

Current found around
1751. around this
time benjamin



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Current electricity is the motion of electrons on a path. An electric current is the speed at which charges pass a point. The higher the current, the greater the number of charges that passed. The path is called a conductor.

Copper is a type of conductor. If a copper wire is broken, the charges are not free to flow, and the charges in the middle cannot go anywhere. When charges constantly flow, current electricity occurs. Unlike static electricity, where the charges are not moving, current electricity involves charges that are constantly moving.

The motion of electrons is random, there is no specific direction that the electrons move in. In addition, the electrons move at a very slow pace. If a human was to walk on the same path near the electrons, they would be travelling one-hundred times faster than the electrons. Current electricity is a type of controlled energy. Your television and your phone work due to the electrons moving.

Electrons create three main charges: voltage, current, and resistance. These three charges are the main parts used to have the ability to use electricity. There are two types of current electricity: direct current and alternating current. Current electricity is measured using a tool called the ammeter.

The letter I symbolizes currents. An electric current is shown in units called amperes or amps. This is symbolized with the letter A. The flow of current electricity, however, only takes place when there is a closed circuit. The only limitation that a circuit has is that it cannot have any gaps in it. Also, the flow of electricity cannot take place in an open circuit, because the wire doesn't connect end to end.

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Due to the current having the ability to travel in any direction, an arrow is used to represent the direction of the flow. However, the flow usually cannot be determined, so the direction of a current is assigned randomly. When the flow is discovered, a negative sign conveys that the wrong direction was given. Electricity was first found around 1751. Around this time Benjamin Franklin flew a kite with a key attached to it, during a thunderstorm. He wanted to show that lightning is a type of electricity. In 1831, Michael Faraday and Joseph Henry showed the principle of electromagnetic induction to show that magnetism generated electricity.

In 1903, Willem Einthoven developed a machine to see the electric currents that pass through body tissues. Electricity is a secondary source. This means that it comes from the conversion of the main sources. Some common sources of energy are wind, solar energy, biomass, hydroelectricity, natural gas, coal, nuclear power, and fossil fuels. Wind is a source of electricity. Wind provides less than 1% of the electricity in the United States today.

But, it is inexpensive and a renewable source. Wind energy can only be made in windy places, but it doesn't generate any pollution, besides when it is being installed. Wind doesn't produce greenhouse gases, doesn't use water, and takes up only a little land. Wind power, however, depends on natural resources, that cannot be controlled on demand. Solar energy is a source of electricity. The solar energy on the Earth each day is 500, 000 times greater than the electric power capacity.

Solar energy is changed to electricity through cells called photovoltaic cells. Solar energy is unlimited, so it cannot run out. Today, solar energy is contributing 1% to electricity.

The expense of solar energy is one reason why it is not being used more frequently. In addition, solar energy is only produced when the sun is shining. Unfortunately, this is not everyday. Biomass is refuse or wood made in landfills that provides for electricity. Biomass is low at cost and it doesn't stop forming, which is good. Biomass provides to only 1% of the nations electricity. Biomass comes with a lot of negative aspects.

Biomass needs a large portion of fertile land. It would need 3/4 of an acre of land. Also, biomass incorporates a lot of water. For only one household, over 25, 000 gallons would be used a year. It also makes 232 pounds of carbon monoxide in one house, each year.

Hydroelectricity is a source of electricity. Hydroelectricity contributes to 9% of the electricity in the nation. Hydroelectricity is the energy of flowing water. It is renewable, which means that it can be produced again. However, dams can have a negative impact on the world.

Less than 2% of the 3. 1 million rivers are able to flow without being stopped by a dam. Today the dam construction is declining due to this, which is declining the use of hydroelectricity. Natural Gas is a source of energy. Natural gas, although it is non-renewable, makes up 15% of the electricity in the United States. Natural gas is produced when organic buried materials are faced to high temperatures. Natural gas is not expensive and the technology necessary is fairly simple.

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It also doesn't produce pollution. On the other hand, it also creates 24 pounds of air-borne in a household running on natural gas. This causes asthma and respiratory infections. Coal is another source of energy. Coal provides to almost half of the electricity that is used today. Coal is not expensive and there is a lot of it. 90% of the coal produced is used for electricity. Sulfur from the coal dissolves into the water which turns into acidic, which impacts thousands of streams.

One household running on coal electricity makes over 61 pounds of sulfur dioxide, 60 pounds of nitrogen oxide, 30 pounds of particulates, 6 pounds of carbon monoxide, 2 pounds of volatile organics, and 17, 000 pounds of carbon dioxide, and need over 7, 000 gallons of water. Nuclear power provides to less than 20% of the electricity. However, it comes with many risks such as radiation and it leads to radioactive waste. The risks of nuclear energy today are risking the future generations, but helping the current generation.

The use of nuclear power declines recently due to the expense and public dislike. Consumers are boycotting nuclear power, and over the next 20 years, the reactors are supposed to leave. A battery is an object that stores electrical energy and changes it into electricity.

There are three parts of a battery that contribute to electricity, the anode, the cathode, and the electrolyte. The electrolyte permits the flow of electricity. When something is connected to a battery, a chemical reaction takes place and produces an electric current. The process that occurs when battery provides energy begins when the chemicals that are utilized when

the anode releases electrons go through a process called oxidation reaction. Then the electrons go to the cathode and then provides the electricity to the device. This process is called the reduction process. Then the electrolyte attaches the electrodes permitting the stored energy to become electrical energy. A voltaic cell is an electrochemical cell which utilizes a chemical reaction so it can provide electrical energy.

An electrochemical cell is a device which makes chemical energy. The main parts of a voltaic cell are the anode, the cathode, a salt bridge, half-cells, the external circuit, and the load. The anode is an electrolyte where the process of oxidation occurs. Oxidation is the loss of electrons. Reduction is the process of gaining electrons. The cathode is an electrolyte where the process of reduction takes place.

The salt bridge is a collection of electrolytes needed to finish a circuit in the cell. Half-cells are sections in which the oxidation and the reduction reactions are placed in. The external circuit manages the flow of electrons in the electrodes of the cell. The load is the section of a circuit which uses the flow of electrons to perform necessary functions.