

Activities for Energy Efficiency!

A resource from the Cambridge Energy Alliance

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What *IS* ENERGY EFFICIENCY?

Reducing the amount of ENERGY we use to perform daily activities!

Why do we have to become more ENERGY EFFICIENT?

Our energy comes largely from fossil fuels. When we burn fossil fuels like coal, oil and natural gas, we send greenhouse gases up into the Atmosphere. Too many Greenhouse Gases in the atmosphere damage the environment.



Carbon Dioxide and Methane are two Examples of Greenhouse Gases



Think of Global Warming like a car with its windows up on a hot day, the heat can't get out!



We can become more energy efficient by turning off lights and computers, air drying our clothing, turning off the faucet when brushing our teeth, biking and using public transportation.

Check out the activities to learn about how YOU can become more Energy Efficient!

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Length of activities

40 minutes to 1 Hr. Activities:

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Switch Fix
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2 Hour Activities:

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Fight for Air-Tight Stop Polluting your Computing
Passive Light Keeps a Room Bright
Renewable Energy Wind Mobile
Solar Pizza Boxes
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Long Term Projects:

Classroom Food Unglued
Vital to Recycle

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Topics

Electricity:

The Better Bulb
The Better Bulb with Math Extension
Pudding Challenge
Renewable Energy Wind Mobile
Solar Pizza Boxes
Stop Polluting your Computing
Switch Fix

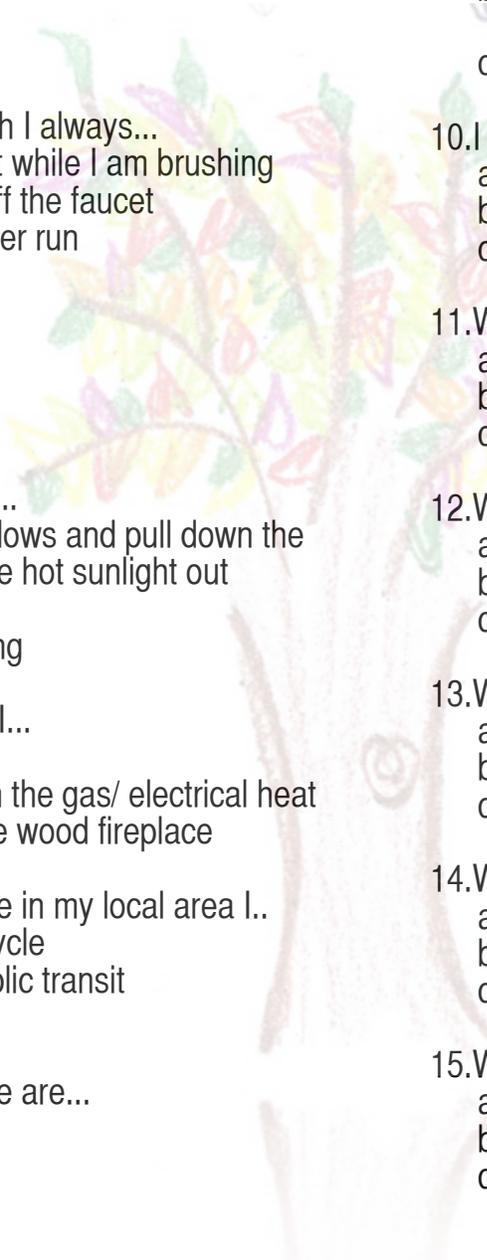
Efficiency:

Classroom Food Unglued
Fight for Air-Tight
Passive Light Keeps a Room Bright
Reduce my Use Pledge
The Tap Water Challenge
Transportation Investigation
Vital to Recycle

Outreach:

Animal Abodes
T-Shirt Pride

How Green are you!?

- 
1. I turn off the lights every time I leave a room
 - a. ALWAYS
 - b. SOMETIMES
 - c. NEVER
 2. When I brush my teeth I always...
 - a. Turn off the faucet while I am brushing
 - b. Sometimes turn off the faucet
 - c. Always let the water run
 3. My showers are...
 - a. 3–6 minutes
 - b. More than 10
 - c. More than 20
 4. When it is a hot day I...
 - a. We close the windows and pull down the shades to keep the hot sunlight out
 - b. Turn on a fan
 - c. Use air conditioning
 5. When it is a cold day I...
 - a. Put on my layers
 - b. My family turns on the gas/ electrical heat
 - c. My family uses the wood fireplace
 6. When I go somewhere in my local area I..
 - a. Walk or ride a bicycle
 - b. Carpool / take public transit
 - c. Always drive
 7. The lights in my house are...
 - a. CFLs
 - b. Incandescent
 - c. LEDs
 8. When I drink water...
 - a. I always drink tap water and use a water-bottle
 - b. I buy bottled water
 - c. I recycle the plastic water bottles afterwards
 9. When my family and I go to the grocery store we...
 - a. Always bring reusable canvas bags
 - b. Package our groceries up in new plastic bags each time
 - c. Sometimes bring reusable bags
 10. I will get to school/ summer camp by...
 - a. Driving
 - b. Biking once a week/ carpooling
 - c. Biking or walking every day
 11. When my family and I wash our clothes we...
 - a. Always use the dryer
 - b. Always line-dry our clothing
 - c. Sometimes line-dry our clothing
 12. We wash our laundry in...
 - a. Hot water Always
 - b. Cold Water Always
 - c. Both, depending on the type of clothing
 13. When my family and I receive junk mail
 - a. We recycle the paper
 - b. Throw the paper in the trash
 - c. Use the back side for scrap paper
 14. When buying clothing...
 - a. I always buy new clothing
 - b. I shop at second hand stores
 - c. I buy at both new and second hand shops
 15. When I wrap a present I...
 - a. Use newly bought wrapping paper
 - b. Use newspaper
 - c. Reuse wrapping paper or a decorate bag you've received.
 16. My family and I attend farmer's markets and support local farmers...
 - a. Frequently
 - b. Sometimes
 - c. Never



Animal Abodes

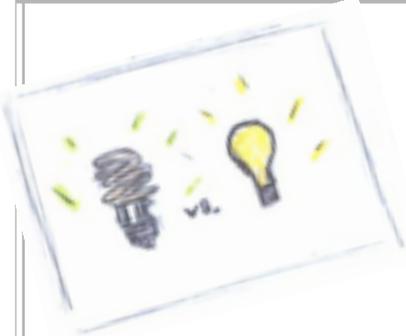
Background: The Humane Society is an organization that aims to help protect animals in our communities that need more TLC. Be an environmentalist *and* a friend to our furry friends by making sure that pets have a safe home. Sponsor your local Humane Society by donating your time or even your scrap paper products. One of the best ways to recycle paper is to shred up scrap paper and put it to use in another creative way. This project reuses paper by creating paper-cushioned beds for pets that need a cozy space to get some zzz's.

Materials:



Activity:

1. Cut off the flaps of a medium-sized box. Cut half-way down on one of the sides so it is easy for a pet to enter jump into bed.
2. Hunt around the classroom and school to find newspaper and double-printed paper to use as a matting for the box.
3. Carefully with a pair of scissors, shred the paper into strips.
4. Place the strips in the box and fluff them so they are ready for a pet resident.
5. As a group, gather your recycled pet-beds and take them down to your local humane society.



The Better Bulb

Vocabulary: **Incandescent Light bulb:**

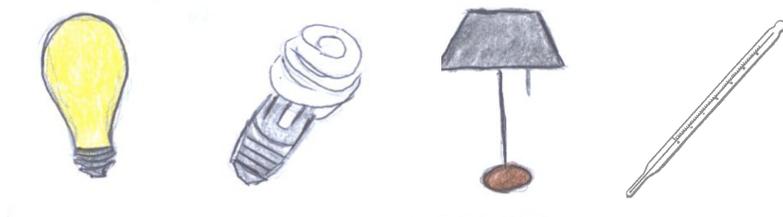
An electrical current heats up the metal filaments that are contained within the glass bulb to produce light.

Compact Fluorescent Light bulb:

An electrical current converts a gas contained in the bulb to produce a short-wave of light.

Background: More than 125 years ago, Thomas Edison invented the *incandescent light bulb*. For more than a century Edison's invention, with the help of many others, lit up the world like never before. We have learned that the incandescent light bulb only uses 10% of the electricity it produces! We have discovered that *compact fluorescent light bulbs* are much more energy efficient; they use 75% LESS energy and they last 10 times longer! The following activity will test the bulbs differences.

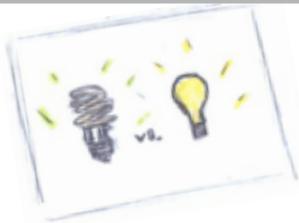
Materials:



Activity:

1. Have a teacher screw in an Incandescent Light bulb into a lamp.
 - a. How long does it take for the lightbulb to reach its full brightness?
2. Take a thermometer and hold it next to the bulb for one minute. Record the temperature.
3. Switch out the Incandescent Light bulb for the Compact Fluorescent Light bulb and observe the light that is produced.
4. Hold the thermometer to the CFL and record the temperature
 - a. Was there a difference in how much light was produced between the two bulbs?
 - b. What bulb produced more heat?

Conclusion: CFLs use 75% less energy and last 10 times longer than Incandescent Light bulbs. Since CFLs are more energy efficient, fewer greenhouse gas emissions are generated and money is saved!



High School Extension

Vocabulary: **Watt:**

The Rate of Electricity at a certain moment.

Watt-hours:

The total amount of Electricity used over a certain amount of time. Watt-hours is a combination of how fast electricity is being used and for how long.

Kilowatts:

The rate of electricity that is used to measure larger appliances.

1 kilowatt = 1,000 watts!

Kilowatt-hours:

1 kilowatt-hour is equal to 1 hour of electricity at a rate 1,000 watts.

COAL produces **1/2** of
the **ELECTRICITY** in the
U.S.

Only 40% of the energy
produced from **COAL** can
be converted into
ELECTRICITY

How MUCH does it Cost to Light the
Average Classroom?

1 light fixture = .003 cents / hour

1. **Multiply** the number of lights in a room by .003.
2. **Multiply** your answer by the number of **HOURS** the lights are on each day. You have found the daily cost.
3. How much does it cost to light a classroom for a week? a month? a Year?

How MUCH coal is used to light the
Average Classroom?

1 pound of COAL = 1.25 kilowatt-hours

**The average fluorescent light tube in a
classroom = 18 watts / hour**

X = amt. of coal to produce .18kWh

1. **SOLVE for X**
1 lb.: 1.25 kWh = X lb.: .018 kWh
2. How many pounds of coal are needed to light the whole classroom? School?

Ah-ha! Moment:

Incandescents use more electricity; Approximately .75 kwh/bulb !

How many pounds of coal does that equal?

Try the same activity at home. How many lights are on in each room? Approximately how much coal does your house use?

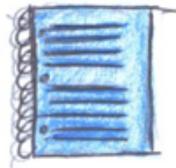


Classroom Food unglued

Vocabulary: **Environmental Stewardship:** Thoughtful and careful responsibility of the land. Using the land's resources within our means.

Background: Grocery stores have aisles and aisles of packaged products. Frozen foods, kids snack-packs, soda drinks and packaged meats, are just a few of the examples. 1/3 of packaging is used to get a food from the store to a home. Each pound of solid waste that goes to a landfill, generates 2 pounds of CO2 emissions! If packaging declined, landfill space would plateau, goods would be cheaper to produce and harmful plastics would not be harming air quality. This activity investigates daily food consumption and remembering to waste less!

Materials:



Activity:

1. Beginning on Monday, write down in a journal the food items that you brought for lunch. How many items are in a package? How many snacks are in plastic bags? Calculate the total and make a pledge that for the following day, you'll decrease this number by one. For example, pack your snacks in a zip-block bag that already has been used, a cloth snack pack, and/or bring a fruit that has no packaging.
2. For each day of the week, decrease the amount of packaged items in your lunch sack.
3. By the end of the week, have everyone share in the class their plastic free lunches.

**Take it to
the next
step!**

1. Rather than wasting food that we have chosen not to eat, donate your canned and boxed goods to food shelters that sponsor the homeless that are hankering for a meal.
2. For a full week, bring in at least one canned/boxed good to donate to a food shelter.

Conclusion: If we all did our part to reduce food waste and buy products with less packaging, it would be equivalent to taking off 1 out of every 4 cars off of the roads. Now that is something to think about!



Fight for Air Tight!

Vocabulary:

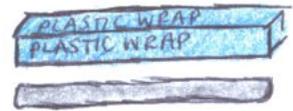
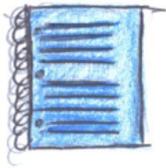
Insulation: An extra layer of protection against air flow for your house. Properly insulating a home will keep the living spaces warm and attics, basements and garages cool! There are several types of insulation: foam board, insulated panels and concrete blocks, just to name a few.

Ventilation: Make sure outside air is flowing into the house and inside air is flowing out. This exchange removes house odors and pollutants. The amount of ventilation needs to be monitored. In the cold months we do not want the cold outside air to seep in through house cracks. The goal is to keep a house air tight and prevent air leakages!

Background

Heating and cooling a house uses a high amount of energy from coal and natural gas. According to the Department of Energy, only 20% of homes built before 1980 are properly insulated. When a home is “super-insulated” it can decrease the amount of energy needed to heat and cool a home by 75%! You and a partner will work together to test air drafts around the building.

Materials

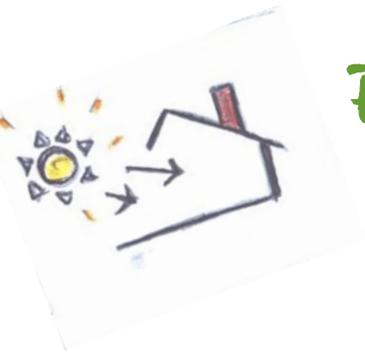


Activity:

1. Rip off 1 ft. X 1 ft. strip of plastic wrap and wrap a pencil once around the top edge. Have your partner help you tape down the pencil. How easy, You've just created “ a draft tester”
2. Travel around the room to see how sensitive the plastic wrap is to the movement of the air. A draft means that there is a loss of heat in the winter time or in the summer, a loss of air conditioning.
3. Record what areas of the room have the biggest drafts. Windows? Doors? Ceiling? Floor?
4. Expand this activity beyond the classroom and see what's going on in your home
5. Record: Exhaust fans in a bathroom? Doors? Fireplaces? Light fixtures? Attic Door? Mail Chutes? Cracks in the houses foundation. Rate each location as a strong, medium or small draft in your notebook. Discuss with your other classmates which areas of your house had the strongest draft.

Conclusion:

Keeping a house sealed keeps room temperatures consistent and uses less energy!

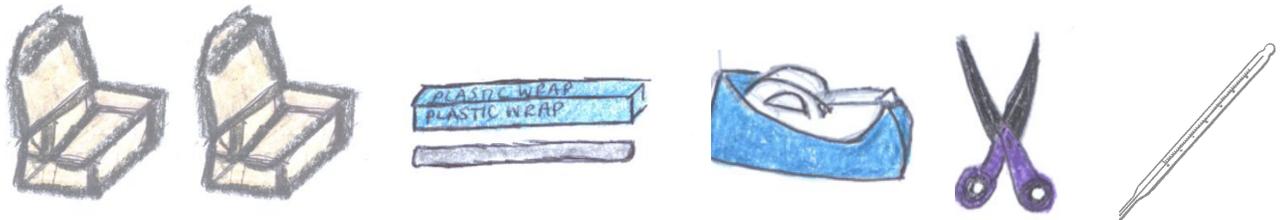


Passive Light keeps a room Bright

Vocabulary: **Passive Energy:** Passive Energy takes advantage of local climates to warm and cool a house without using fossil fuels!

Background Passive houses have the modern comforts of any standard house but only use 15-20% less the energy! Those that build passive homes consider direct and indirect gains. Direct gains are when sunlight comes through a window and heats up a space. Indirect gains absorb heat on a dark surface which is absorbed into a room. When building a passive home, architects focus on having open floor plans, south facing windows and using earth friendly building products such as recycled newspaper for insulation. This activity will focus on light and how it is beneficial to have 2 pane windows to keep in warmth from the sun.

Materials



Activity

1. Pick a partner to work on this activity together. Cut out a window in the front and back of the shoe boxes provided to you.
2. Tape a sheet of plastic wrap to the front and back of one of the boxes.
3. Tape a sheet of plastic wrap only on the front of the second box.
4. With the point of your scissors, poke a hole at the top of each box.
5. On a sunny day, place both boxes in a window in the classroom & let them sit for about an hour
6. At the end of an hour, take the temperature of each box by sticking a thermometer in the hole at the top of the box.
 - a. Which box has the higher temperature?

Conclusion

Two pane windows keep a home at a consistent temperature and reducing the reliance on fossil fuels!



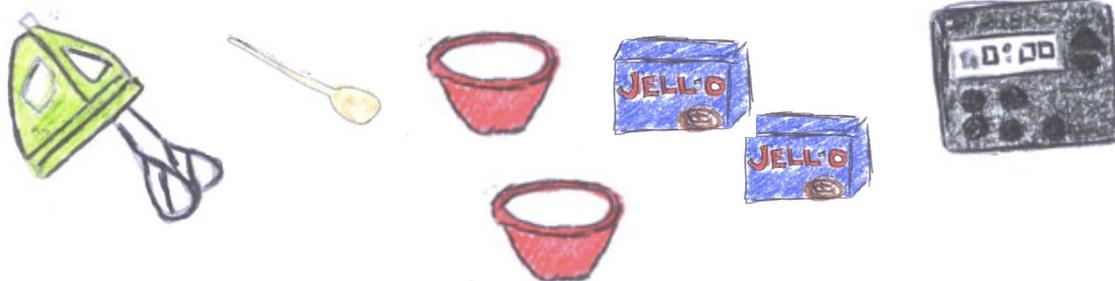
Energy Conservation : Pudding Challenge

Vocabulary: **Non-Renewable Energy:** A form of energy that once it is used, it is gone. “ A finite resource” Fossil Fuels are considered to be non-renewable because it takes millions of years for coal, oil and natural gas to be produced.

Renewable Energy: A form of energy that is infinite. Wind and Sun are two examples of renewable energy because there are an infinite resource and do not harm the environment.

Background Most cars and electric appliances run off of a non-renewable energy such as coal, natural gas and oil. Non-Renewable sources release Carbon Dioxide and Methane, two gases that are severely harm the atmosphere and life on earth! Do we ALWAYS need to use electric appliances? Can we get to the same results by using more simplistic methods? This activity will focus on how to make same tasty pudding with less electrical energy.

Material



- Activity**
1. Separate into 2 Teams. Have each group prep the Jell-O pudding mix in each of the bowls. Flip a coin to decide what team will use the wooden spoon and what team will have the electric mixer.
 2. Begin stirring the pudding mixture and every 10 seconds rotate stirrerers so everyone can stir.
 3. How long did it take to make the pudding with the electric mixer? How long with the spoon?
 4. Switch the stirring utensils and repeat the activity.
 5. After allowing the Jell-O to chill, taste both batches. Do they taste any different?

Conclusion: This activity demonstrates that stirring with a spoon, which uses no electricity, produces the same product as the electric mixer. Are there activities we perform throughout the day that can be done without electricity? Drying our hands? Drying our hair? Making pudding!?



Reduce-my Use Pledge

Materials:

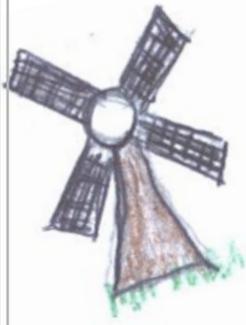


Activity:

1. As a large group recycle paper-towel rolls to create a 3-D model of a tree.
2. Using a hot glue gun, attach tree limbs. Use your imagination and bring it to life!
2. Have everyone cut out a leaf using recycled paper: newspaper, old construction paper etc.
3. On the leaf, right a pledge. One goal you have for reducing your energy use.
Example: “ I pledge to take 5 minute showers, “ I will carpool to school” “ I will turn off the lights when I leave my bedroom”
4. Have everyone glue their leaf on to a section of the tree.

Conclusion:

This project represents that together we can make a big difference. If we all make one change in our lives, we're helping the greater whole! As time goes on, add more pledges to the tree to keep it thriving!

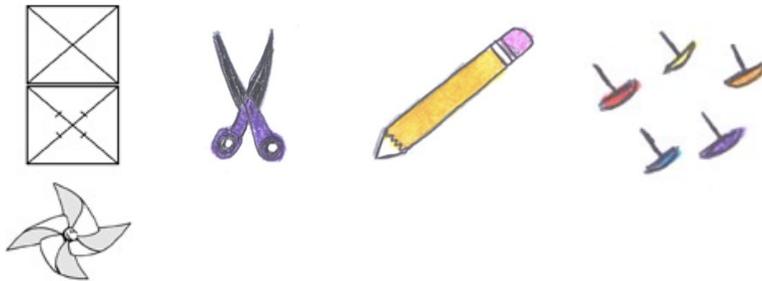


Renewable Energy: Wind Mobile

Vocabulary: **Wind Energy:** A renewable resource that uses energy produced by wind turbines.

Background: Wind has been used as an energy source for centuries. The renewable energy, produced from turning blades and an electric generator, has been lighting up cities and towns around the world. The electricity produced can be used right away or stored in batteries for later use. Are there good locations in your town to set-up a wind turbine? What about a wind farm!?

Materials:



Activity:

1. Decorate a piece of square paper with colorful drawing utensils. Check out the recycling container for leftover paper.
2. Fold each corner into the middle to make a defined X and then unfold. Use scissors to cut along the defined lines. As the picture above illustrates, fold over each cut line to the right.
3. Pin the wheel to the top of a pencil and hunt for a windy spot. Place in the ground and watch the wheel spin.

Conclusion:

If your wind wheel was attached to a generator it could produce energy to run an electronic device. Wind is a clean energy source because it will not pollute the atmosphere with greenhouse gases. Today wind powers more than 7 million homes. If wind turbines continue to be built around the nation, it could produce twice the electricity that coal currently produces.

Solar Pizza Box

Vocabulary:

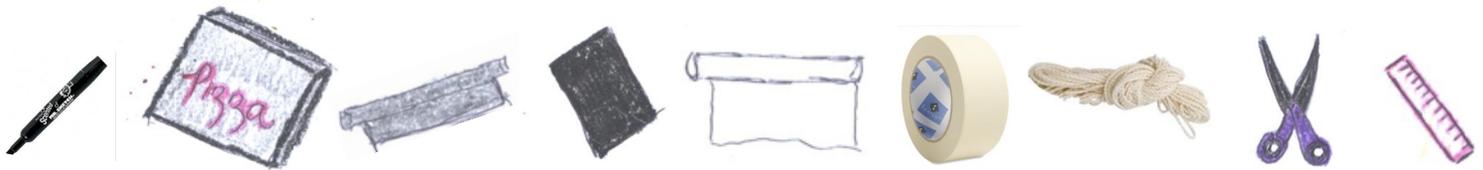
Solar Energy: Using the Sun's heat and light energy to generate electricity.

Solar Panels: Sheets of panels that collect the sun's energy. *Also called "photovoltaic cells."

Background:

Solar Panels/Photovoltaics replace the traditional ways of heating a home. Solar Panels are attached to the South-side of roofs, where the sun prominently shines. Panels can also be grounded in open-fields and placed in large groupings. Are there any solar farms in your area? Solar Energy is an active renewable energy source because it uses equipment to capture energy, unlike in passive housing design.

Materials:



Activity:

As a class, work together to assemble a solar pizza box!

1. Begin by covering the inside of the pizza box with aluminum foil, do not cover the top of the box. Make sure the foil is firmly glued.
2. With a marker and ruler, draw a square on the top-flap starting one inch from the edge. Cut along three of the sides. The fourth line will act as the hinge.
3. Glue tin foil the newly created flap on the inside
4. Glue Black construction paper to the bottom of the box
5. Wrap plastic wrap over the opening of the box to help seal the air in
6. Find a flat level surface outside and place the box there, but don't forget to put your food in!
7. Use the string to tie back the reflector flap so the most amount of sunlight can enter the box.
8. Cook up your pizza and enjoy!

Conclusion:

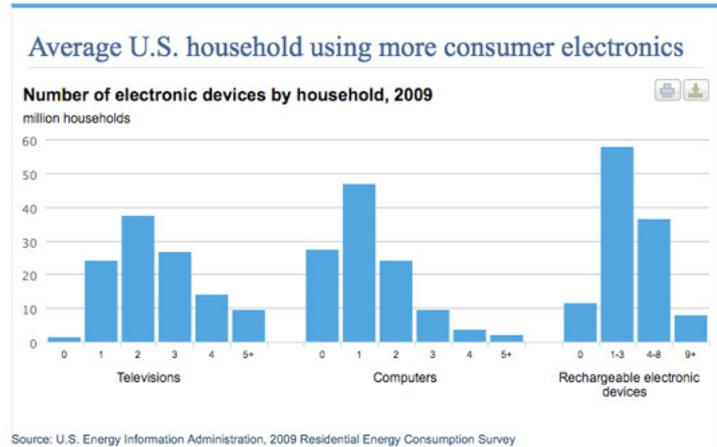
The goal of this activity is to eat delicious pizza but to also learn about solar energy and how it can be a replacement for fossil fuels. Using a solar cooker is certainly not as efficient as a conventional stove but allow the project to get you thinking about our ability to change. Dig in!



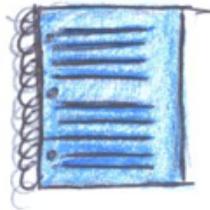
Stop Polluting your Computing

Background:

According to the Environmental Protection Agency, United States businesses spend more than \$1 billion on electricity to run their computers and monitors each year! Remember, most of the electricity in the US is run by the burning of coal, a fossil fuel that releases high levels of greenhouse gases into the atmosphere. More than 50% of American homes have at least one home computer. The chart on the right, from the U.S. Energy Administration, shows the average number of computers per household. How many computers do you have in your household? How many are always turned on?



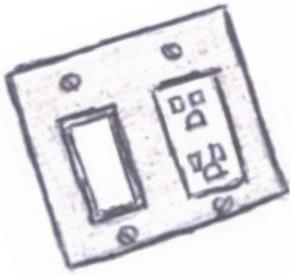
Materials:



Activity:

1. Grab a partner and put on your detective caps! Bring your notebook and pencil around and travel throughout the school to count the number of computers in each room. How many are on?
2. After you and your partner have successfully snooped for polluting computers, join back in the classroom and share your findings.
3. How can you remind teachers to turn their computers off at night?

Conclusion: The average computer costs 29 cents per day, that doesn't sound like very much but that's \$105.12 per year! If there are more than 60 million computers in American homes, that means that we're spending \$630, 000, 000 per year on electricity. Electricity fueled from coal = high levels of greenhouse gases! Turn off your computers!



Switch Fix

Background: On average, lights in a home make up 9% of a household's electricity use, that's approximately 936 kilowatts of electricity used per month! And THAT is equal to 400 pounds of coal per month! Simple changes such as turning off lights when they do not to be in use, keeping the refrigerator door closed and washing clothes in cold water, will reduce the amount of money and energy!

Materials:



Activity:

1. Cut out a piece of colorful construction paper 2 in. X 3 in.
2. Fold the construction paper in half and cut out a rectangle 1 cm. X 2 cm.
3. With coloring utensils write a phrase that will encourage those exiting the room to turn off the lights.
4. "Switch me off" "Turn me off" "Turn off the lights, save electricity!"



T-Shirt Pride

Materials:



Activity:

1. Now it's your time to spread the message about being more energy efficient. Come up with your own slogan to decorate a recycled t-shirt that you no longer wear. Make several and give them out to your family and friends! Be an energy efficiency activist.



The Tap water Challenge

Vocabulary: **Tap Water:** Locally cleaned water that comes from the faucet.
Bottled Water: Private companies that bottle water to sell for profit: Examples: Coca-Cola Dasani, Fiji and Poland Springs

Background: It takes 2,000 times more energy to produce bottled water than to clean tap water! Since 2007, U.S. consumers have purchased more than 33 billion liters of bottled water! That is a lot of energy! Plastic water bottles are made from OIL. The more water we drink from plastic bottles, the more oil we are using.
33 billion liters of bottled water equals 35-40 million barrels of oil!

Materials:



Activity:

1. Break into two teams and head outside!
2. Separate the water jug evenly between the two baking pans and dirty the water with dirt and mud
3. It was very easy to make the water dirty, but how easy is it to clean it up?
4. Tie cheesecloth around a bowl and see how many times the water must go through the cheesecloth for the water to become clear.

Conclusion: This activity demonstrates how much effort it takes to clean up water versus how much energy it takes to make it dirty. It is important to conserve water and therefore energy by turning off faucets and using less water when washing dishes and clothing. As we saw through this exercise, it takes a lot of energy to just clean water, now think of the added energy it takes to bottle, label and transport privatized water!
Give yourself a challenge: Use only reusable water-bottles filled with tap water!



Vital to Recycle!

Yogurt Planters

Vocabulary: **Recycle:** It is important to **Reduce** our Consumption, **Reuse** products and **Recycle** materials rather than throwing them away. When we recycle, products are broken back down into their raw form. This process saves energy because manufactures do not have to start from scratch! Recycling wisely uses the Earth's valuable resources

Composting: Saving food scraps and biodegradable products to be reused as an organic material for plantings and gardening.

Background: Numbers 1-7 are located on the bottom of bottles that can be recycled. It important to know what each of these numbers means so you can recycle your goods properly. Check your town recycling program to see how they prefer recyclables to be separated.

- 1- water/soda bottles: contains PET plastic
- 2- milk jugs and detergent: contains HDPE plastic
- 3- food wrap and bottles for cooking oils: contains PVC plastic
- 4- grocery bags and squeezable bottles: contains "low density polyethylene" plastic
- 5- yogurt containers, medicine bottles: contains " polypropylene" plastic
- 6-Styrofoam and disposable containers: contains polystyrene plastic.
*It is recommended not to use #6 plastics because they are prone to leaching toxins.
- 7- Everything else that won't fit into catagories #1-6 ex: i-pods, computers, food storage containers.

Plastics 2, 4 and 5 are considered safe. 1 is a safe plastic to use too but it is recommended to reuse at the risk of bacteria forming in the plastic.

Materials:



Activity: A large part of recycling is using a product in another way before it is broken back down into raw materials.

1. Scavenge around your house for empty yogurt containers. Don't worry, if you and you're family don't buy yogurt you can collect similar #5 products. Check the underside of the product to see what type of plastic the containers are made out of.
2. Back in the classroom, pair up with a pal to make small yogurt planters. You can use soil from right outside!
3. After the seeds are planted, place the yogurt planters in a classroom window to watch your plants grow over the course of the next several months. Remember to keep the soil damp!

Conclusion: Take this project to the next level by starting a compost project.
Toss food scraps in a lidded bucket. Over time this will be a great fertilizer!
Reduce, Reuse, Recycle.



Transportation Investigation

Vocabulary: **Fuel Efficient:** Using LESS gas to go FARTHER! “Better Bang for your Buck”

Background: The Department of Transportation has estimated that there are more than **250 Million vehicles** in the U.S. It takes more than **20 Million Barrels** of OIL each day to fuel all of the vehicles. All of this driving releases a lot of CO₂! Think of **2,300 2-liter soda bottles**. That’s the volume of CO₂ that is released from just **1 gallon of gasoline!** **1 pound of CO₂ stays in the atmosphere for 200 years!** Remember, this Carbon Dioxide heading into the atmosphere is changing the Earth’s natural cycles such as weather patterns and warming the Earth’s surface.

Activity: We all have that DREAM car that we wish to drive when we are older but is it the most fuel efficient car to drive? How much is it going to cost to fuel up?

1. Pick three cars that you would like to investigate. Your dream car, the vehicle in your family and the Toyota Prius.
2. Head to **fuelconomy.gov** to see which vehicle is going to cost the most/least to drive.

	MILES PER GALLON	FUEL COST (IN YOUR AREA)	ANNUAL COST OF FUEL (~15,000 mi/year)
TOYOTA PRIUS			
DREAM CAR			
FAMILY CAR			

Conclusion: When a vehicle is **more fuel efficient**, less fuel is needed and therefore there are **fewer carbon emissions**. Beyond fuel efficient vehicles, it is important to consider other forms of transit. Biking, Walking and public transit are all ways to reduce your transportation footprint. As Americans we drive approximately 7,176,200,000 miles per year. Take the Challenge to have your parents DRIVE LESS! Reduce your fuel consumption!



Energy Sleuth

Activity Now that you've investigated ENERGY EFFICIENCY, become an Energy Sleuth and keep a tally of the energy efficiencies in your home and school! Keep track of areas that could be improved too! Follow the below check list to help your teachers and parents make smart energy efficient choices.

CLASSROOM ENERGY EFFICIENT CHECKLIST

- The Teacher or a student turns off the lights when the class leaves the room.
- During the day when it's bright out, are the classroom curtains open to bring in natural sunlight?
- The computers in the classroom are turned off when they are not in use
- The Classroom thermostat is set at 68-70 degrees in the winter time and 78-80 degrees in the summer.
- The classroom light bulbs are CFLs

HOME ENERGY EFFICIENT CHECKLIST

- The faucets around the house are not dripping water and you and your family take 5 minute or less showers
- The house has CFL light bulbs in every room
- The house has energy-star appliances; clothing is air-dried and the refrigerator door is always closed.
- The thermostat is set at 68 degrees in the winter and 78 in the summer
- You and your family reuse and recycle!

RESOURCES

<http://www.10percentchallenge.org/>

<http://cambridgeenergyalliance.org/>

<HTTP://WWW.AGESPACE.ORG/>

<http://www.bpa.gov/corporate/kr/ed/eelesson/homepage.htm>

<http://www.climateclassroom.org/teens/>

<http://energyliteracy.org/>

<WWW.ECOKIDS.CA>

<www.energystar.gov>

<green.harvard.edu>

www.pse.com/savingsandenergycenter/ForSchools/Pages/Renewable-

http://cleanet.org/clean/educational_resources/index.htresults_start=11

University of Texas at El Paso:
Knowledge is Power, Curriculum Supplement

U.S Department of Energy:
Office of Energy Efficiency and Renewable Energy
Energy Education and Workforce Development

United States EPA: A Student's guide to Global Climate Change