

Electricity

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Electrical Energy

- Atoms are made up of charged particles called protons and electrons, and uncharged particles called neutrons.
- Electrical energy, or electricity, is generated by the movement of charged particles.

- Electrons are negatively charged particles that orbit the nucleus of an atom.
- Some electrons are held less tightly in orbit and can be removed from the atom more easily.

- Static electricity is the build up of charges on an object.
- It leads to an electrical attraction that causes objects to stick to one another.

- Charged objects have either a positive or negative charge.
- Like charges will repel each other while different charges attract each other (just like magnetic poles).

- The push or pull between objects is called electric force.
- Forces of attraction and repulsion can act over a small distance without contact between the objects.
- An object with an electric charge also has an electric field, an area in which electric force is exerted.

- In a static discharge, electric charges move briefly as the electrons jump from one object to another.
- Electric charges can also travel for longer times and greater distances.

- Electric current is the continuous flow of electric charges.
- Current must have a path, or circuit, on which to move.

- The magnetic force between two magnets is similar to electric force between two charged objects.
- Electric fields are similar to magnetic fields.
- Like gravity, magnetic and electric forces are universal forces that can act between objects without the objects touching.