Electric Circuits

Electric Circuit – a closed loop in which electric charge can be conducted.

An electric circuit requires three main components:

1. a source of energy
2. a conducting wire
3. a closed loop

Electric Current – the rate of flow of charge past a given point in a circuit.

The more charge that flows past a given point in each second, the greater the electric current.

Electric current can be found by the amount of charge per unit time:

where: I = current (A)
q = charge (C)
t = time (s)

ex.
What is the current if a charge of 92 C passes a point in a circuit in ½ a minute?

ex.
What amount of charge flows through a wire if it has a current of 5.1A for 12.5 seconds?

ex.
How many electrons flow through the wire in the previous question?