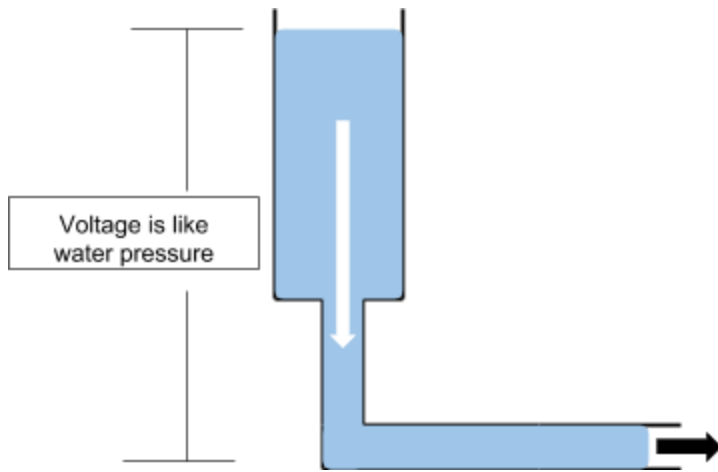


What Is a Volt?

The volt is one of the units of measurement used to talk about electricity and electrical circuits. For example, when you create simple circuits with batteries and light bulbs, you will need to know the recommended *voltage* for each light bulb. Hooking up a light bulb to a battery without enough voltage will mean that the bulb does not light up or is very dim; hooked up to a voltage that is too high, a bulb will likely burn out quickly. This might give you a clue as to what voltage



actually measures. A battery's voltage determines the amount of electrical current that will flow through a particular circuit when you connect the battery to it. (In general, the higher the voltage, the more electrical current will flow.)

Picture a circuit as a series of water pipes. Voltage in electricity is similar to water pressure in a pipe: it provides the force that causes the current to flow. The actual amount of water that comes through a pipe is determined by

a combination of the width of the pipe and the water pressure—the size of the opening and the force of the water coming out of that opening. It is the same with electricity: the amount of power is the voltage times the amount of current. The difference is that while gravity pulls downward, an electrical field can flow through a wire that is going in any direction at all!

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Some batteries, like the 9-volt battery, have their voltage right in their name. Others like AA, AAA, and D are all different sizes but share the same voltage (in this case, 1.5 volts). If you ever travel to countries outside of the United States, you will likely need a voltage converter plug. In America, the standard voltage of power outlets is 120 volts, but in Botswana, France, Iran, and most other countries, it is 230 volts. If you try to hook up your American phone charger to a 230-volt outlet, the voltage will overwhelm it and could harm your phone. Luckily, it is easy to acquire converters that make it safe to use other countries' outlets with American products and vice versa.



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