

Classroom Energy Audit

Kids spend about a third of their day at school, and use a lot of energy while they are there! People tend to not notice the small ways energy is wasted in classrooms, such as forgetting to turn the lights off, leaving windows open when the air conditioning is on, or blocking the air vents. An energy-efficient classroom is more comfortable and it uses less oil, natural gas, coal, or electricity for heating or cooling. If there is an increase in energy use, that requires an increase in the amount of fossil fuels burned. This leads to an increase in CO₂ emissions that are released into the atmosphere, which leads to an increase in global warming. Our actions definitely add up! This activity will allow you to explore how your classroom uses energy. At the end of this activity, you will have found ways to save energy in your classroom, which means saving money and helping the environment!

Step 1: Count it Up



1 outlet, 2 plugs

1. How many electrical outlets do you count in your classroom? _____

2. How many plugs do you count in your classroom? _____

3. How many plugs total are being used? _____

4. How many computers are in your classroom? _____

5. What other electronics are in your classroom?

6. Are there any power strips used the classroom? _____

If so, how many? _____

How many electronics are plugged into a power strip? _____

Step 2: Look Around

1. Where is the thermostat located? _____

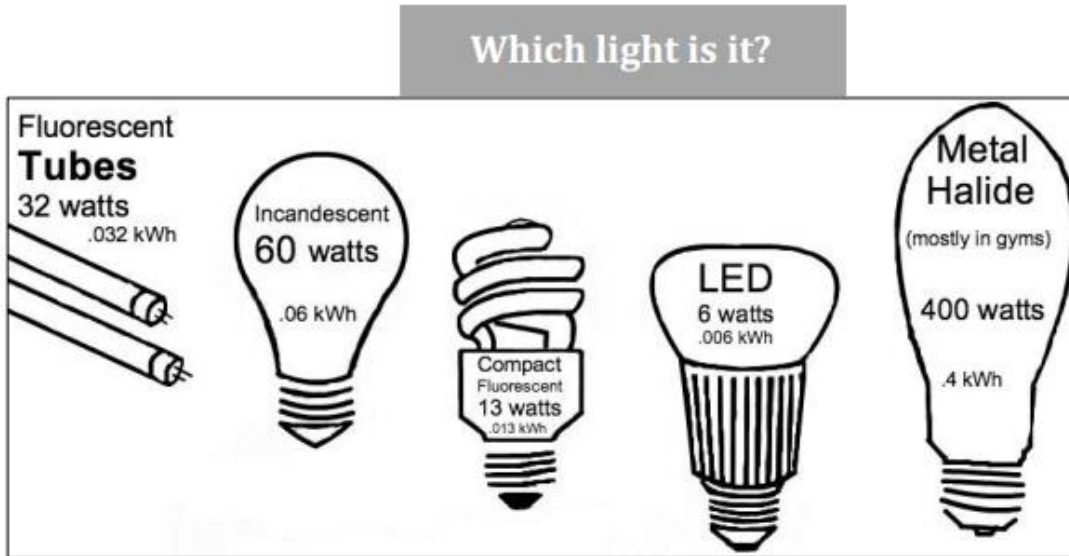
It should be located on inside walls, away from a bright light source (such as sunlight) or a heating or air conditioning vent.

2. What setting is the thermostat reading? _____

It should be set at 68 degrees Fahrenheit in winter or 78 degrees Fahrenheit in the summer time.

3. Are all the desks and chairs away from heating or cooling vents? _____
 If furniture blocks heating or cooling vents, the furnace or air conditioner will not be able to heat or cool the room as best as possible.

Step 3: Look Up



What type of light bulb(s) do you see? (look at the chart above)	
How much energy (in watts) do the lights that you see use?	A:
How many light bulbs do you see?	B:
How many hours each day are the lights turned on (educated guessing is fine):	C:

Using the numbers from the above chart, calculate how much energy the lights use each day in your classroom.

Equation: $A \times B \times C = \text{energy used daily}$

Answer: _____ watts/hour

Step 3: Assess your Findings

1. What could students do to help save energy in your classroom? Make a list!
 - a. Turn off the lights when leaving the classroom
 - b. Making sure computers are off when not in use
 - c. _____
 - d. _____
 - e. _____

2. Does the temperature on the thermostat need to change? If so, what temperature should it be set to? (Look at question number 2 in the “Look Around” section).

3. Does your classroom already use power strips? If not, where do you think they would be helpful?

Step 4: Take Action!

Place an X next to each action item you would like to implement in your classroom.

_____ Download the “Flip the Switch” sign from the Grades of Green website and post it next to light switches in the classroom.

_____ The last person who leaves the classroom turns off the lights.

_____ Create a poster to remind students how they can help save energy.

_____ Instead of changing the thermostat to a warmer temperature during the winter months, students should bring a sweater to school to wear if they are cold.

_____ Assign an energy monitor each week in the classroom (See Grades of Green’s Energy Monitor guide).

_____ Instead of putting the air conditioner to a lower temperature, consider opening up windows or turning on a fan.

_____ Use a powerstrip for electronics that get turned off at the end of every day.

_____ Move furniture that is blocking any of the heating and/or cooling vents.

Interested in learning more? Check out these great websites:

<http://epa.gov/climatestudents/basics/today/greenhouse-effect.html>

<http://epa.gov/climatestudents/basics/today/carbon-dioxide.html>

<http://energy.gov/eere/education/energy-literacy-essential-principles-and-fundamental-concepts-energy-education>

<http://willstegerfoundation.org/curricula-resources/experience-energy>

http://www.energystar.gov/sites/default/files/buildings/tools/DataTrends_Schools_20121006.pdf

<http://www1.eere.energy.gov/education/lessonplans/>

<http://www1.eere.energy.gov/education/pdfs/energyactionlist.pdf>

http://www.energystar.gov/index.cfm?c=kids.kids_index&s=footer