

NAME _____

CLASS/DATE _____



Classroom Audit Worksheet

DVD Player Example

Energy ON

- When the DVD Player is turned on it uses (A) _____ watts.
- We use the DVD player (B) _____ minutes every week.
- This means the DVD player is on (C) _____ hours every year $(B \times 52 \text{ weeks}) / 60 \text{ minutes}$.
- When the DVD is on it uses (D) _____ kWh/year $(A \times C) / 1000$.
- It costs (E) \$ _____ to use the DVD player every year $(D \times \$0.12)$ [Electricity costs about \$0.12 cents per kWh].

Energy OFF

- When the DVD is off it uses (F) _____ watts (vampire load).
- Hours per year the DVD is not in use (G) _____ $(8760 - C)$ [there are 8760 hours in one year].
- When the DVD player is off it uses (H) _____ kWh/year $(F \times G) / 1,000$.
- The DVD vampire load costs us (I) \$ _____ every year $(H \times \$0.12)$.

Complete the following chart using the DVD player example:

- Identify other electric devices in the classroom and use the watt meter to determine the wattage.
- Determine a reasonable minutes/week value with a partner/group.
- Complete the following chart for the other identified classroom devices.

Classroom Electric Devices (Vampire Load) – Cost to Operate

Device	(A) Watts on	(B) Minutes on/week	(C) Hours on/year $(B \times 52) / 60$	(D) kWh/year on $(A \times C) / 1000$	(E) Cost/year on $D \times \$0.12$	(F) Watts off (Vampire Load)	(G) Hours off $(8760 - C)$	(H) Off kWh $[F \times G] / 1000$	(I) Cost Off (Vampire Load) $(H \times \$0.12)$
DVD Player									\$

Vocabulary

Electricity – A type of energy that can build up in one place or flow from one place to another. Electrical power is measured in watts, or kilo-watts (kW).

Electrical energy - Using electrical power to do work, over time. Electrical energy is measured in kilowatt-hours (kWh).

Energy audit – A survey and analysis of how a home or classroom uses energy.

Energy conservation – Using less energy with the same devices or equipment, typically by using them less or turning them off when not in use.

Energy efficiency – Using less energy by replacing old devices with newer equipment or technology.

Kilowatt-hour – Using one thousand watts (1 kW) of electrical power for one hour. Electric utilities bill their customers for every kWh used.

Plug load – The electrical energy used by things that are plugged into an outlet.

Vampire load – The electricity used by device when you are not even using it.

Watt meter – A tool for measuring how much electrical power (watts) anything plugged into an outlet is using.

