



## OFFICIAL HOG BUSTING HANDBOOK

It's time the Energy Hogs met their match. Use this official handbook to save energy in your home. Find those nasty oinkers and kick them to the curb.

Read this handbook, then take your family on an Energy Hog tour of your own home and point out ways that you can save energy together.

### Ever wonder where electricity comes from?

As an Energy Hog Inspector, it helps to know where electricity comes from and how to use it wisely.

Intro:

### What is "Energy" and how does it get to your home?

Energy is the **Ability to Do Work**. Energy is found in many different forms, such as light, heat, sound and motion.

At home, we use energy to cook food, watch TV and take hot showers. Energy must get to your home in order to use it in these ways. So, how does it get there? Energy comes from different places (or "sources"), like under the ground or from the sun. These sources are divided into two groups:



1. "Renewable Energy can be used over and over again and never runs out. For example, we can capture the sun or wind's energy and use it to light our lights inside your home.
2. "Nonrenewable Energy" can only be used once. Most of the energy we use in the United States comes from nonrenewable energy sources like oil, natural gas and coal. When we use up these energy sources, they are gone forever.

**Step 1:**

So how does energy get to your home?

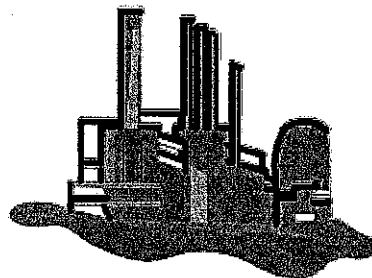
**The Earth**

**Workers mine coal from the earth.**

Coal is one example of an energy source. Many people have jobs mining coal, and we have a lot of coal in the U.S. – in fact, enough to last for over 200 years. Coal is burned to make electricity. So when you flip the switch in your home, light comes on. Using this “nonrenewable energy” is the cheapest way to get energy to your home – but when coal is burned, it creates air pollution. When you save energy, you reduce pollution.

**Step 2:****Power Plants**

Coal is taken to the power plant where it’s burned to make electricity.

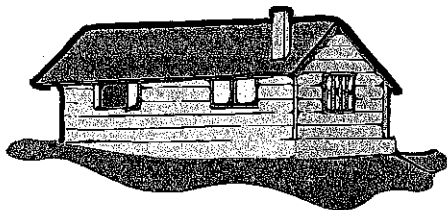
**Step 3:****Power Lines**

Electricity flows from the Power Plant through Power Lines into your home.

**Step 4:****Your Home**

Electricity is used for TV, computers, lights, refrigerators and air conditioners and much more.

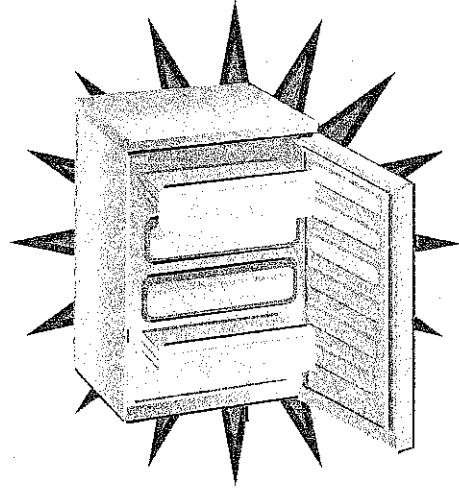
Now you know how energy gets to your home. Let’s visit your home and find out where Energy Hogs hide and pig out on wasted energy.



## THE KITCHEN: Energy Hog Hiding Places

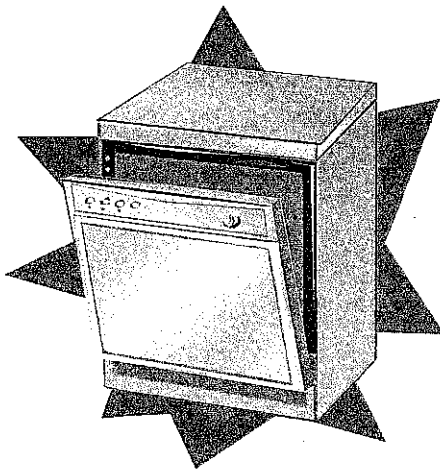
### Hiding Place # 1:

**Refrigerators** - of all the places in your home, this is a favorite hang out for Energy Hogs. If your fridge is more than 10 years old, odds are there's an Energy Hog camping out inside. Ask your parents how old your fridge is and if it's time to buy a new one. And make sure they look for the ENERGY STAR® label. Do you have a second old refrigerator sitting in the garage or somewhere else at home? If so, urge your parents to get rid of it. They can cost \$120 each year on your energy bill. Remind your parents that one large fridge is better than two smaller old ones.



### Hiding Place # 2:

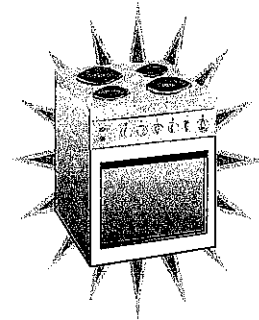
**The Dishwasher** - as an Official Energy Hog Buster, talk to your parents about some of the things you can do if you have one of these in your home.



- If available, make sure you use the energy-saving cycle
- DON'T use the heated dry cycle
- If your parents buy a new dishwasher, make sure it has the ENERGY STAR® label
- Make sure each wash runs with a FULL load of dishes so you don't waste energy

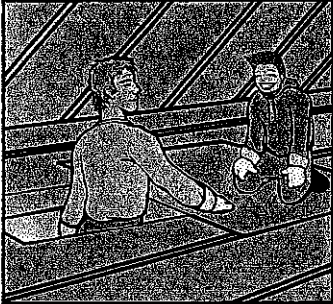
### Hiding Place # 3:

**The Stove** - it takes a lot of energy to keep a stove hot when cooking food. Using the microwave or toaster oven saves energy. When your family does use the stove, keep the lids on the pots so energy doesn't escape. That stops Energy Hogs from joining you for dinner.



**THE ATTIC:  
Energy Hog Hiding Places:**

**Hiding Place #1:**

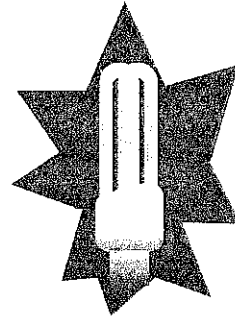


One of the most important things to know is that insulation stops Energy Hogs. Insulating a home is like putting on a sweater when you're cold – it traps the heat inside, keeping it nice and warm so you don't have to turn up the heat. In the summer it keeps the cool air inside your home. By increasing insulation in your walls and attics, you and your family can reduce the amount of energy it takes to heat or cool your home. But be careful, be sure to talk to your parents before checking your attic for insulation.

**THE BEDROOM:  
Energy Hog Hiding Places:**

**Hiding Place #1:**

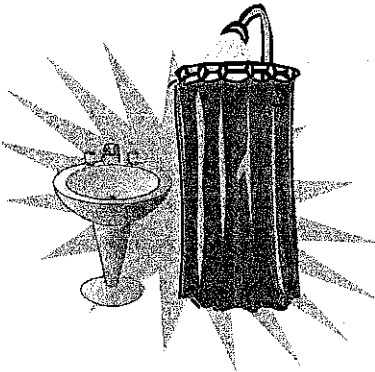
**Lamps and Ceiling Lights** – Energy Hogs love to snack on old-fashioned light bulbs because they waste SO much energy! In fact, 90% of the energy that goes into the light bulb is wasted as heat (that's why they are so hot to touch)! Change your old light bulbs to new, cool ones called compact fluorescent ("floor-es-ent") light bulbs (CFLs). They last for about 7 years and save lots of energy.



Outside your house, if you need to leave a light on overnight, switch to a compact fluorescent bulb (CFL). You could even get a motion detector so the light would only come on when needed.

**THE BATHROOM:  
Energy Hog Hiding Places:**

**Hiding Place #1 and #2:**

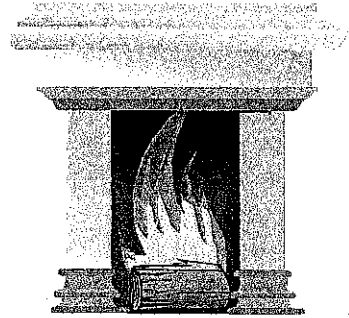


**The Sink and the Shower** – did you know that the sink and the shower use the most water in your home? It takes a lot of energy to heat up water for your home, so try not to waste hot water. Take 5-minute showers and encourage your family to do the same. Also, your parents can put "flow restrictors" on your sink and shower faucets, so that less water comes out.

## **THE LIVING ROOM: Energy Hog Hiding Places:**

### **Hiding Place #1:**

**The Fireplace** - shocking isn't it! While sometimes it's nice and warm, Energy Hogs love to hang out here when it's not in use. Why? Because hot air from your house rises right up the chimney! Ask your parents to make sure they close the damper when it's not in use to keep the Hogs from stealing your warm air.



### **Hiding Place #2:**

**Windows** - easy access for Energy Hogs. If your home has old windows, with just one pane of glass, it's like you're inviting those pesky Hogs right inside. All good Hog Busters check their windows to see if they need to be weather-stripped or if any cracks need to be sealed up.

Here are some tips to keep warm air in and cold air out (please ask your parents for help):

- Use storm windows on the outside of your home in winter time.
- Seal leaks between moving parts (the window and the frame) with weatherstripping
- Fill in gaps between non-moving parts (the window frame and the wall) with caulk
- Replace old windows with new double- or triple-paned windows that have the ENERGY STAR® label
- Close blinds on hot summer days and open them on cold winter days to let the sun and the warmth in

### **Hiding Place #3:**

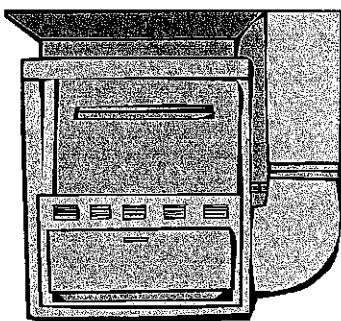
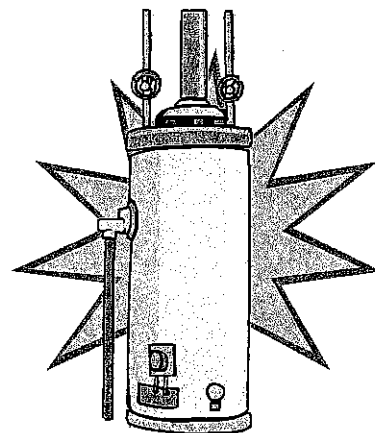
**The Computer** - it's all fun and games, but you may be playing with an Energy Hog. If you have a computer at home, be a top-notch Hog buster and:

- Turn off the monitor if you're not using it for 10 minutes or more
- Turn the computer off completely if you're not using it for an hour or more
- If you buy a new monitor, make sure it features the ENERGY STAR® label

**OTHER:  
Energy Hog Hiding Places:**

**Hiding Place #1:**

**The Water Heater** - this is one of the biggest Energy Hogs in the home! To keep the Hogs from hanging out around it, have your parents wrap your water heater with an insulating blanket. This can save \$20 each year if you save with natural gas or \$50 if you heat with electric. To see if your tank needs an insulation blanket, have your parents check it out. If it feels warm then it needs an insulation blanket.

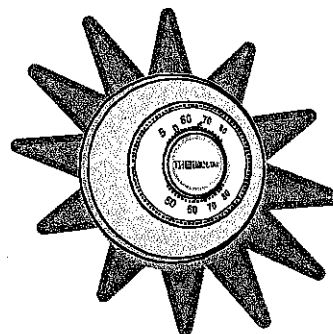


**Hiding Place #2:**

**The Furnace in the winter and Air Conditioner in the summer** – this item can make those Energy Hogs drool! Your parents should change or clean your furnace filter at least once a month. Dirty filters can make your furnace and central air conditioner run harder, which wastes energy. In the summer, use the air conditioner only when you need to ceiling fans and window fans use less energy.

**Hiding Place #3:**

**The Thermostat** – aha! Energy hogs love when you turn your thermostat up or down too far. In the winter, you should turn down the thermostat when you leave the house and at nighttime. Better yet, ask your parents to get a programmable thermostat – it remembers to do that for you in case you forget.



**CONGRATULATIONS!**

You're well on your way to becoming an Official Energy Hog Buster! Tell your friends and family that they can be an Energy Hog Buster, too. Keep your family on track with all the tips you learned from the handbook and remind them of the many ways you can save energy in your home. Good Job!

# Energy Hog SCAVENGER HUNT

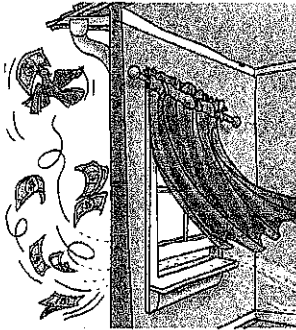
Do the Scavenger Hunt with your family and find out if you have Energy Hogs lurking in your home. Check the answer box that best matches you and your home. There are no wrong answers, so be honest. As each home is different, *only answer 10 of the questions that apply to your home.*

**1. INSULATION:** Ask an adult at home how much insulation you have in the attic.

- 6 inches or less (2 pts.)
- 7-11 inches (4 pts.)
- 12 inches or more (6 pts.)

**2. FURNACE FILTERS:** Ask an adult at home how often your filters were cleaned or changed in the last year.

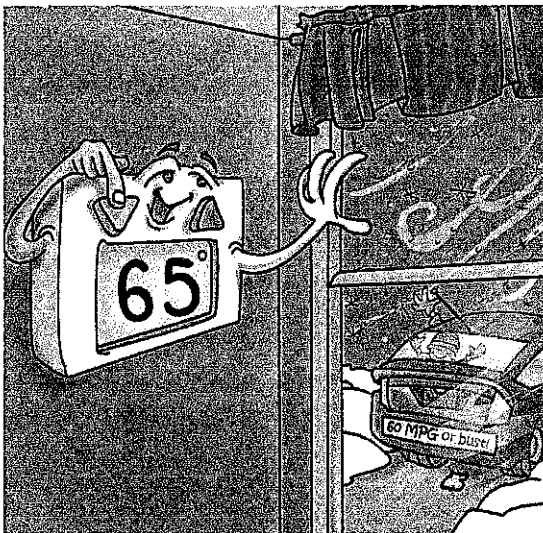
- Not at all (2 pts.)
- 1-3 times (4 pts.)
- 4 or more (6 pts.)



**3. WINDOWS:** How many layers of glass do your windows have?

- Single-pane with no storm windows (2 pts.)
- Single-pane with storm windows or double-pane (4 pts.)
- Double-pane with reflective coating or gas-filled (6 pts.)

**4. THERMOSTAT:** At what temperature do you set your thermostat when you are home and awake?



*In heating seasons (winter):*

- 73° or more (1 pt.)
- 70°-72° (2 pts.)
- 69° or less (3 pts.)

*In cooling seasons (summer):*

- 74° or less (1 pt.)
- 75°-77° (2 pts.)
- 78° or more (3 pts.)

**5. WEATHERSTRIPPING:** Open your front door and check the condition of the weatherstripping between the door and the door frame.

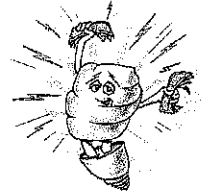
- None (2 pts.)
- Worn out (4 pts.)
- Good condition (6 pts.)

**6. LIGHTS:** How often do you turn lights off when you leave a room?

- Almost Never (2 pts.)
- Sometimes (4 pts.)
- Always (6 pts.)

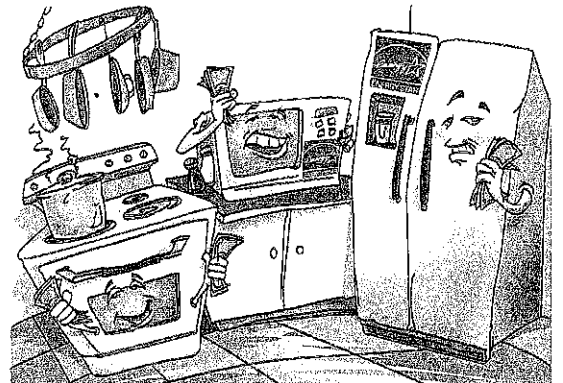
**7. LIGHT BULBS:** Count the number of compact fluorescent light bulbs (CFLs) you have in your house.

- No CFL bulbs (2 pts.)
- 1-4 CFL bulbs (4 pts.)
- 5 or more CFLs (6 pts.)



**8. COOKING:** How often does your family keep the lids on pots and pans when cooking meals?

- Almost never (2 pts.)
- Sometimes (4 pts.)
- Always (6 pts.)





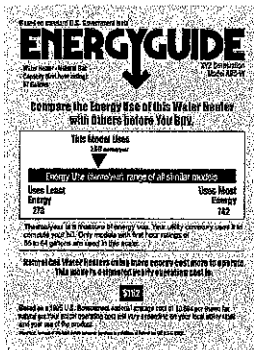
**9. ELECTRICITY:** Search your house for the ENERGY STAR® symbol. (hint: electronics or appliances)



How many did you find?

- No ENERGY STAR® labels found (2 pts.)
- 1-2 ENERGY STAR® labels found (4 pts.)
- 3 or more ENERGY STAR® labels found (6 pts.)

**10. WATER HEATER:** Find the Energy Guide label on your water heater and look at the efficiency rating. How much energy does it use compared to similar models?



How much energy does it use compared to similar models?

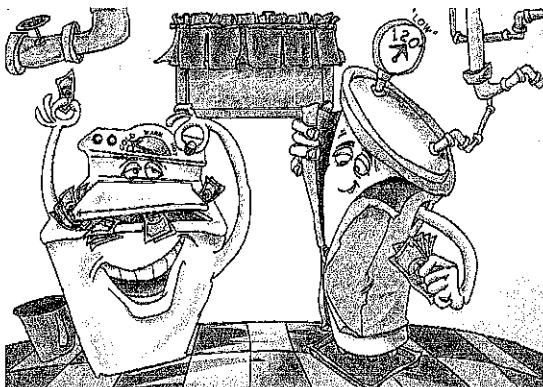
- Uses the most energy (2 pts.)
- Uses average amount of energy (4 pts.)
- Uses the least energy (6 pts.)

**11. LAUNDRY:** At what water temperature do you wash your clothes?

- Mostly HOT water (2 pts.)
- Mostly WARM water (4 pts.)
- Mostly COLD water (6 pts.)

**12. HOT WATER USE (SHOWER):** How much time do you spend in the shower?

- 15 minutes or more (2 pts.)
- 10 minutes (4 pts.)
- 5 minutes (6 pts.)



## How Did You Score?

Total points = \_\_\_\_\_

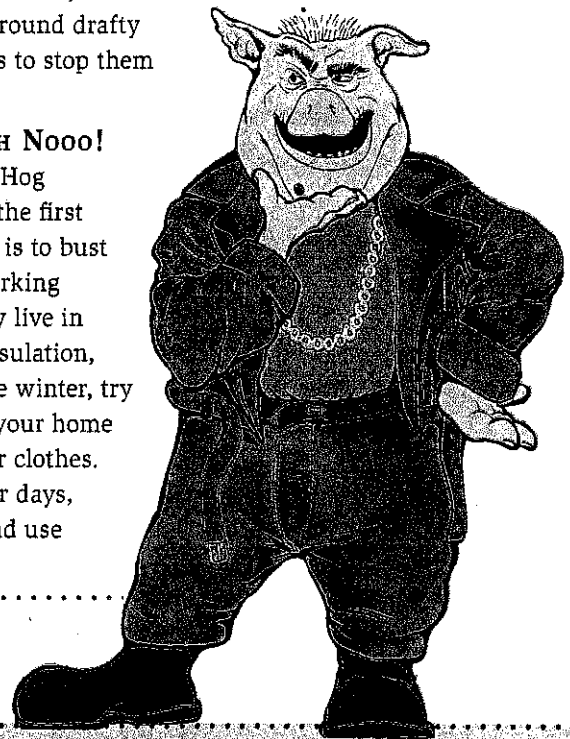
Add up points from the 10 questions you answered for your total.

**45-60 AWESOME!!** You're doing a great job of busting those Energy Hogs in your home. Keep up the good work!

**31-44 ALMOST!** You're on your way to becoming an Energy Hog Buster, but there's more to do. Those Hogs might be creeping into areas of your house like your attic (think "Insulation!")—or add weatherstripping around drafty doors and windows to stop them from sneaking in.

**20-31 OINK! OH NOOO!**

Taking the Energy Hog Scavenger Hunt is the first step. The next step is to bust the Energy Hogs lurking in your home. They live in places that need insulation, like the attic. In the winter, try to use less heat in your home by wearing warmer clothes. During hot summer days, close the shades and use fans to cool off.



## Change 4 for the planet!

Families that replace the four most used 75-watt incandescent bulbs with 23-watt compact fluorescent bulbs can save more than 2000 kWh and \$190 over the life of the bulbs. If all U.S. households did this, we'd save as much energy as is consumed by some 38 million cars in one year!