**Physics Concept Review**

**Electron transfer produces static charge**

1. Static charge is electric charge that is held in one place.
2. An atom or material becomes charged when electrons transfer into it or out of it.
3. Insulators keep charges in one place, whereas  conductors allow charges to move more  easily.
4. Like charges repel. Opposite charges attract.  Neutral objects are attracted to charged objects.
5. Electric force is a force at a distance. Electric force can be increased by increasing the amount of charge on objects and by decreasing the distance between charged objects.

**Ohm’s law describes the relationship of current, voltage, and resistance**

1. Unlike charges gain electric potential energy when they are moved farther apart.
2. Voltage (potential difference) is the change in potential energy per coulomb of charge.
3. Electrical energy depends on the amount of charge and the voltage.
4. Current electricity is the continuous flow of charge in a complete circuit.
5. Ohm’s law states that the electrical resistance of the circuit is the ratio of the voltage to the current.

**Circuits are designed to control the transfer of electrical energy**

1. The current is the same in each part of a series circuit, and each load uses a portion of the same voltage.
2. The current in each part of a parallel circuit depends on the resistance of that path.
3. When resistors are placed in series, the total resistance of the circuit increases. When resistors are placed in parallel, the total resistance decreases.
4. Electric power *(P = VI)* is the rate at which electric potential energy is transformed.
5. Power consumption multiplied by time of use equals the amount of electrical energy used by a device.