

Name: \_\_\_\_\_

Blk: \_\_\_\_\_ Date: \_\_\_\_\_

## Science 9

### 9.2 The Power of Electricity

#### Power

Power is the rate of \_\_\_\_\_, the rate at which work is done.

Power is measured as units of energy ( \_\_\_\_\_ (J) ) per second, 1 joule per second is 1 \_\_\_\_\_ (W)

Electrical power is the rate of change in electrical energy.

For example, a 25 W fluorescent bulb converts \_\_\_\_\_ joules per second of electrical energy into other forms



#### Calculating Power and Energy Consumption:

$$\text{Power} = \text{_____} \times \text{_____}$$

**Symbols:** (P) = ( ) x ( )

**Units:** (W) = ( ) x ( )

$$\text{Energy} = \text{_____} \times \text{_____}$$

**Symbols:** (E) = ( ) x ( )

**Units:** (J) = ( ) x ( )

Therefore, if you know the voltage a device is connected to, and how much current flows in it, you can calculate the \_\_\_\_\_ of the device.

Knowing how \_\_\_\_\_ the device is used allows you to calculate how much energy it consumes.

## Paying for Electricity: A Larger Unit for Energy

A joule is a very small amount, so the energy supplied to the home is usually calculated in much \_\_\_\_\_.

Instead of using watts - \_\_\_\_\_ are used

Instead of using seconds - \_\_\_\_\_ are used

The company keeps track of \_\_\_\_\_



## Paying Your Power Bill

When the power company has determined how many \_\_\_\_\_ you have used, they then bill you by multiplying how much you have used by the \_\_\_\_\_

The power company keeps track of your energy usage by reading your \_\_\_\_\_ (as shown above)