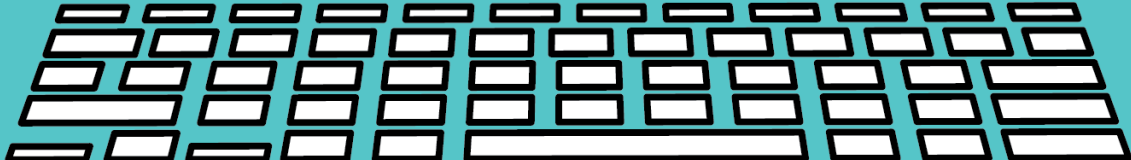
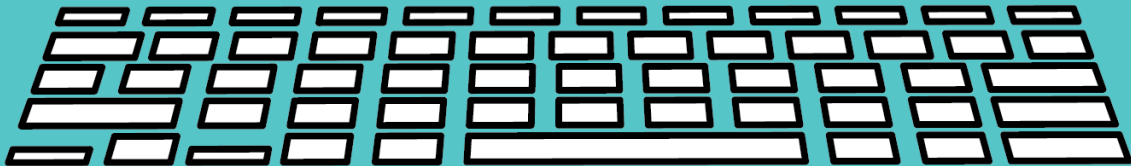


NEGATIVELY CHARGED PARTICLES IN THE AIR ARE CALLED IONS

Short Answer	Type Answer Here
1. What is the force between 2 points in a circuit called?	
2. There are two types of currents, AC and what other?	
3. What is the term for energy used in a circuit?	
4. The item to be powered is called the what?	
5. Current is measured in amps or what else?	
6. What term is for how well an object conducts electricity?	
7. What is the term for how power is measured?	
8. What is the flow of electrons in a circuit called?	



Short Answer	Type Answer Here	Fill in the Blank	Type Answer Here
1. What is the force between 2 points in a circuit?		9. Electricity is the flow of ___ and electrons.	
2. There are two types of current and what other?		10. Energy built up in one place is called ___ energy.	
3. What is the term for energy used in a circuit?		11. ___ storms are an example of electrical energy in nature.	
4. The item to be powered is called the what?		12. A ___ is an item that allows charge to pass.	
5. Current is measured in amps or what else?		13. A ___ does not allow electricity to flow.	
6. What term is for how well an object conducts electricity?		14. ___ electricity is a type of ___ that makes things work and move.	
7. What is the term for how power is measured?		15. The two categories of electricity are static and ___.	
8. What is the flow of electrons in a circuit called?		16. Static electricity can destroy ___ chips.	



ELECTRICITY

Did you know that the lightning strike during stormy weather is electricity? Energy from a lightning bolt can power 100 lamps for a day. It can also travel 100,000 pieces of toast. Electricity is a type of energy that makes things work. Specifically, it is the flow of protons and electrons. Lightning is a form of electricity - lightning is simply a large number of electrons flowing through the air.

Electricity is generally divided into two categories: static and current. Energy built up in one place is called static electricity. Current is the energy moving from place to place.

Static electricity occurs when you rub your feet on a carpet, touch something, and get zapped. Another example would be when your hair stands up on end while sliding down a slide. What makes this happen? Atoms have protons, electrons, and neutrons. When electrons move, they create electricity. So, the friction of riding down a slide or dragging feet on a carpet builds up a charge. This charge causes a spark (passing electrons to a doorknob - or someone else!). In the example of your hair on a slide, electrons move to your hair. The hair has the same charge, so the strands stand away from each other.

There are many practical applications for static electricity. For example, static electric charges attract ink and toner to paper in printers. Paint sprayers, air filters, and dust removal devices also use static electricity.

However, static electricity can also destroy electronic chips like those found in computers. Specialists working with these chips must wear unique straps to "ground" them and prevent them from building a static charge.

In addition to lightning, there are several electrical items found in nature. Rays, eels, and some cat fish can emit electrical charges. These creatures use electrical charges to defend themselves, paralyze their prey, and locate objects. Electric eels from South Africa have enough charge to power twelve 40-watt lightbulbs. Solar storms are another electrical charge in nature. These storms can disrupt satellites and communications.

Current electricity, on the other hand, has a path for the electrical charge to move through. Wires allow the current to travel from place to place. A conductor, like copper, is something that allows a charge to pass.

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Insulators like rubber, paper, and plastic, however, don't allow electricity to flow. Electricity needs a circuit (closed path or loop) to flow correctly. When you flip the switch on a flashlight, it completes the circuit and powers the flashlight. The same principle works for lights in your home, appliances, and anything else you plug in for power. A power plant provides electricity for homes and buildings. At the power plant, turbines generate electricity and send the current down the wires (power lines).

There are specific terms to know to understand electricity better.

- Voltage is the force or difference between two points in a circuit. It comes from a power plant or battery.
- Current is the flow of electrons in a circuit. It is measured in Amps or Amperes.
- Power is the energy used in a circuit. It is measured in Watts. The equation to determine watts = voltage x current.
- Resistance is how well an object conducts electricity. Low resistance indicates that it conducts electricity very well, while high resistance doesn't conduct electricity well.

Electricity requires a circuit, a complete and closed path that allows the flow of electrons.

- Power source - this could be a battery or outlet on a wall
- Conductor - the wires that carry the electricity
- Load - the item that uses the electricity (for instance, a lightbulb, lamp, computer)
- Switch - the device that closes the circuit to make electricity flow (light switch, power button)

Batteries used in many devices provide another source of electricity. They store energy and provide a voltage that allows the circuit to work. The positive terminal of a battery is called a cathode, and the negative side is an anode. Chemical reactions cause electricity to flow.

Today there are two types of current: AC (alternate current) and DC (direct current). Most electronics and batteries use direct current, which flows in one direction. Alternate current flows back and forth from the wall or the power station. The current constantly changes direction 60 times per second.

Electricity can be dangerous. There are many safety precautions to keep in mind. For example, don't put electrical items in water or plug anything into an electrical outlet (except the correct plug).

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