

NAME(s) _____

Waste Watcher Classroom Energy Survey

Complete an energy survey for your classroom, to see if you can save energy!

Classroom # _____ Teacher _____

Grade _____ Date _____

Average number of people using the classroom each day: _____

A. APPLIANCES - Find the quantity of each item in the classroom. Find the number of Watts it uses when it is on and when it is off. Is it a Vampire appliance?

APPLIANCE	QUANTITY	WATTS USED – ON	WATTS USED-OFF	Average Hours ON per Day	WATTS USED – "Stand-by"	VAMPIRE? –YES/NO
Computers						
Monitors						
Printers						
Televisions						
DVD/VCRs						
ELMOs						
LCD Projector						
Other:						
Other:						
Other:						
Other:						

FOLLOW UP QUESTIONS:

1. List three items that are turned on in the morning and left on all day:

2. List three items that are left on all night and/or maybe through the weekend:

3. Choose a single "vampire" appliance. _____

How many Watts does it use when it is in "stand-by" mode? _____

Calculate number of Watts you would save by turning the "vampire" off. *How do you turn a "vampire" OFF?*

(# Watts used in "Stand-by") – (# Watts used when OFF) = (# Watts saved)
_____- _____ = _____

4. Share your findings with your classmates, and calculate the total number of Watts you could save in your whole classroom, by turning ALL of the “vampires” from “stand-by” to OFF.

**Check with your teacher to see if computers can be turned OFF.*

B. LIGHTING- Investigate the types of lighting used in your classroom. What individuals at your school can be helpful to you in finding this information?

NAME (S) _____

Calculate the total wattage used in your classroom. (Quantity x Wattage = Total Wattage)

TYPE OF BULBS	QUANTITY	WATTAGE	TOTAL WATTAGE
EXAMPLE	8	75 Watts	8 x 75 = 450 Watts
FLUORESCENT TUBES (T8 - 1 inch diameter)			
FLUORESCENT TUBES (T12 - 1.5 inch diameter)			
CFL Bulbs			
Incandescent Bulbs			
Other:			

FOLLOW UP QUESTIONS (Circle your answer):

1. Are the lights turned OFF when the classroom is not in use? YES NO

2. Are classroom lights controlled by sensors? YES NO

3. How are the Exit signs in your classroom/school lit? LCD INCANDESCENT

** Incandescent Exit signs look like: The word “Exit” has only two bright spots, and MUST have a vent.*

** LCD Exit signs look like: The word “Exit” has the same amount of brightness.*

*** AN LCD EXIT SIGN USES 20 TIMES LESS ENERGY THAN AN INCANDESCENT SIGN!!**

***THERE MAY BE AN LCD SIGN IN YOUR CLASSROOM, BUT WHAT ABOUT THE MPR?**

4. Does your school have a vending machine? YES NO

Does your vending machine have an energy miser? YES NO

**A vending machine energy miser is a motion sensor that powers the machine up and down when someone comes near, it is a small gray or white box usually found right on top of the machine.*

***Vending machine energy miser cuts energy consumption in half!**

C. TEMPERATURE- Examine the energy use in your classroom, and just outside it, related to heating and cooling. After the classroom has been occupied for a few hours; move around your classroom and make observations about what the temperature feels like in different places. (*Does it feel warm? Does it feel cool?*)

LOCATION	Temperature Observations
In the middle of the room	
Near the windows	
Near the open doorway	
Near the thermostat	
Other Location of your choice:	

FOLLOW UP QUESTIONS (Circle your answer):

1. Does your classroom have a thermostat? YES NO

2. If yes, at what temperature is it set? YES NO

3. Can you program at what temperature it is set? YES NO

*Check with your teacher to see if the setting can be adjusted.

* For every degree you lower your thermostat in the winter, you save 2 – 3%!

4. For further study- Investigate the type of heating system your school uses. For example they could use forced air, radiators, or base-board heating. Which is most efficient for the design of your school? What are some ways you could make it more efficient?

D. Watt does it cost? – Follow the example below to find the cost of running different appliances in your classroom for 24 hours. The cost per Watt Hour(which is the cost to run a single Watt appliance for one hour)is **\$.013**.

APPLIANCE= (# WATTS USED–ON) x (\$.013) = (Cost per Hour) x (24 Hours) = (Tot. Cost per Day)

APPLIANCE	WATTS USED - "ON"	MULTIPLY BY WATT HOUR Cost (\$.00013)	COST FOR 1 HOUR OF USE	MULTIPLY BY 24 HOURS	TOTAL COST PER DAY
Computer	360	\$.00013	\$.0468	24	\$ 1.1232
		\$.00013		24	
		\$.00013		24	
		\$.00013		24	
		\$.00013		24	

FOLLOW UP QUESTIONS:

1. Calculate how much you would save in 24 hours by turning the “vampire” appliance from “stand-by” to OFF which you found above in A3.

“Vampire” Appliance = (#Watts Saved) x (\$.013) = (\$ Saved per Hour) x (24 Hours) = (Total Cost Saved per Day)

_____ = _____ x (\$.013) = _____ x (24 Hours) = _____

2. Calculate how much your class would save in 24 hours by turning ALL the “vampire” appliances in your classroom from “stand-by” to OFF. Use the total you found in A4.

(Total # of Watts Saved) x (\$.013) = (\$ Saved per Hour) x (24 Hours) = (Total Cost Saved per Day)

_____ x (\$.013) = _____ x (24 Hours) = _____

3. Calculate approximately how much your class would save for the entire school year by turning ALL the “vampire” appliances in your classroom from “stand-by” to OFF every night!

(Total # of Watts Saved) x (\$.013) = (\$ Saved per Hour) x (12 Hours/night) x (180 School Days/Year) = (Approximate # of Watts Saved/Year)

THE NEXT STEP! Saving Energy in Your Classroom, School, and at Home!

1. From doing your investigation, discuss below the ways you discovered energy was being wasted.

2. What recommendations can you make to save energy in your classroom? Discuss these recommendations below.

3. How can you help stop energy from being wasted? Take Action! Discuss below at least three ways you are going to help save energy in your classroom.

EXPAND YOUR ENERGY SURVEY OUTSIDE OF YOUR CLASSROOM!

SURVEY THE ENERGY USE IN YOUR SCHOOL'S OFFICE, CAFETERIA/KITCHEN, LIBRARY, AND MULTI-PURPOSE ROOM. - What recommendations can you make to save energy in your school? What are three things you can do to help save energy in your school?

SURVEY THE ENERGY USE AT YOUR HOME. - Are there any "vampire" appliances in your home? At what temperature is your thermostat set? Are the lights turned off when no-one is in the room? What recommendations can you make to save energy at home? What are three things you could do at home to help your family save energy?