charge equal to the negative charge of an electron

Objects with “unlike” charges move towards each other (positive attracts negative)



Objects with “like charges repel or separate (negative moves away from negative).

Electricity that flows constantly in one direction on a closed path

A device that generates the flow of electrical energy (or power) in a circuit, such as a battery (or cells)

A material that allows electricity to pass through it easily, such as a wire

A material that does not allow electricity to pass through it easily.

A component or output device that converts electrical energy into light (lamp), heat (oven), sound (iPod) or motion (motor)



A device that is used to turn electricity on/off; stop/start electricity flow

A path of electrical current that only has one loop

A path of electrical current that has more than one loop in the circuit



A temporary magnet made of an iron bar with coils of wire around it; they act as magnets when electricity flows through them.

An energy source that can be used over and over or replaced (such as biomass, hydro, solar, wind or geothermal)



An energy source that can only be used once and cannot be replaced (such as natural gas, petroleum, propane or coal)



ELECTRICITY DEFINITIONS

Electricity – A form of energy

Static Electricity – electricity that does not flow on a given path


Electron – A sub-atomic particle with a negative charge

Neutron – An uncharged particle (neutral) equal in weight to a proton

Proton – a particle with a positive charge equal to the negative charge of an electron

Attraction – Objects with “unlike” charges move towards each other (positive attracts negative)

Repulsion – Objects with “like charges repel or separate (negative moves away from negative).



Current Electricity – electricity that flows constantly in one direction on a closed path


Source – A device that generates the flow of electrical energy (or power) in a circuit, such as a battery (or cells)


Conductor – a material that allows electricity to pass through it, such as a wire

Insulator – a material that does not allow electricity to pass through it

Load – A component or output device that converts electrical energy into light (lamp), heat (oven), sound (iPod) or motion (motor)

Switch – used to turn electricity on/off; stop/start electricity flow






Series Circuit – a path of electrical current that passes through each device in the circuit; a path that has one loop

Parallel Circuit – a path of electrical current that has more than one loop in the circuit

Electromagnet – a temporary magnet made of an iron bar with coils of wire around it; they act as magnets when electricity flows through them.

Renewable – an energy source that can be used over and over or replaced, such as biomass, hydro, solar, wind or geothermal.



Non-Renewable – an energy source that can only be used once and cannot be replaced, such as natural gas, petroleum, propane or coal.