

NAME _____

Some Practice Electricity Questions:

Describe the steps in using coal to make electricity that comes to your house and makes your stove oven work. (an oven has heating coils, a fan, and a light).

What are the things that might change the: current, voltage, power, of the oven?

If an object has a -1 Charge it:

- A) has one electron B) has 10^{19} electrons
C) has 10^{19} extra electrons D) has -10^{19} electrons

Describe the difference in how electrons travel in a wire in DC and AC current:

If electricity is like gravity, what are the similarities?

Mass

G (gravitational acceleration)

Field

Potential Energy

Work

What are the differences?

If two charges are moved twice as far apart, how does the force change?

If my light is 100 Watts, and is attached to my house, which is 120 V, what is the typical current in the bulb?

I have a device that uses 12 V of 300 mA (.3 Amps) current. What is the amount of energy it uses in 10 seconds? How much charge flows in 10 seconds? What is the current arriving into the device, and how is it changed?

A flashlight bulb with a potential difference of 4.5 V has a resistance of 8 ohms. How much current is in the bulb filament? How much power does it use?

If a light bulb has a resistance of 240 ohms when operating at 120 V, what is the current in the light bulb? What is the effective power use of the bulb? If the bulb is on for 1 second, how much energy is lost? Where did it go?

If a 325 Watt heater has a current of 6 Amps, what is the resistance of the heating element?

What does the electric company charge you for?

A) Power B) Current D) Voltage E) Energy

Explain why you might want to wire your house using parallel circuits, not series.

A 12 Volt battery is used to power a light bulb. There are three resistors in series, 18 ohms, 24 ohms, and 8 ohms in the circuit before the light bulb. Draw a diagram, and calculate the current through the bulb, and its power use.

If you connected a toaster of 1200 Watts, a coffee pot of 750 Watts, and a microwave at 600 Watts to a house (120 V), how much current would they all draw if on at the same time?

A 12 Volt battery is connected to resistors (10 ohms and 20 ohms) in parallel.
Draw a diagram

What is the voltage in each resistor?

What is the current in each resistor?

What is the total current?

What is the total resistance?

Describe three ways to use magnetism and wire to make a current: