Electric Resistance

- describes how an _____(wire) _____ the flow of a current (flow of electrons)
- to overcome this opposition a voltage (energy) most drop (used) across the conductor (wire)
- resistance can be described by Ohms Law:

R – _____

V – _____

I – _____

- Electrical resistance can be thought of as sticking your hand out a car window
- The faster _____you drive the harder the wind presses _____against your hand
- Therefore, it takes more energy _____to hold your hand steady

Example

The voltage across a light bulb is 120 V and the current flowing through the bulb is 0.833A. Calculate the resistance of the light bulb.

Resistance Problems

Answer the following questions using the GRASSS method.

1. Calculate the resistance of a load which has a voltage drop of 4.48V when the current flow is 0.08A.

2. When an appliance is running the voltage across it is 4900V when the current flow is 1.4A. Calculate the resistance.

3. A load requires 0.50A to operate and results in a voltage drop of 30.5V. What is the resistance of the load?

4. A 3V battery sends a current of 0.10A through a light bulb. What is the resistance of the light bulb?