

You have the power

to keep your family warm and save money

Spring is right around the corner, but old man winter still can put a squeeze on your home heating budget. In fact, did you know that heat accounts for 31 percent of all energy used in the American home over the course of the year? So while we all like to stay warm and toasty in the winter, it's important to consider how much energy we use when heating our homes.

The good news is, if you follow these few simple steps, you still can save energy and money during these colder months.

1. **Turn down the heat.** Ask Mom or Dad to set the thermostat to 68 degrees in the winter. Decreasing your heater's thermostat by just one degree can reduce your power bill for heating by up to 15 percent. If you feel cold, put on some extra layers or snuggle up with a warm blanket.

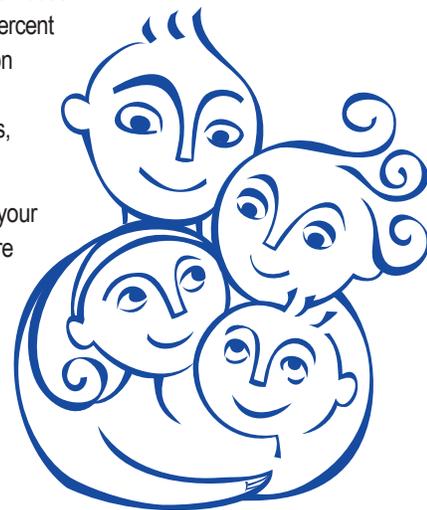


2. **Close the door.** Saving power at home can be as easy as shutting the door. Closing off areas of your home that aren't used—like spare bedrooms—is an easy way to avoid wasting power on excess heating.

3. **Cover drafty windows.** Use curtains, preferably thick ones, to keep from losing heat through the cracks on those cold winter evenings. You could save \$45 a year just by closing your curtains. During the day, let the sunlight beam through your windows to help heat your home.

4. **Seek out and seal off leaks.** Reducing air leaks could reduce the average household's energy bill by up to 10 percent each month. The most common places for air to escape from a home are: floors, walls, ceilings, ducts and fireplaces.

5. **Insulate your home.** Ask your parents to insulate or add more insulation to your attic, basement and outside walls. Also, remember to cover any in-the-wall air conditioners to prevent unwanted cold from leaking into your home.



ENERGY SAVER SUPERSTARS

activity

Did you know saving energy isn't just for adults?



Kids have the **POWER** to make a **BIG** difference, too!

Go online with your parents to print out or create your own energy saver audit. Then, work together as a family to perform the audit and make energy saving changes to your home.

Check our resources at:

- www.we-energies.e-smartonline.net
- ◆ www.energysavers.gov/your_home/energy_audits/
- ◆ www1.eere.energy.gov/femp/services/energy_aware_hec.html

There's **no break** for fire and electrical safety



School breaks are a great time to bring the whole family together. And for those of us who aren't headed to a tropical destination, electronic devices can help us stay warm, entertained and keep our homes lit during the colder, darker months—but they also can increase the risk of fires and electrical injuries if not used safely. In fact, there are nearly 51,000 home electrical fires each year in the U.S., and nearly one-third happen during the winter months.

Home safety reminders

Get the whole family involved when looking for potential trouble spots around your house. Be sure to follow the tips below (and keep them posted on your fridge) to help ensure a safe winter season for your entire family.

Electrical safety tips

- ❄ Don't overload an outlet with more than one extension cord or too many electrical devices.
- ❄ Always turn off lights and electrical devices when you leave the house or go to bed.
- ❄ Never pinch electrical cords in windows, doors or under heavy furniture. Damaged cords are a shock and fire hazard and should be replaced.

Fire safety tips

- ❄ Make sure you have working smoke alarms on every level of your home, outside each sleeping area and inside each bedroom. Test them at least once a month.

- ❄ Extinguish all fires, even candles, when you leave the room or go to sleep.
- ❄ Keep anything that can burn at least three feet from space heaters and other heat sources.

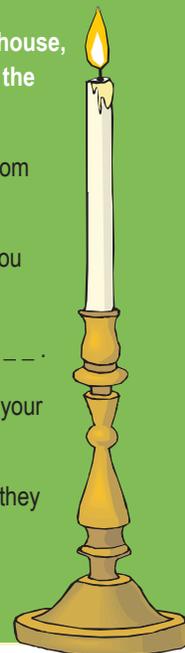
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Testing your seasonal safety skills

Now that you've worked with your family to find and correct potential trouble spots around the house, it's time to test your knowledge. Fill in the blanks with the missing words.

1. Keep the space _____ at least three feet away from curtains, furniture and anything that can burn.
2. Always extinguish or blow out lit _____ when you leave the room or go to bed.
3. Don't plug too many electrical devices into an _____.
4. Ask your parents to test the _____ in your house every month.
5. Replace damaged electrical _____ immediately—they are a shock and fire hazard.

Answers: 1.heater 2.candles 3.outlet 4.smoke alarms 5.cords



Natural Gas: It's older than dinosaurs!

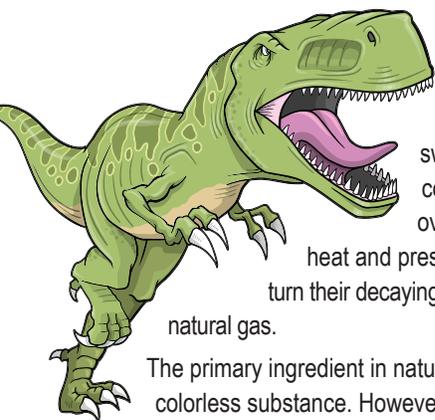
The science of how natural gas is made

Natural gas is a vital part of the world's energy supply. It's one of the cleanest, safest and most useful of all energy sources. The natural gas we use to heat homes and water comes from deep under the ground. It's found between layers of rock, trapped within tiny holes that hold it like a sponge. To bring it to the surface, drillers dig hundreds of feet into the earth and pump the gas into pipes.

Why is it called a "fossil fuel?"

Natural gas is a mixture of gases formed from plant and organism remains formed millions of years ago—even before dinosaurs roamed the Earth. Back then, when tiny water creatures and swamp plants died, they'd end up covered in mud, sand and silt. And over the course of millions of years, heat and pressure from the Earth's layers would turn their decaying remains into fossils, and ultimately natural gas.

The primary ingredient in natural gas is methane, an odorless and colorless substance. However, we often associate natural gas with a familiar rotten egg odor. This odor comes from mercaptan, a chemical added by the gas company as a safety measure to help us



- detect natural gas leaking into the air. If you smell natural gas, leave, go to a safe location and call the gas utility and 911. Never use electronics, flashlights or candles—any spark could ignite the gas!

How dense can you be?

activity

Natural gas is usually found together with water and oil underground. If a geologist drills a gas well, in what order will the three substances be found?

Materials:

- A 16 oz. plastic soda bottle with cap
- About 6 oz. tap water
- About 6 oz. cooking oil
- Writing paper for your answers



1. What do you think will happen if you pour the cooking oil and the water into the bottle?
2. Pour the liquids in and put the cap on the bottle. Wait a few moments. Now describe what happened in the bottle, and your best guess as to why. What is happening in the bottle has to do with density. Density is a measure of how many molecules there are in a certain amount of a substance. The more molecules, the denser. Denser substances sink and less dense substances float.
3. The bottle actually contains three substances: water, air and oil.

Which is densest? _____ Next dense? _____ Least dense? _____