

Measuring electricity use key:

**Worksheet Answer Key:**

<b>Term</b>	<b>Definition</b>	<b>Formula</b>
<b>Energy</b>	<i>The ability to do work</i>	$energy = power \times time$
<b>Watt</b>	<i>A unit of electrical power. The rate at which an appliance or device uses power</i>	$1 \text{ watt} = 1 \text{ joule/second}$
<b>Power</b>	<i>The rate at which energy is transformed or the rate at which work is done</i>	$power = energy/time$
<b>Kilowatt</b>	<i>A measure of the amount of energy used over time that indicates how fast you are using energy</i>	$1 \text{ kW} = 1,000 \text{ watts}$
<b>Kilowatt-hour</b>	<i>The amount of energy used when an appliance or device consumes 1 kilowatt of power for 1 hour</i>	$100\text{-watt light bulb} \times 10 \text{ hours of use} = 1 \text{ kWh}$

<b>Appliances and products</b>	<b>Power (watts)</b>	<b>Average use (hours per day)</b>	<b>Annual energy usage (kWh)</b>	<b>Annual cost (\$ per year)</b>
Vacuum cleaner	1,100	0.1	40.2 kWh	\$3.33
Hair dryer	1,200	0.25	109.5 kWh	\$9.08
Computer	120	4.0	175.2 kWh	\$14.52
Microwave	900	1.0	328.5 kWh	\$27.23
Clothes dryer	4,000	2.0	2,920 kWh	\$242.07
Incandescent light bulb	60	3.0	65.7 kWh	\$5.45

**bulb**

<b>Compact fluorescent light bulb</b>	14	3.0	15.33 kWh	\$1.27
---------------------------------------	----	-----	-----------	--------

**bulb**

<b>LED light bulb</b>	8	3.0	8.76 kWh	\$0.73
<b>Flat-screen TV</b>	200	5.0	365 kWh	\$30.26