

Personal Energy Audit: Revisiting Your Use

In this activity you will:

1. Reexamine your energy use habits.
2. Review your high-energy consumption activities.
3. Compare your current energy use to your energy use at the beginning of the unit.
4. Identify energy consumption habits you have changed.
5. Reflect on your new energy consumption practices and provide reasons for your behavioral changes.

Let's analyze your current energy use!



Step 1: Open your saved Energy Audit Spreadsheet.

Remember it was saved early in the energy unit as **Audit_intials.numbers** or **Audit_intials.xls**
 For example, if your name is Bruce Wayne, you saved your file as **Audit_BW.xls**

As you work on your audit, remember to resave your file several times.



Step 2: Complete the Energy Audit 2 Spreadsheet

For this activity you will complete the sheet labeled **Audit 2**.

1. Be sure you are entering data in the sheet labeled **Audit 2**. Look at your spreadsheet.

Numbers version:

The screenshot shows a spreadsheet interface with a sidebar on the left containing tabs for 'Audit 1' and 'Audit 2'. The 'Audit 2' tab is highlighted with a blue border and a callout box that says 'Select this tab'. The main spreadsheet area shows a table with the following structure:



PERSONAL ENERGY AUDIT 2	Hours Used	Repeated Use	Typical Wattage (energy per unit second)	kW'h/ye
NOTES: How many hours do you do following things? If appliance is on all the time list 24 hours/day.		List number of appliances.	These values were found using a variety of web pages and appliance manuals.	for daily use 365. For we = kW'h/ye (number of w used)
Everyday Activities	Hours used DAILY	# of appliances being used	Typical Wattage (energy per unit second)	kW'h/yea

Excel version:


The screenshot shows an Excel spreadsheet with a grid of data. The 'Audit 2' tab is selected at the bottom. The data in the grid is as follows:

12	the <i>laptop</i> computer		
13	Listen to radio		
14	Total Entertainment		
15			
16	Communications		

2. As you enter the new data, think about the ways you use electricity now.
3. Let's review how to enter data.
 - a. The spreadsheet lists common activities in **Column A** that use energy. You will provide your **energy use** information in **Columns B and C**.

- b. Look at **Column B (Hours Used)**. You will enter the **number of hours** you engage in the specific activities that are listed in Column A.
- c. Look at **Column C (Repeated Use)**. Think about how many “appliances” you run at a time.
- d. If you or your household does not do a particular energy activity, enter **0** in both **Columns B and C**.
- e.  **Energy Vampire Alert:** REMEMBER: Some appliances or chargers use energy when they are not actively charging or are in stand-by mode waiting to be activated by a remote or sensor. Please think about your current habits before you fill in your **hours used** or **repeated use** values.
- f.  **Daily Average:** Some people complete activities in the daily section **a few times a week** rather than daily. Use the following formula if you do not do an “everyday activity” daily, but a few times during the week.

$$\text{Daily Average} = \text{Hours used} / 7 \text{ days a week}$$

- g.  **Time Increments:** Use the following **time increments for Column B** if you do not do an activity for a full hour.

Time Increments

Minutes	2 min.	5 min.	10 min.	15 min.	20 min.	30 min.	45 min.
Hour equivalent	.033	.083	.167	.25	.33	.5	.75

- h. **Heating and Cooling:** Use the **Seasonal Use Equivalent Chart** below to determine your daily hours used. You will need to multiply your hours used daily when in season by the **seasonal use factor** below.

$$\text{Seasonal Use Average} = \text{Hours used per day} \times \text{Seasonal Use Factor}$$

Seasonal Use Equivalent Chart

Months used	3 months	4 months	5 months	6 months	9 months	12 months
Seasonal Use Factor	1/4 or .25	1/3 or .33	5/12 or .42	1/2 or .5	3/4 or .75	No Change

For example the air conditioner is always on in your house for 24 hours each day during 3 months of summer. Your **seasonal use average** is
24 hours X .25 = 6
 In this example, you would enter 6 in **Column B**.

4. **Summary Columns:** Notice Audit 2 has 4 new columns.

PERSONAL ENERGY AUDIT 2	NEW: Out of Pocket Cost/year	OLD: Out of Pocket Cost/year	Energy Reduction	Conservation Changes
NOTES:	Cost/year= cost per day X 365 or Cost per week X 52 (or number of weeks used if seasonal)	Cost/year= cost per day X 365 or Cost per week X 52 (or number of weeks used if seasonal)	Mark Y if there was a reduction in your energy consumption for each activity. Mark N if no change or increase.	List each new conservation practice you adopted for each usage over the past 6 weeks.
Ev Ac	NEW Out of pocket cost per year (dollars)	OLD Out of pocket cost per year (dollars)	Energy Reduction	Conservation Changes
En			Entry for Column M	Entry for Column N
Watch TV	12.05	36.14	Y	watched tv less/ used only one tv at a time
Charge your iPod/MP3 player	0.96	0.96	N	no change

Notice you have 4 new columns:

- a. Look at **Column K (New: Out of Pocket Cost/ year)**. This column is labeled “**NEW.**” These spreadsheet columns calculate the amount of money that your current energy consumption activities cost.
- b. **Column L (Old: Out of Pocket Cost/ year)** displays your original energy use costs from the beginning of the unit.
- c. **Column M (Energy Reduction)** provides a place for you to note if you reduced your energy cost for each activity. For each row, mark **Y** in the column if you **reduced** your energy consumption for that activity. Mark **N** if your energy use cost **stayed the same or increased**.
 - i. In the example above, look at the **Watch TV row**. The old usage cost (Column L) is 33.00 and the new cost is 11.00. The energy cost is reduced. In this example, enter **Y** in Column M.
 - ii. Look at the **Charge your iPod/ MP3 player row** above. There is no difference in the new and old costs (Columns K and L). In this example, enter **N** in Column M.
- d. In **Column N (Conservation Changes)**, write a description of the conservation practices for each energy activity your family made since the beginning of the energy unit.
 - i. In the example above, look at **Column N** in the **Watch TV row**. This person reduced the amount of time she or he watched TV and also reduced the number of TVs that were turned on at the same time.