**Electrical Energy and Power Worksheet**

1. The following circuit consists of a power supply an ammeter and a light bulb.



* 1. Calculate the power used by the light bulb.
	2. Calculate the energy used after 15 hours of operation (in kWh).
1. Wasteful Willis leaves appliances on for no good reason.
	1. Willis is studying in the evening. He uses his desk lamp that runs off of 120V and has 0.5A of current running through it. How powerful is his lamp?
	2. How much energy did Willis use for his study session from 7:30pm to 10:00pm?
	3. Willis didn’t turn off the lamp before he went to bed. How much energy does the lamp use from 10:00pm until 8:00am when he gets up?
	4. How much money would that cost him if electricity is 10¢ per kWh?
2. Willis is really good at multitasking. Every day after school, Willis turns on his computer (450W), iPad (100W), cell-phone charger (50W), desk lamp (60W), television (200W), game console (115W) and stereo (75W). If he uses all these things for 4 hours each day after school, how much is it costing him in electricity per week?
3. Sam really loves the movie trilogy “The Lord of The Rings”.
	1. Calculate the power used by a TV that requires 110V and 3A of current.
	2. Calculate the amount of energy used to watch the extended editions of all three movies. (Run time is 11hours and 22 minutes)
	3. How much did the energy cost Sam to watch his favorite movies? (10¢ per kWh)
4. You probably don’t like vacuuming. You’re going to try to get out of it by telling your parents that running the vacuum is too expensive.
	1. Calculate how much power is needed to run the vacuum if it takes 120V and 10A of current.
	2. If it takes you 2 hours and 30 minutes to vacuum the house, how much energy will the vacuum use?
	3. How much money will your parents pay in energy costs for this usage?
	4. Do you think this excuse will work?