GEOG 470/570 Electricity Worksheet Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Due date as per syllabus, via e-mail attachment as a Word or Excel file. (Excel preferred) Note that this is the first of two parts of your personal energy project. Part 2 will be the rest of your energy use, and a formal write up of your findings together with some international comparisons.

Instructions: Read your electric meter at the start of a seven day period using the following as a guide: <http://www.glps.net/meterread.htm> Next, make a list of all the items in your household/apartment that use electricity. Measure each of their usage using kill-a-watt meter. (see syllabus) For items whose power use cannot be measured with the meter, estimate it by going online and looking for the technical specifications of the appliance, or when either not practical or dangerous, the website: <http://michaelbluejay.com/electricity/howmuch.html>

After you have done all of your measurements and estimates for each item and its cells, add up all values at the weekly level and compare it with the usage at your meter for a week. If you live in a household with other people, then obviously you will need to estimate your role in the total electricity use. Discuss likely reasons for any discrepancies between your estimate and actual metered kilowatt-hours. Note: this sheet can be transferred to Excel if you wish, and the number of rows will probably need to be increased, depending on how many things use electricity in your household.

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| --- | --- | --- | --- | --- | --- | --- |
| appliances: (list by type, model & location) | power utilized when on (watts) | Average #hrs. “on” per day | watt-hrs. per day | kWh per week | notes | Estimate?  (if so, footnote the method used) |
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| light bulbs: (list by type & room) |  |  |  |  |  |  |
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| lights subtotal |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| other items |  |  |  |  |  |  |
| HP Pavilion Computer | ~20 watts | 4 | 80 | .56 | power range 16-90 w. | 1 |
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|  |  |  |  |  |  |  |
| Phantom loads: |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
| Totals |  | --- |  |  |  |  |

Meter reading at beginning:\_\_\_\_\_ meter reading at end:\_\_\_

How many kWh did your house utilize during the seven day period?\_\_\_

How much does this vary from your estimate of kWh per week?

Footnotes: (students note that this is an example of how to write an explanatory footnote about methods of estimation)

1. recorded hours of daily usage for seven days, used kill-a-watt meter to measure average power utilization for one 4 hour session, which was .08 kWh or 80 watt-hours. Computer is left off when not in use.