

# Personal Energy Audit: Sources

In this activity you will:

1. Examine the ways you use energy.
2. Think about how you can use less energy to do many of your activities.
3. Make connections between energy use types to energy fuel sources.
4. Identify ways to conserve energy resources.

## Let's analyze your energy use!

Read **all** instructions and answer **each** question.



### Step 1: Open your saved the Energy Audit Spreadsheet.

Remember: your file was saved as **Audit\_intials.numbers or Audit\_intials.xls**. For example, if your name is Clark Kent, you saved your file as Audit\_CK.numbers or Audit\_CK.xls.

You will be working on the sheet labeled **Audit 1** again. Look at your spreadsheet.

#### Numbers version:

PERSONAL ENERGY AUDIT 1	
NOTES:	How many hours do you do following things? If appliance is on all the time list 24 hours/day.
Everyday Activities	Hours used DAILY
Entertainment	
Watch TV	

#### Excel version:

PERSONAL USAGE TOTALS	

As you work on your audit, remember to re-save your file several times.



### Step 2: Add Columns.

Create two new column titles for **columns L and M**:

- a. In the Column L /Row 1 cell, type **Use for Energy**
- b. In the Column M/Row 1 cell, type **Energy Source**

I	J	K	L	M
BTU/Year	Out of pocket cost/day or week	Out of pocket cost/year	Use for Energy	Energy Source
for daily use =BTU X 365 For weekly use =BTU X 52 (or number of weeks used if seasonal)	Cost =(kW*h) x average rate (average rate is \$0.11 per kW*h)	Cost/year= Cost per day X 365 or Cost per week X 52 (or number of weeks used if seasonal)		

2. Remember to resave your file.



### Step 3: Complete the Spreadsheet.

1. Look at **Column L** – in this column list how energy is being used to “power” each activity you do. The answers may include: electricity source for appliance, heat water to shower, cooling air temperature to reduce heat, power a car, etc.
  - a. Look at Row 6: Watch TV. Enter “Electricity for TV” in Column L.
2. Look at **Column M** – in this column list the main source of energy for that activity. Common answers may include: petroleum (crude oil), coal, natural gas, solar, wind, nuclear, hydropower, tidal, geothermal or some other energy source. If you are not certain about the fuel source for your electricity, you can list **coal** since it is the main energy source for electricity generation in the USA (especially on the east coast).
  - a. Look at Row 6: Watch TV. Enter “Coal” in Column M.
3. Here are some helpful ideas to get you started with completing the Columns L and M in your spreadsheet:
  - a. **Lighting:** When you turn on a light switch you are using **electricity**. Enter ***Electricity for Light*** in **Column L**. Since most electricity in the USA is generated using coal as the main energy source, enter ***Coal*** in **Column M (unless you know your electricity comes from another source)**.
  - b. **Activities that heat water:** If you take a shower or use a dishwasher, you are using energy to **heat your water**. Enter ***Heat your water*** in **Column L**. Water is usually heated by a furnace that uses oil as an energy source or with a water heater that uses natural gas or electricity from coal. The energy source would likely be **coal, petroleum (crude oil) or natural gas**. Enter ***Heat Water to shower*** in **Column L** and ***Coal or Petroleum (crude oil)*** in **Column M**.
  - c. **Transportation:** Each time you ride in the car you are using energy to power the car with gasoline. The source of gasoline is petroleum (crude oil). Enter ***gasoline for transportation*** in **Column L** and ***Petroleum (crude oil)*** in **Column M**.



### Step 4: Journal Entry

Respond to the following 5 questions in your journal.

- a. Analyze the energy sources you listed on your spreadsheet. Why are those sources used and not others?
- b. How would the energy sources you used be different in another geographic area (such as the South or Northwest)?
- c. How can I use less energy in my daily activities?
- d. How could our school use less energy?
- e. Why do we need to conserve energy?