

SWITCHED ON KIDS TECHY KIDS

TASK 1 : READ, DRAG and DROP : "Where does electricity come from?"

Electricity comes from:



BATTERY POWER	SOLAR POWER	WATER POWER	WIND TURBINES	POWER STATIONS

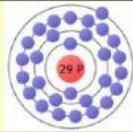
TASK 2: "ELECTRICITY" MATCH QUESTIONS AND ANSWERS

1	What is electricity?	Muscles are stimulated by electricity. The effect depends on the intensity of the current and the type of muscle it travels through. We've all felt a buzzing or tingling sensation that doesn't cause injury. That's the effect of a current as low as 0.25 milliamperes (mA) entering the body
2	What is electricity needed for? Do we need electricity?	Direct current (DC) is the flow of electric charge in only one direction. It is the steady state of a constant-voltage circuit. Most well-known applications, however, use a time-varying voltage source. Alternating current (AC) is the flow of electric charge that periodically reverses direction.
3	What are the two types of electricity?	Electricity is everywhere, even in the human body. Our cells are specialized to conduct electrical currents. Electricity is required for the nervous system to send signals throughout the body and to the brain, making it possible for us to move, think and feel.
4	What are the sources of electricity?	Electricity is the flow of tiny particles called electrons and protons. It can also mean the energy you get when electrons flow from place to place. It can then power such things as heaters, light bulbs, and computers. Today, electricity provides most of the energy to run the modern world.
5	How does electricity work in	When you plug things into the outlet in your house, you don't get DC. Household outlets are

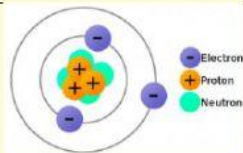
	a house?		AC - Alternating Current. This current has a frequency of 60 Hz and would look something like this (if you plotted current as a function of time).
6	Is a house AC or DC?		There are two kinds of current electricity: direct current (DC) and alternating current (AC). With direct current, electrons move in one direction. Batteries produce direct current. In alternating current, electrons flow in both directions.
7	Do our bodies have electricity?		Electricity allows us to power the technology we use every day. ... If you plan on trying to live without electricity, you will no longer be able to turn on the central heating in your home, use the toilet, preserve food in your fridge/freezer or have clean running water.
8	What does electricity feel like?		Electricity is a form of energy and we need it for just about everything! Almost all of our modern conveniences are electrically powered. Electricity is what lights up our classrooms, heats our homes and lets us listen to our favourite music. You are using electricity right now by using your computer to read this.
9	What is difference of AC and DC?		The three major categories of energy for electricity generation are fossil fuels (coal, natural gas, and petroleum), nuclear energy, and renewable energy sources. Most electricity is generated with steam turbines using fossil fuels, nuclear, biomass, geothermal, and solar thermal energy.
10	How is electricity created?		Power stations convert fuels into electricity. Coal and gas are burned to heat water and turn it into steam. The steam, at a very high pressure, is then used to spin a turbine. ... The moving magnets cause electrons in the wires to move from one place to another, creating an electrical current and producing electricity.
11	Can we live without energy?		The current is sent through transformers to increase the voltage to push the power long distances. The electrical charge goes through high-voltage transmission lines that stretch across the country. ... The electricity travels through wires inside the walls to the outlets and switches all over your house.



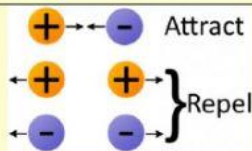
A very simple atom model. It's not to scale but helpful for understanding how an atom is built. A core nucleus of protons and neutrons is surrounded by orbiting electrons.



As our understanding of atoms has evolved, so too has our method for modeling them. The Bohr model is a very useful atom model as we explore electricity.



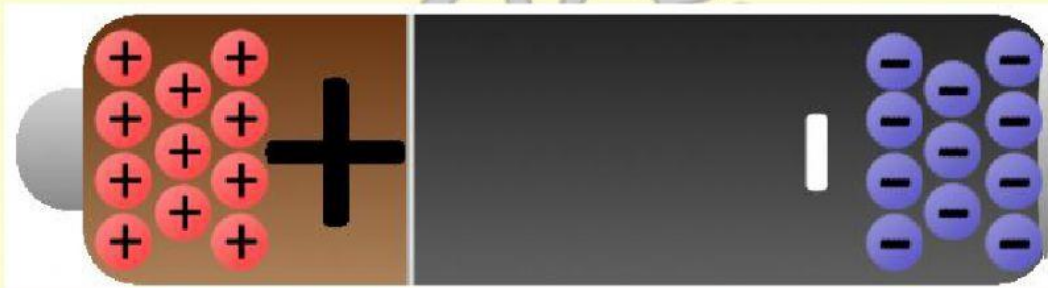
A lithium atom (3 protons) model with the charges labeled.



Electrostatic force (also called Coulomb's law) is a force that operates between charges. It states that charges of the same type repel each other, while charges of opposite types are attracted together. Opposites attract, and likes repel.



A short circuit:



English Zone

