WATT'S Up?

Measure the wattage of products with a watt meter.

What you'll need:

- A watt meter (borrow one from your local utility company or ask around to see whether someone in your community can lend theirs for the night; you can also buy a watt meter online or from your local hardware or home improvement store for as little as $30)
- A computer (desktop or laptop is fine)
- Two desk lamps—one with a 60-watt incandescent bulb, the other with a 13-watt compact fluorescent light bulb (CFL)
- A charger for a home product, such as a handheld vacuum, cordless drill, digital picture frame, or digital camera dock (the larger and heavier the "brick" that gets plugged into the wall, the better)
- Prizes for those who correctly guess product wattages

How it works: The activity leader plugs each product or device into the watt meter, starting with the computer. Everybody takes note of the watt reading. Then, have the leader put the computer to sleep. Note how the reading changes. Follow this same process for comparing the incandescent bulb to the ENERGY STAR qualified CFL. Finally, have the participants guess how many watts a charger uses when it's not charging a phone or other device but is left plugged into the wall.

What you'll learn: There are many "hidden" electrical devices in our lives that use electricity even when they're not in use. There are also ways to use less energy without sacrificing performance from an appliance or device. Remember to turn off devices when not in use, enable power management on computers, and unplug chargers when you're not actually charging your phone or other device. You can also consider using a power strip as an easy way to turn off devices when you're not using them.

Variations: Add an element of competition to this activity by asking the group to predict the difference in watt usage between a computer at full power and in sleep mode. Do the same for the difference in watt usage between a light fixture with an incandescent bulb and one with a CFL. Award a prize to the person whose guess is the closest.

How to power manage your computer: Make sure volunteers know in advance how to put the computer into sleep mode for this activity.

- For most Windows systems: From Control Panel click on "Performance and Maintenance" and select "Power Options." To put the computer to sleep, select "change when the computer sleeps" and set it to go to sleep in 1 minute.
- For most Apple systems: From System Preferences click "Show All" (if necessary) and select "Energy Saver" from Hardware row. Use the slider to put the computer to sleep.

Go GREEN Charades!

Have players act out energy-saving activities while their teams try to guess the activity.

What you'll need:

- Slips of paper printed with energy-saving activities
- A bowl or basket to hold the slips of paper
- A stopwatch

How it works: Divide players into two equal teams. Players from each team take turns drawing slips of paper from the basket and acting out the energy-saving activity without using any words. The player's team has three minutes to guess the activity. Each correct guess wins a point for the team. The game is over after each team completes four rounds. Younger participants or students who aren't yet familiar with ways to save energy at home may find it helpful if you post a list of energy-saving activities to refer to while making their guesses.

What you'll learn: Players will have fun while learning about ways to save energy.

Sample activities: Turning off the light when leaving a room; turning off the water while brushing teeth; taking a brief shower (three to five minutes or less; use a timer); caulking around windows and doors; washing a full load of laundry and using cold water if possible; hanging laundry onto the line to dry; changing light bulbs to ENERGY STAR qualified CFLs; recycling paper.

Variations: Encourage players to think up ways to save energy on their own by writing types of appliances, fixtures, electronic devices, and household chores on slips of paper. The player must then think of and act out a way to save energy while using that appliance or engaging in that chore. For example, if a player draws a slip of paper with the word "laundry" or "washing machine" on it, he or she might act out hanging laundry to dry on a line or pantomime doing a full load of laundry. If you prefer, have players draw their clues instead of acting them out. You can use a large pad of paper on an easel, or save paper by having players draw their clues on a whiteboard.

Go GREEN FAMILY Challenge

Have parent-child teams square off to name the best ways to save energy at home and on the go as well as other important environmental tips.

What you'll need:

- Included list of categories and answers
- Two desk bells
- Moderator
- Scorekeeper
- Prizes for winners

How it works: Organize players into two teams of four (two parent-child pairs per team). If you have high participation, increase the number of parent-child pairs on each team. The moderator announces the number of rounds to be played (up to 10) and starts the game by naming the first category. The team to ring its bell first and give three correct responses in each category earns six points and wins the round. The opposing team is given the opportunity to guess at the remaining responses on the written list, earning 2 points for each correct response. Once the round is over, read out the remaining items on the list (some lists include more than three items), then start the next round. Finish the game with the bonus question asked to both teams. The team with the most points at the end of the game wins.

What you'll learn: Top ways to save energy and other environmental tips.

Variations: Make the game easier for young children and players who aren't familiar with ways to save energy in one or both of the following ways:

- Give hints: The moderator offers one hint per item on the list.
- Alter the rules so each team is required to choose just one or two correct answers per category.

Categories and Answers for GO GREEN FAMILY Challenge

NAME 3 OF THE TOP CONTRIBUTORS TO GLOBAL WARMING

1. Power plants
2. Cars
3. Trucks
4. Airplanes
5. Buildings
6. Homes

NAME 3 OF THE TOP WAYS TO SAVE ENERGY AT HOME IN ADDITION TO USING ENERGY STAR PRODUCTS

1. Add insulation
2. Seal air leaks
3. Properly program your thermostat
4. Turn off lights when not in a room
5. Turn off electronics when not in use
6. Put computers in sleep mode

NAME 3 WAYS TO GO GREEN AT SCHOOL

1. Remember to turn off the lights when you leave the classroom
2. Recycle paper in the classroom
3. Recycle bottles and cans and other recyclables in the cafeteria
4. When you print from the computer, print double-sided
5. Write on the front and back of a sheet of paper

NAME 3 OF THE TOP PLACES IN HOMES THAT ARE MOST LIKELY TO BE DRAFTY

1. In the attic, if finished, or near the entrance to the attic if unfinished
2. In the basement
3. Near doors that go outside
4. Near windows
5. Underneath baseboards
6. Around wall sockets or light switches
7. Near plumbing and other fixtures that connect to the outside

NAME 3 OF THE TOP WAYS TO HELP PREVENT HEAT LOSS THROUGH WALLS OR CEILINGS

1. Add insulation
2. Seal cracks with caulk
3. Use spray foam in a can
4. Weatherstrip windows and doors
5. Replace windows
6. Install attic hatch cover
7. Keep doors and windows closed

NAME 3 OF THE TOP MOST USED LIGHTS IN THE HOME

1. Kitchen ceiling light
2. Living room table and floor lamps
3. Bathroom vanity
4. Outdoor porch or post lamp
5. Bedroom nightstand

*NAME 3 OF THE TOP WAYS YOU CAN SAVE WATER IN THE HOME**

look for WaterSense Meets EPA Criteria

1. Look for the WaterSense label on products that use water, such as toilets and faucets
2. Fix leaks around the house; fixing small leaks in your house could save 200 gallons of water per week
3. Turning off the tap while brushing your teeth in the morning and at bedtime can save up to 8 gallons of water per day, which equals 240 gallons a month
4. Wash only full loads of dishes and clothes, or be sure to lower the water settings for smaller loads
5. For a cool refreshment, keep a pitcher of water in the refrigerator instead of running the tap until it is cold
6. Be sure to water your yard or garden only when needed and water during the cooler morning hours to reduce evaporation
7. Set sprinklers to water lawns and gardens only—check that you're not watering the street or sidewalk

Sponsored By

U.S. EPA's ENERGY STAR® program

LEARN MORE AT energystar.gov

*This is not a complete list. PTO leaders or volunteers can decide whether the answer is correct or not based on their own judgment.

*NAME 3 THINGS YOU CAN COMPOST***

1. Animal manure
2. Cardboard rolls
3. Clean paper
4. Coffee grounds and filters
5. Cotton rags
6. Dryer and vacuum cleaner lint
7. Eggshells
8. Fireplace ashes
9. Fruits and vegetables
10. Grass clippings
11. Hair and fur
12. Hay and straw
13. Houseplants
14. Leaves
15. Nutshells
16. Sawdust
17. Shredded newspaper
18. Tea bags
19. Wood chips
20. Wool rags
21. Yard trimmings

*Not Compostable***

1. Black walnut tree leaves or twigs
   Release substances that might be harmful to plants
2. Coal or charcoal ash
   Might contain substances harmful to plants
3. Dairy products (e.g., butter, egg yolks, milk, sour cream, yogurt)
   Create odor problems and attract pests such as rodents and flies
4. Diseased or insect-ridden plants
   Diseases or insects might survive and be transferred back to other plants
5. Fats, grease, lard, or oils
   Create odor problems and attract pests such as rodents and flies
6. Meat or fish bones and scraps
   Create odor problems and attract pests such as rodents and flies
7. Pet wastes (e.g., dog or cat feces, soiled cat litter)
   Might contain parasites, bacteria, germs, pathogens, or viruses harmful to humans
8. Yard trimmings treated with chemical pesticides
   Might kill beneficial composting organisms

Bonus Question:

Ask to both teams; each team gets three guesses

Buying energy-efficient products that carry the ENERGY STAR logo for your home can save one-third on your energy bill. Name three ENERGY STAR qualified products you can find in a home.

<u>Lighting</u>

1. Light bulbs
2. Light fixtures
3. Decorative light strings

<u>Home Electronics</u>

1. TVs
2. DVD players
3. Cordless phones
4. Battery chargers
5. Digital-to-analog converter boxes
6. Home audio systems and stereos
7. Set-top boxes
8. External power adapters

<u>Office Products</u>

1. Computers
2. Monitors
3. Photocopiers and fax machines
4. Digital duplicators
5. Multifunction printers/scanners/all-in-ones

<u>Appliances</u>

1. Refrigerators
2. Washing machines
3. Dishwashers
4. Freezers
5. Room air cleaners

<u>Heating and Cooling</u>

1. Room air conditioners
2. Windows
3. Dehumidifiers
4. Furnaces
5. Ceiling fans
6. Heat pumps
7. Boilers
8. Central air conditioners
9. Insulation
10. Ventilating fans
11. Water heaters

**U.S. Environmental Protection Agency, Office of Solid Waste, epa.gov/osw/conserve/rrr/composting/basic.htm; updated Oct. 7, 2008

COOL or POOL!

See which ice cubes melt into a pool of water first—the ones that are protected by insulation or the ones that are not.

What you'll need:

- Multiple identical clear containers (such as round food storage containers or baby food jars)
- Insulating material (you can use rigid board or the foam core that you are using for the Reminders/Magnets activity)
- Duct tape
- Multiple desk lamps with 100-watt incandescent bulbs
- A cooler of ice cubes or crushed ice
- A timer

Note: Use the insulating material and duct tape to build mini coolers for half of the containers. Prepare these ahead of time.

How it works: Have children place an ice cube or scoop of shaved ice into each container and cover with a lid. Shine light from the lamp onto the containers and set the timer. Have the children guess which ice will melt first and how long it will take.

What you'll learn: Insulation keeps enclosed spaces, such as your home, warmer in the winter and cooler in the summer, allowing you to use less energy and be more comfortable in your home.

Note: Have multiple "stations" of lamps and containers set up on a table so more than one child can participate at a time. You might want to have an alternate activity to keep children occupied while waiting for the ice to melt.

ENERGY STAR
Reminders/Magnets

Create your own reminders to use appliances and other products wisely.

What you'll need:

- White foam core, precut into 2" x 3" rectangles
- Black electrical tape
- Assorted thin markers
- Adhesive-backed magnet strips
- Double-sided tape or self-stick Velcro® tabs
- Scissors

How it works: Have children write their own messages on the foam core to remind family members to be energy efficient. Ideas include:

- "Turn me off when you leave the room!" for lights and ceiling fans
- "Don't turn me on unless I'm full!" for the dishwasher or washing machine
- "Keep it cold!" to remind people to wash clothes in cold water
- "Set me to 120 degrees, please!" for the water heater
- "Don't change my temperature settings!" for a programmable thermostat
- "Unplug me when charged!" or "Shut me down when done!" for computers and chargers

(Encourage kids to think of their own energy-efficiency messages for products around their homes, too.) Then cut a piece of electrical tape about 11 inches long. Carefully wrap the tape all around the edges of the foam core, aligning the center of the tape with the edge of the foam core. Snip the tape at the corners and then fold the tape over the foam core, front and back, to form a border. Stick a strip of magnet onto the back to display signs on magnetic surfaces (except computers). Or use double-sided tape or self-stick Velcro tabs to attach the signs to computers, stainless steel products, and nonmagnetic surfaces, such as walls.

Sponsored By
U.S. EPA's ENERGY STAR® program
LEARN MORE AT energystar.gov

TRASH OR WHAT?

Relay Race

Have players rush to deposit the index cards showing unwanted items into the correct bin.

What you'll need:

- Two sets of 20 index cards labeled with typical items destined for the trash, recycling bin, or compost heap; you can download these from www.schoolfamilynights.com/gogreen-tools (each set of game cards should be a different color)
- Three boxes, one each marked "Recycle," "Trash," and "Compost"
- Tables to hold boxes and cards

How it works: Place the boxes on a table some distance away from the players. Players form two lines. Separate the game cards by color. Assign a card color to each team and place a pile of game cards face down on a table next to each line. The first player in each line picks the first card from his stack, runs to deposit it in the correct box, then runs back to the line and tags the next player who does the same. The winning team places the most cards in the correct boxes in the least amount of time.

What you'll learn: Reusing, recycling, and composting all save energy and resources. Many household items can be recycled or composted.

List of items

Note: Check with your local trash and recycling office to see what items you can recycle in your community.

Compost

banana peel
apple core
grass clippings
eggshells
coffee grounds
wilted flowers
potato peels

Trash

candy bar wrapper
disposable diaper
wet paper towel
used paper plate
disposable foam drink cup
incandescent light bulb

Recycle

cereal box
newspaper
scrap paper
pasta box
plastic milk jug
plastic water bottle
soft drink can

BANANA PEEL

APPLE CORE

GRASS CLIPPINGS

EGGSHELLS

COFFEE GROUNDS

WILTED FLOWERS

POTATO PEELS

CANDY BAR WRAPPER

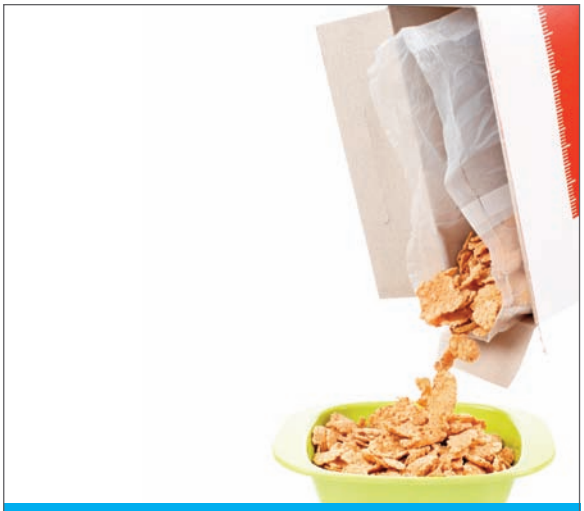
DISPOSABLE DIAPER

WET PAPER TOWEL

USED PAPER PLATE

DISPOSABLE FOAM DRINK CUP

INCANDESCENT LIGHT BULB



CEREAL BOX

NEWSPAPER

SCRAP PAPER

PASTA
BOX

PLASTIC
MILK JUG

PLASTIC
WATER BOTTLE

SOFT
DRINK CAN

BANANA PEEL

APPLE CORE

GRASS CLIPPINGS

EGGSHELLS

COFFEE GROUNDS

WILTED FLOWERS

POTATO PEELS

CANDY BAR WRAPPER

DISPOSABLE DIAPER

WET PAPER TOWEL

USED PAPER PLATE

DISPOSABLE FOAM DRINK CUP

INCANDESCENT LIGHT BULB

CEREAL BOX

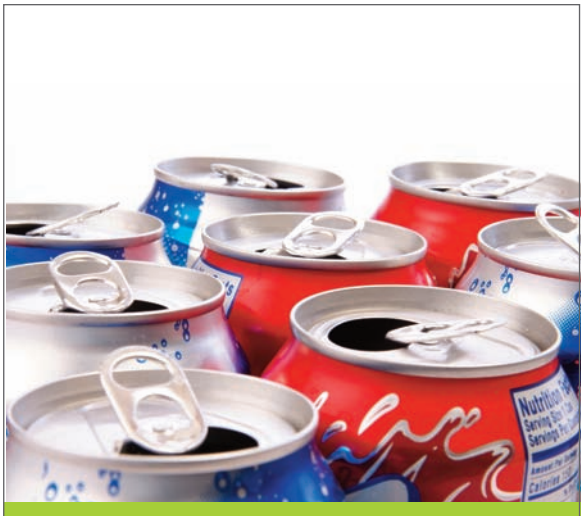
NEWSPAPER

SCRAP PAPER

PASTA
BOX

PLASTIC
MILK JUG

PLASTIC
WATER BOTTLE



SOFT
DRINK CAN

Draft BLOCKER Critter

Block under-door or window drafts with these handmade draft blockers.

What you'll need:

- Clean women's or girls' tights
- Old clothes or rags cut into small pieces
- Some pebbles or other heavier items to weigh down the draft blocker
- Assorted pieces of felt, buttons, and ribbon
- Scissors
- Glue gun
- Needles and thread

How it works: Cut the legs and feet off the tights and tie a knot at one end. Stuff one leg of the tights with old clothes or rags. Disperse pebbles or rocks throughout to help distribute weight among the rags. Create a face by gluing or sewing on triangles or ovals of felt for ears; buttons for eyes and nose; and ribbon for a colorful collar. Larger critters are great for blocking under-door drafts, while smaller ones are the perfect size for most windows.

What you'll learn: The potential energy savings from blocking and sealing up leaks and drafts in the home is 5 percent to 30 percent each year. In addition to saving energy and money on your utility bills, you will feel more comfortable, too! Use weather stripping or spray foam to seal air leaks throughout your home. Add insulation to block heat loss in winter and heat gain in summer, and choose ENERGY STAR qualified windows when replacing your windows.

Recycle PAPER into PAPER

Show kids how old paper can be reused to create new paper.

What you'll need:

- Scrap paper (newsprint, construction paper, and paper towels work best)
- Bin of water (dishpan size, one per station)
- Blender
- 5" x 7" metal mesh screening
- Towels or rags (hand towel size, about one per person)
- Several pieces of smooth fabric, such as cotton T-shirt fabric, larger than the mesh screening
- Kitchen-size sponges, one or two per station

How it works: Grind paper scraps in the blender with some water to make pulp. Dump the pulp into a bin of water. Dip the screen into the bin under the pulp to collect a thin layer of pulp on top of the screen. Lay the screen, pulp-side down, on a sheet of smooth fabric, such as cotton T-shirt fabric, layered over towels to absorb the moisture. Press excess water out of the pulp with a damp sponge. Peel the pulp layer off the fabric and stick it to a window or place it on a cafeteria tray to dry.

What you'll learn: Old paper can be the primary ingredient to make new paper so trees are preserved and trash is kept out of our landfills. Trees absorb carbon dioxide, a greenhouse gas, from the air, so trees are very important for preserving the environment and fighting global warming.

Note: The paper should be dry before children bring it home, so arrange with the art teacher or administrators to store it until the following school day. Children can identify which recycled paper is theirs if they write their name on a scrap of construction paper and add it to the pulp when it's still on the mesh screen.