



ENERGY CONSERVATION

POST-ACTION AUDIT, GRADES K-2

Again, consider contacting local, regional or state non-profits, energy providers, and district facilities staff for assistance conducting your audit. Their involvement is a great way to connect to the community, inspire students and demonstrate career possibilities while sharing resource expertise.

Invite parents and community members to participate in the auditing process. Depending on the grade level, student support will be needed to ask questions and complete the mathematical calculations. This experience is a great way to build community.

DASHBOARD METRIC

By how much has our school reduced its energy use in kWh?

SURVEY

Survey the students again. Record the number of “Yes”, “No” and “Unsure” responses.

- Turning off lights is an energy saving behavior. ____ Yes ____ No ____ Unsure
- Saving energy is good for the planet? ____ Yes ____ No ____ Unsure

How have student’s responses changed?



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TABLE 1. ENERGY SOURCES AND EFFICIENCY

Refer to the data collected from the class/team worksheets and after analysis write in your final results in the table below. Since the baseline audit, what changes have been observed or made?

<p>1. Since the baseline audit has the school district's use of renewable energy sources changed? If yes, which source(s) are used?</p> <p>_____ solar _____ wind</p> <p>_____ hydro _____ geothermal</p> <p>other: _____</p>	<p>_____ Yes _____ No _____ Unsure</p>
<p>2. Is the equipment used for heating and cooling the school certified ENERGY STAR*?</p>	<p>_____ Yes _____ Partially</p> <p>_____ No _____ Unsure</p>
<p>3. Are the school's appliances certified ENERGY STAR*? (i.e. dishwashers, water fountains, pumps, ovens, etc.)</p>	<p>_____ Yes _____ Partially</p> <p>_____ No _____ Unsure</p>
<p>4. Looking at exterior windows, are any windows cracked?</p>	<p>_____ Yes _____ No _____ Fixed</p>
<p>5. Looking at the exterior windows, do any seals around the windows appear to be broken or missing</p>	<p>_____ Yes _____ No _____ Fixed</p>
<p>6. Looking at the exterior doors, do the seals and framing seem to be tight and keeping air from escaping?</p>	<p>_____ Yes _____ No _____ Fixed</p>

Think about the following question as you summarize the data in Table 1.

1. Were teams/classes able to use this data to make changes at the school? Explain.
2. What is one action the team/class took to make improvements?

*Products that earn an ENERGY STAR are independently certified to save energy, save money and protect the climate.
<https://www.energystar.gov/products/appliances>



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TABLE 2. CLASSROOM LIGHTING

Refer to the data collected from the class/team worksheets and after analysis write in the final results in the table below.

<p>1. How many rooms at the school were audited? This number should be the same as the baseline audit. The same rooms should be audited post-action as were audited for the baseline.</p>	<p>_____</p>
<p>2. Number of rooms with classroom lights on while students and teachers were in the classroom.</p>	<p>_____ </p>
<p>3. Number of rooms with classroom lights on while students and teachers were not in the classroom.</p>	<p>_____ </p>
<p>4. Number of rooms with classroom lights off and no students and teachers were in the classroom.</p>	<p>_____ </p>
<p>5. Number of rooms where students and teachers were using daylighting for light.</p>	<p>_____ </p>

Think about the following questions as you summarize the data in Table 2.

1. Does the team/class feel the school is doing a better job using their classroom lights?
2. What is one action teams/classes took to make improvements?



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TABLE 3. ENERGY VAMPIRES

As a reminder: An energy vampire is a device that uses energy even when it is turned off.

Active	Device is on and in use.
Sleep/Standby	Device is in low-power mode.
Off	Device is turned off but still plugged in and ready for action.
Power strip	Device is plugged into a power strip, which should be turned off if it is the end of the day.
Unplugged	If you are checking before or after school, the device should be unplugged, either from the wall or if plugged into a power strip, the strip should be switched off. Take into consideration that some appliances, such as a mini-frig have to remain plugged in. Never unplug a device or appliance without direction from an adult in charge.

Table 3 should include the same appliances/devices from the baseline audit. In addition the same rooms should be audited to help students construct valid conclusions. Consider using a kill-a-watt meter to learn more about the amount of energy used by devices even when the device is off but plugged in. While it may not be much over the course of the day, each day, hour after hour, adds up.



desktop computer (conventional/old school screen)	computer monitor (flat screen)	laptop computer
printer	DVD/VCR player	projector
document camera	SMARTboard	fish/reptile tank filter and lights
Personal microwave	lamp(s)	Personal refrigerator
diffuser/salt lamp/scent warmer	fan(s)/heater(s)	air pump/compressor
speakers	electronic music equipment (amps, sound systems, radio)	hanging lights



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Total number of rooms audited. _____

Time of day rooms were audited. _____ before school _____ after school _____ during recess/lunch
 _____ during school day _____ varied

Device/Appliance	How many total?	Plugged into wall	Plugged into a power strip	Active	Sleep/standby	Off	Unplugged
Example: coffee maker	5	1	4	1	1	2	1
Lamps							
Personal refrigerators							
Personal fans or heaters							

Note: If there are more devices/appliance the team/class would like to report, please add them to the last page or upload a separate document.

Note: Why differentiate between devices plugged into the wall and those plugged into a power strip? Did you know that if the classroom devices and personal appliances are plugged in, they are quietly draining electricity all day, every day, even when they are turned off? Using a power strip to turn off electronics and appliances when they are not in use ensures they are truly off and not using extra electricity. (Energy.gov)

Think about the following questions as you summarize the information in Table 3.

1. How has student’s understanding of energy vampires changed?
2. What is one action teams/classes took to make improvements?



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Review of All Data

1. Based on what is known and has been learned, do the teams/classes think there is evidence to support the claim that the school has made improvements and is doing better at conserving energy? Explain or include student work (no names please).

_____ Yes  _____ No  _____ Unsure

2. Did teams/classes observe any patterns when conducting the energy audits, specifically when auditing the classroom lighting and energy vampires? Explain or include student work (no names please)

_____ Yes  _____  _____ Unsure

3. Provide a least one cause and effect relationship students observed as a result of conducting the energy audit. Write below or add student work (no names please).