Current Electricity

Static electricity is the study of non-moving charge except when there is a spark. Current electricity is the study of moving flowing electrons through conductors. There are two important aspects to current electricity, the number of electrons involved and the energy that each of the electrons has.

Number of Electrons	Energy of Electrons
– current	– voltage (or potential difference)
– number of electrons that pass a given point in a conductor or circuit (electrons on the move)	– the energy possessed by the electrons as they flow through the conductor (if the electrons had zero energy they would not flow)
– measured in amperes (A)	– measured in volts (V)

Water Analogy of Current Electricity:

- current is like the amount of water flowing in a pipe (a fire hose can carry a large current, while a straw can only carry a small current)
- voltage is like the water pressure in the pipe (no water will flow without water pressure, the higher the pressure the faster the flow)

	Low Current	High Current
Low Voltage	small flow low pressure	large flow low pressure
High Voltage	small flow high pressure	large flow high pressure