Electricity Quiz Topics List

V=IR: Given 2 of the three variables, solve for the third.

Power: P=IV, P=I^2R, P=V^2/R.

Circuits purely in series or parallel. Given the voltage and resistances, solve for the voltage, current and power on each resister.

Combined Circuits. Resolve the circuit using pictures that combine resisters that are purely in series or parallel until you have a picture that is one battery and one resister. Work backwards to determine the voltage, current and power on each resister.

Static Charging Methods.

Friction Charging: rubbing two materials together creates an uneven distribution of charge. Example: rubbing a balloon on your head.

Conduction Charging: A charges object makes contact with an uncharged object. The uncharged object gains a net charge. Example: a glass rod has a net negative charge. It is touched to a piece of metal. The metal gains a net negative charge. After the glass rod is removed.

 Induction Charging: A charged object is within close proximity of an uncharged object. This creates a migration of charge within the uncharged object where part of the object has a positive charge and part of the object has a negative charge. Example: A coil of negatively charged wire is brought close to a sheet of aluminum. The electrons in the aluminum repel as far away from the wire as possible, making the side closest to the wire positively charged.

Cost of electricity.

Givens: power rating of appliances. Hours they run per day. Cost of electricity in KWH. Compute the monthly cost of running these appliances. Give logical explanations for ways to lower an electric bill.