Solutions

SNC 1D Current Electricity Review

Knowledge and Understanding: Fill in the blank (10 marks)

1. A term referring to 6×10^{18} electrons is a Coulomb
NA 2. PC current is the type of current produced by a battery.
3. A device used to measure the current is an Ammeter.
4. The two types of units for current are A or C/s.
NA 5. An example of Potential energy is stored chemical energy in the battery.
6. The two types of units for potential difference are V or J/C.
7. A load is a device that uses energy, such as a light or resistor.
8. A Series circuit has wires that are connected in one pathway.
9. Increasing the length of a wire increases the resistance of the wire.
10. Wires in you house are made out of Copper because it is a good conductor.

Thinking and Inquiry: Problem Solving answer the following on the back of this page or a separate sheet (10 marks)

Demonstrate what the G.R.A.S.S. method of problem solving in the following questions.(5 marks)

NA ~~If 100 C pass through a light in 60 seconds, what is the current through the light? (2 marks)~~

2. If the current running through a light is 0.5 A and the voltage is 1.5 V, what is the resistance of the light? (2 marks)

I V

$\rightarrow R = \frac{V}{I} = \frac{1.5}{0.5} = 3\ \Omega$

3. If a 3 Volt battery is hooked in series with 2 lights, what would the maximum voltage of each light be? How would this be different if the lights were in series? (2 marks)

→ In series the voltage would divide so each light would be 1.5 V

In parallel each light would get 3 V

4. 3 identical lights and a battery are connected in parallel to each other. If the current flowing through each light is 0.2 A, what is the current flowing through the battery? (2 marks) 0.6 A

5. If the resistance of each light is 4 ohms and the current is 0.8 A what is the voltage of each light (2 marks)

$R = \frac{V}{I}$

$R \times I = V$

$4\ \Omega \times 0.8\ A = 3.6\ V$