

Facts About Electricity

Ever since the 1800s, electricity has been a part of our lives. Today, we rely on electricity to power our homes and devices, to help grow our crops and to make sure our water is clean, amongst many other things. Despite how often we encounter it, there are still some amazing facts about electricity that you might not know.

Electricity in the sky

Lightning bolts occur when electrical charges discharge. Each bolt of lightning can contain up to one billion volts of electricity! That's enough electricity to power a light bulb for six months. Roughly 100 bolts of lightning strike the Earth each second - that's a lot of electricity.

Benjamin Franklin was the first person to show that lightning was actually linked with electricity. He flew a kite during a storm in 1752 and collected some of the charge. He was also responsible for giving us the words battery, conductor and electrician.

Current or voltage?

When many people talk about electricity, they only mention the voltage. Actually, the current can be far more dangerous. If you think of electricity as water in a stream, the current is the speed of the water, and the voltage is how much water is flowing past. If you stand in a wide river with slow-moving water, a lot will go past (much like high voltage) but if the speed is slow, you can stand and paddle. However, if you have a very narrow stream but the water is going very fast (like a high current) then you will be swept away by a very small amount of water. This is similar to electricity. 1,000 volts is not more dangerous than 100 volts on its own. But, if the current changes, then the 100 volts could be a lot more dangerous than the 1,000 volts. It's very hard to know both the current and voltage, so it's always important to be safe around any electrical source.

It's very fast!

Electricity travels at the speed of light, which is around 186,282 miles per second! This is why a light bulb turns on as soon as you flick the switch. In fact, it actually takes a little while for the electricity to reach it, but because it is so fast, you don't notice it. If you had a switch connected to a light bulb on the other side of the world, then you would notice a delay.



You are electric!

Every second, your body generates electricity. From the food we eat to the oxygen your organs use, the cells in your body turn it into electrical energy. It's only very small amounts - roughly 0.1 volts and over a minuscule distance - but it adds up to a lot. If you scaled your cells up to a meter across, it would be roughly the same as a thunderstorm!

Be careful of the carpet

Have you ever felt a spark leap from your finger to somebody else? That is static electricity. It may feel small, but it carries about 3,000 volts of electricity. Luckily, it doesn't have any current (hence why it's called "static" electricity), so there is not enough power behind it to hurt you (technically, lightning is also a type of static electricity, so it's definitely worth avoiding that if you can!).

RETRIEVAL FOCUS

1. How many bolts of lightning strike the Earth each second?
2. How many volts can each bolt of lightning contain?
3. Which is most like the speed of a river: current or voltage?
4. Which parts of your body are electrical?
5. Which type of static electricity is best avoided?

VIPERS QUESTIONS

V

Find and copy a synonym for "tiny" in the text.

S

Why isn't most static electricity harmful?

S

If you could control a lightbulb on the moon with a switch on Earth, why would it take a while to turn on?

V

Which word means something "loses its charge or power".

P

If we ran out of electricity, what would you miss the most and why?

Answers:

1. 100
2. 1 billion
3. Current
4. Your cells
5. Lightning

V: Miniscule

S: It doesn't have a current

S: Electricity isn't instant, it just travels extremely quickly.

V: Discharge