The voltage is the difference between two points in an electrical field and is measured in volts (V). To find out the voltage of an electrical charge just multiply the current by the resistance, for example if you had a flow with a current of 48A and a resistance of 10 ohms and use the formula $V = I \times R$ or V= 48 x 10 you can work out that the voltage is 480V.

The current is a flow of electrons and is measured in Amps (I). If the Voltage and resistance is known you can calculate the current of the system by dividing the Voltage by the resistance, for example a system with a voltage of 400 and a resistance of 80 you can find out the current, by using this formula $I = \frac{V}{Z}$, is 5.

Resistance is how much obstruction is given in the flow of electricity and is measured in Ohms (**Ω**). materials can be a product of resistance, materials such as copper have a low average resistance and materials like plastic have a high average resistance. Another property that can increase/decrease resistance is the thickness of a wire, the thicker the wire the less resistance as the electrons have more space to move about and thinner the wire the higher the resistance as the electrons have less space to move about. Length of wire can also effect the amount of resistance applied. Longer wires generally have a higher resistance than shorter ones as the electron's energy will decrease the further they travel. You can work out the resistance by dividing the voltage by the current, for example if you had a voltage of 12 and a current of 5 you would end up with a resistance of 2.4 **Ω**