**Home Energy Audit Project**

You’re going to get to live in your own home one day and you will probably need roommates to be able to pay the rent (especially if you choose to live in Vancouver). Team up with up to three other people and you get to “build” your own house together. Each student will have their own bedroom and there will be some shared spaces (like kitchen, bathroom(s), laundry room, living room, etc).

Your task in this project is to determine the electrical energy cost of living in a house with your roomies. Assume electricity costs 10 cents per kWh.

**Procedure:**

1. Each roommate will be assigned their own bedroom and private rooms and at least one shared space.
2. For your assigned rooms, make a list of all electrical devices that will be used in that room. Remember to think of the essentials that may go unnoticed (like lighting).
3. Find the power or energy consumption of each device and try to estimate the time it will be used each day. Try your best to use real values, either by looking at the devices you have in your house, or searching up values on the internet.
4. Make an energy use table, use it to help calculate the power used in one week and the cost of running things for one week.

Watch out! Some devices still use energy when turned off or in standby mode. This is often referred to as “leaking” electricity. For example, if your TV has a remote, part of the TV is always on so it is ready to receive the signal from the remote to turn the rest of the TV on. If there is a clock on the stove, the clock is always drawing electricity, even though the stove it turned off.

Put a poster together with your information. Feel free to spruce up your poster with as much detail or pictures as you would like.

**Required Parts of the Project:**

* A room by room break-down for energy usage and cost on a weekly basis.
* A summary of how much energy each person uses individually and how much energy is used by the group as a whole (from the shared spaces).
* A total energy used per week and total cost per week for the house as a whole.

**Some Tips for the Energy Audit**

1. Walk around your house with your printout to make sure you haven’t overlooked any major appliance. Don’t forget things like clocks and aquariums that run 24 hours a day.
2. There are some appliances that don’t fit in some regular rooms, like water heaters and central heating units. Make sure somebody in your group includes this somewhere.
3. Try to estimate the weekdays differently from the weekends. You are at home different amounts of time and do different activities during the week compared to the weekend.

1. You may need help tracking all the energy being used in the evening when everybody is home. Ask your parents to help.
2. Keep an eye out for devices that have a stand-by mode, you may have to search to find the energy they use when they are “off”.

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| --- | --- |
| Roommate Name | Which Rooms they are Investigating |
|  | -Bedroom  -  -  - |
|  | -Bedroom  -  -  - |
|  | -Bedroom  -  -  - |
|  | -Bedroom  -  -  - |