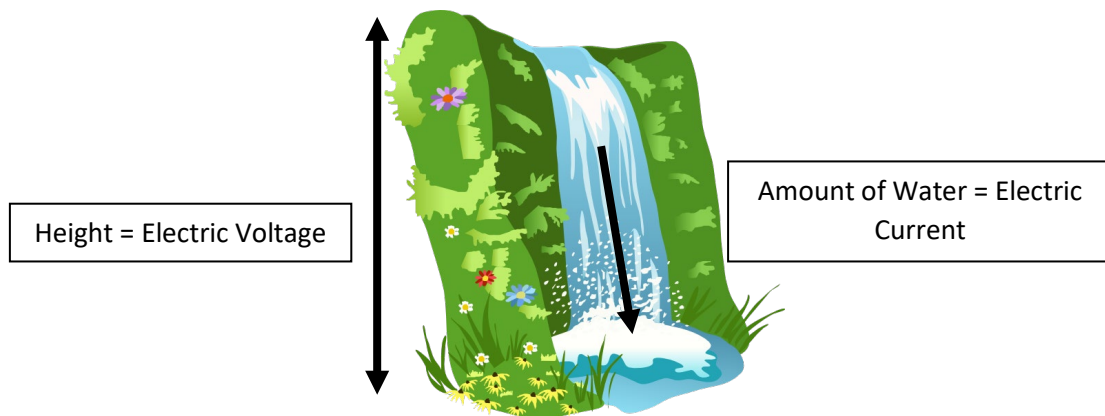


# TechResort Cheat Sheet

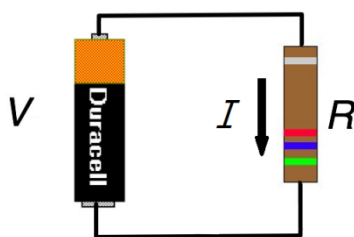
## Understanding Voltage and Current



- Voltage and Current are two very simple properties of electrical circuits but they can be difficult to understand at first.
- Think of your circuit as being like a waterfall: it has a fixed height, but the amount of water flowing down it can vary.
- The height is like the voltage of our battery, it doesn't change. The amount of water flowing is like the electric current flowing through our circuit and it can vary.



- Just as you can have a high waterfall with not much water flowing down it, or a low waterfall with loads of water flowing down it, we can change the components in our circuit to have a low or high powered battery and a different current flowing through it.
- In an LED circuit too much current will destroy the LED. Too little current and there will be no light. The resistor ensures that just the right amount of current flows to light up the LED.



- Here's a very simple circuit. A battery is attached to a resistor so a current flows through it.
- The battery voltage is  $V$  (volts)
- The resistor value is  $R$  (ohms)
- The current that flows is  $I$  (amps)
- Some maths!!

$$V = I \times R \quad I = V \div R \quad R = V \div I$$