Think! Energy

FAMILY GUIDE



PROJECT CONSERVE & $AVE®

AUSTIN UTILITIES | OWATONNA PUBLIC UTILITIES

DEAR FAMILY,

Energy is a big part of our everyday lives. Have you ever thought about where it comes from or how it gets to where you need it? You are about to find out!

You will receive a *Take Action Kit* containing energy-efficient products for your home. As you install these items, share with your family what you have learned about energy at school. Then use this guide to discover other ways to conserve energy and water together.

Thank you for making a difference!



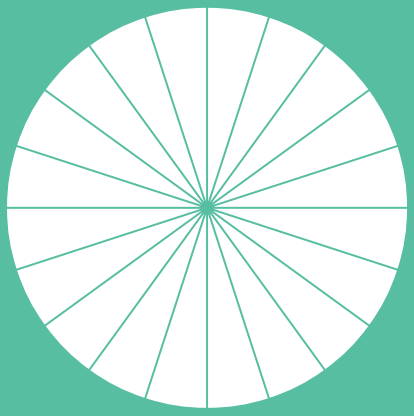
Energy is the ability to do work. Your body uses energy to walk, talk and run. We also use energy in our homes to heat and cool the air, heat the water and power refrigerators and video games. The two main types of energy are kinetic energy and potential energy. Kinetic energy is energy of motion, like the motion of riding a bike. Potential energy is energy waiting to be released, like the energy in natural gas.

Activity
1

Your Home's Electricity Use

Most families in the U.S. use about **54%** of their electricity for lighting and to power appliances and electronics, **32%** to heat and cool their homes and **14%** of their energy to heat water.

Choose three colors and create a pie chart with the percentages above. You may need to round each number. Each segment on the chart shows **5%**.



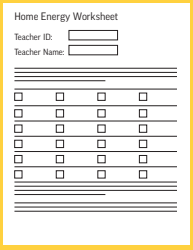
- Lighting, Appliances and Electronics
- Heating and Cooling
- Heating Water

(Source: *eia.gov/todayinenergy/detail.php?id=36412*, accessed April 2021)

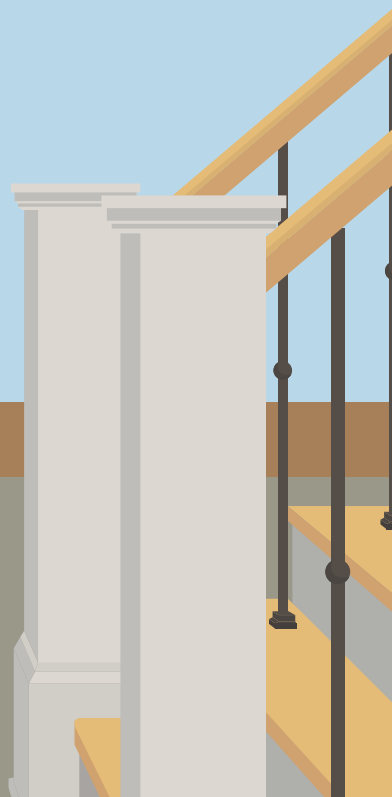
Did you know that our energy comes from nonrenewable resources such as fossil fuels (oil, coal, natural gas) and uranium? It also comes from renewable sources such as the sun, wind, water, geothermal and biomass.

When we are efficient with energy, we use less energy to do the same amount of work. To be more energy efficient, Think! about how energy is used, Talk! to your family about ways to use energy wisely and Take Action! by installing the items in your *Take Action Kit*. Visit the program website listed on your kit box to view helpful installation videos.

Record all the items used in your home or someone else's on your *Home Energy Worksheet* (HEW). Complete it online at *thinkenergy.org/conserveandsave*.


Home Energy Worksheet
Teacher ID:
Teacher Name:

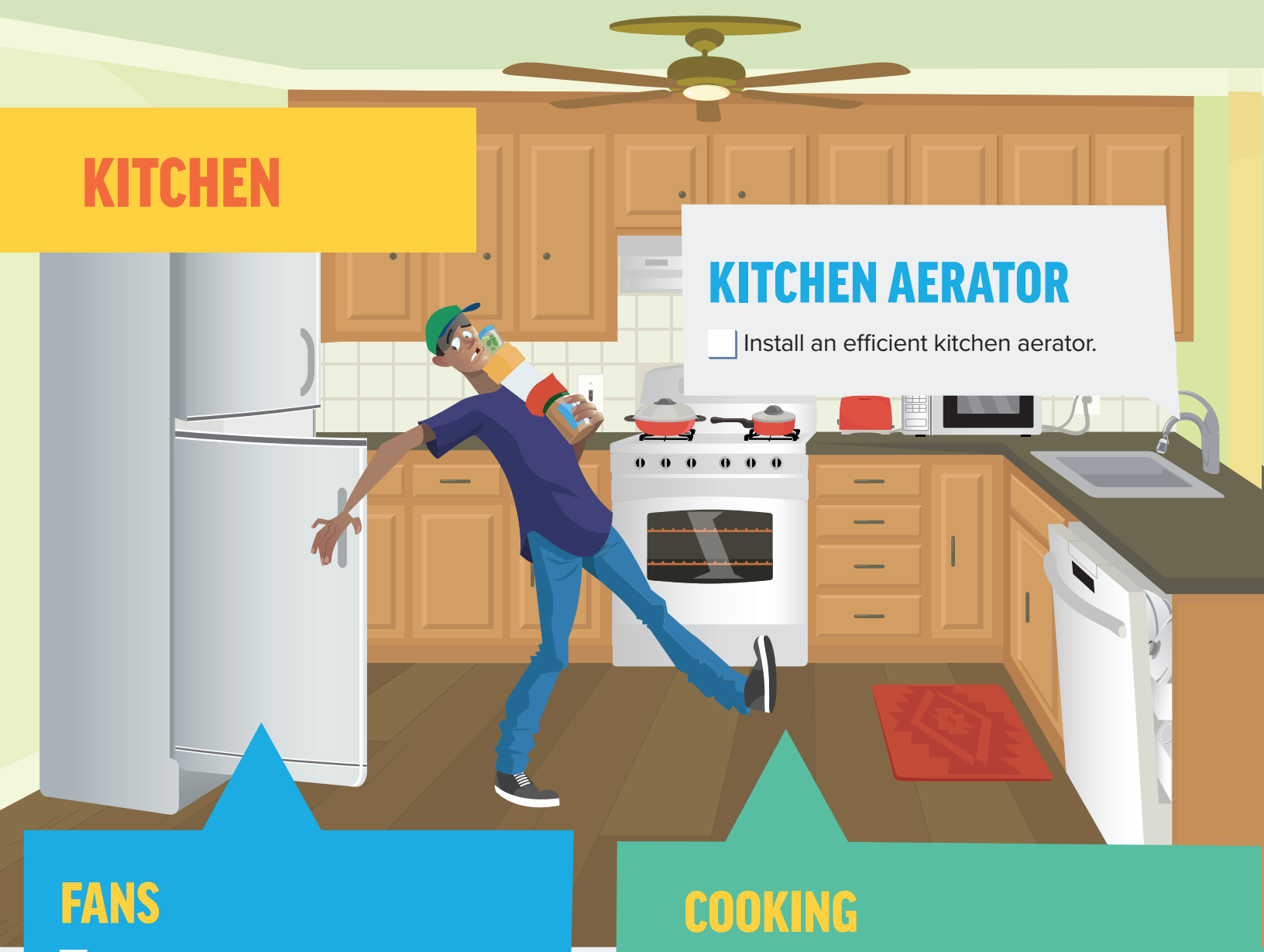
You can earn a color-changing pencil and help your teacher earn a $50 mini-grant.



Let's get started. Take a tour of this energy-efficient house. Check the boxes next to the tips you have used to see how efficiently you are living. Enjoy the journey!

*Not every energy-efficient item in this booklet will be in your *Take Action Kit*.

KITCHEN



KITCHEN AERATOR

- [ ] Install an efficient kitchen aerator.

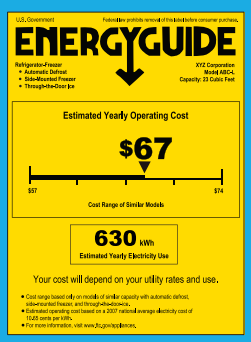
FANS

- [ ] Fans can save a lot of energy. If you use air-conditioning, a ceiling fan will allow you to raise the thermostat and still feel cool.

REFRIGERATOR

- [ ] Recycle the old inefficient model rather than using it as a spare.
- [ ] Decide what you want before you open the door.

Yellow EnergyGuide labels show the efficiency of an appliance and the cost to run it.



COOKING

- [ ] For cooking or reheating small portions, use the microwave or toaster oven.
- [ ] Always match the pot to the size of the burner and use lids to shorten the cooking time.
- [ ] Keep the oven door closed as much as possible when baking.

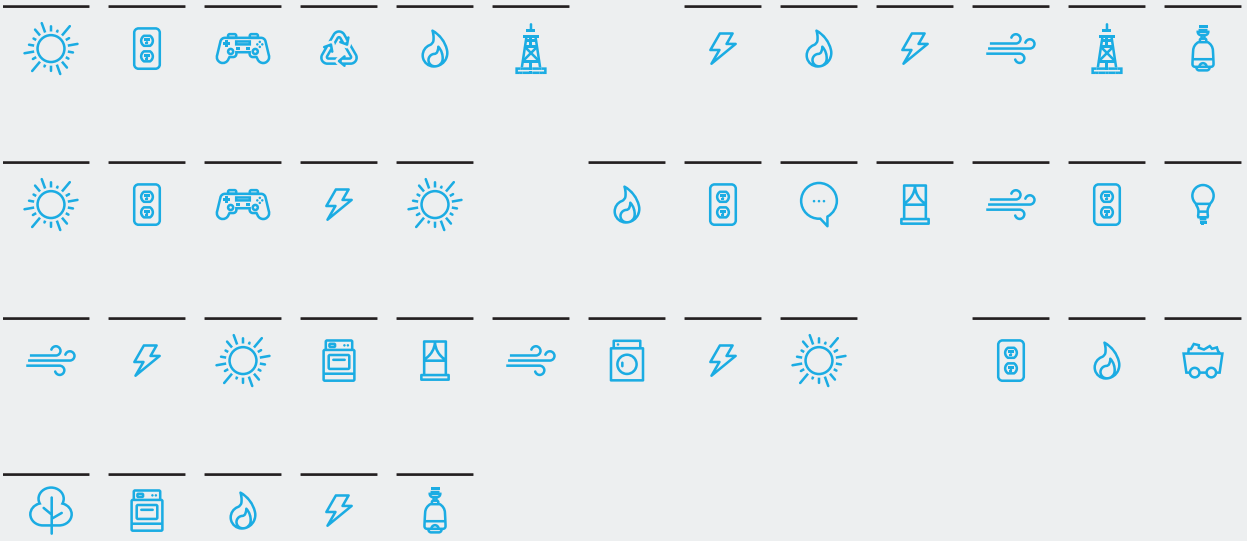


DISHWASHER

- [ ] Only run the dishwasher if it is full.
- [ ] Turn off the heat dry switch and let the dishes air-dry.
- [ ] Choose an ENERGY STAR® model when you are buying a new dishwasher.

Activity 2

Break the energy efficiency code!



KEY



FAMILY ROOM

- [ ] Install LEDs. They use up to 80% less energy and last up to 25 times longer than incandescent lighting.

What do turning off the lights and a baseball team have in common?

Answer: They both need a "switch hitter."

FIREPLACE

- [ ] Always keep the fireplace flue closed when not in use. Glass fireplace doors also keep the cold air out.

THERMOSTAT

- [ ] Use a programmable thermostat to regulate the temperature of your home according to your schedule. This low cost item is easy to install and will save both energy and money.
- [ ] Set your thermostat at 68 F in the winter (lower when asleep or away from home) and 78 F in the summer (when you are at home and need cooling).



ADVANCED POWER STRIPS

- [ ] There are several types of advanced power strips that you can use to save electricity. They all have the same job of shutting off power supply to items that are not in use. The television is plugged into the control outlet of this power strip. Television accessories turn off when the television is off.



BEDROOM

- [ ] Turn off the lights when you leave the room.
- [ ] Unplug chargers when they are done with their job. They continue to draw electricity, even when a battery is fully charged.
- [ ] Use an energy-efficient night light.



WINDOWS

- [ ] Keep windows closed when the furnace or air conditioner is on.
- [ ] Close drapes and blinds when you want to keep out sunlight and heat.

SCAVENGER HUNT

Activity 3

Why did the silly gardener plant a light bulb?

Answer: He wanted to grow a power plant.

Let's go on an energy scavenger hunt! Search for each item in your home.

	I FOUND IT HERE.
LED	
Ceiling Fan	
Caulk, Foam Spray or Weather-stripping	
Advanced Power Strip	
Dishes or Clothes Air-drying	

BATHROOM

- [ ] Turn off the water when brushing your teeth.
- [ ] Always repair leaky faucets.
- [ ] Save water with WaterSense® toilets.

  For more information visit *epa.gov/watersense*.



SHOWER HEAD

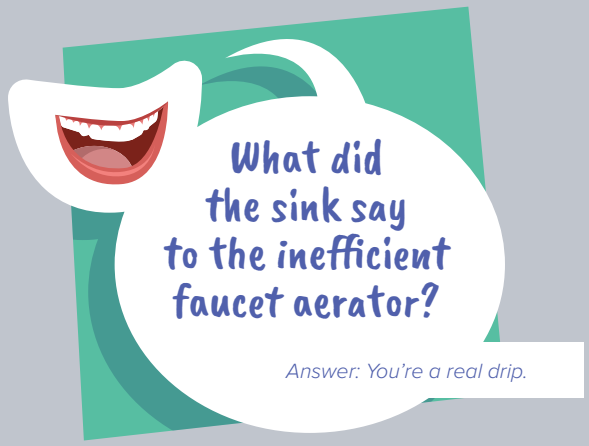
- [ ] Install an energy- and water-efficient shower head.

SHOWER TIMER

- [ ] Use a shower timer to remind your family to take the 5 minute shower challenge.

BATHROOM AERATOR

- [ ] Install energy- and water-efficient bathroom aerators. They cut your water use by at least 30%.



LAUNDRY ROOM

WASHER AND DRYER

- [ ] Wash with cold water.
- [ ] Always wash a full load.
- [ ] Air-dry laundry when possible.

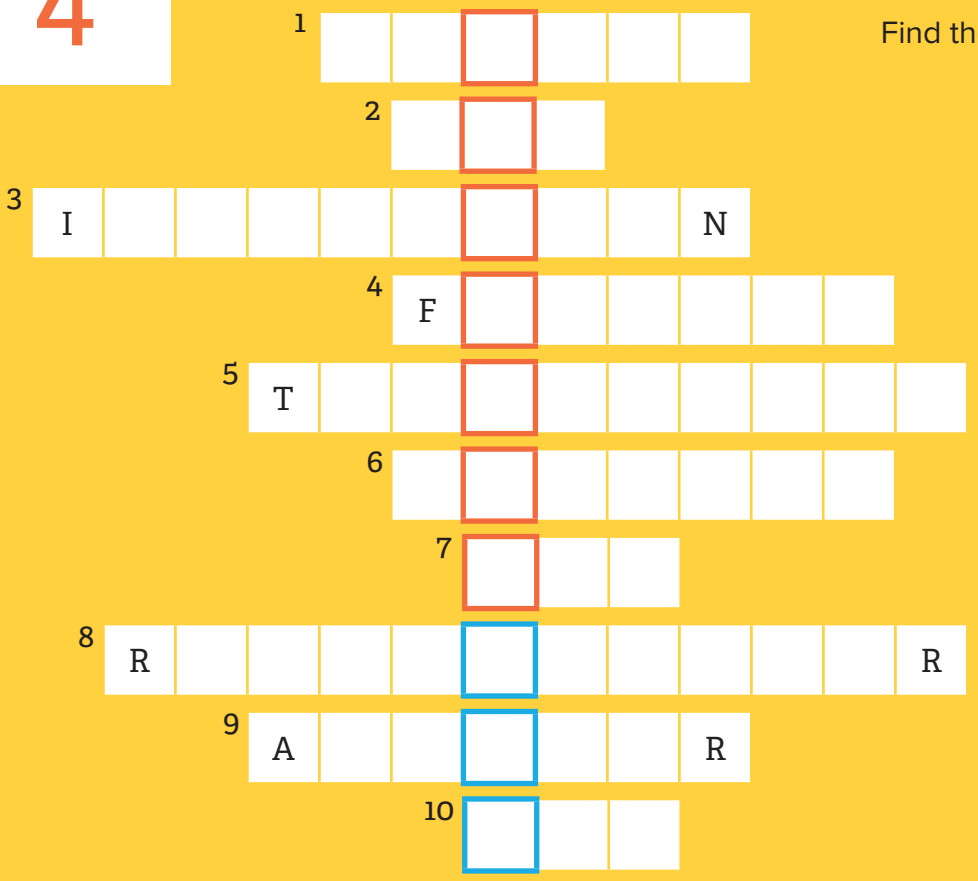
What renewable energy source do students use?

Answer: Brain power

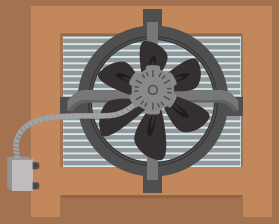
Activity
4

Find the mystery words by filling in the puzzle.





ATTIC



Attic fans are one way to cool a hot attic or an entire house.

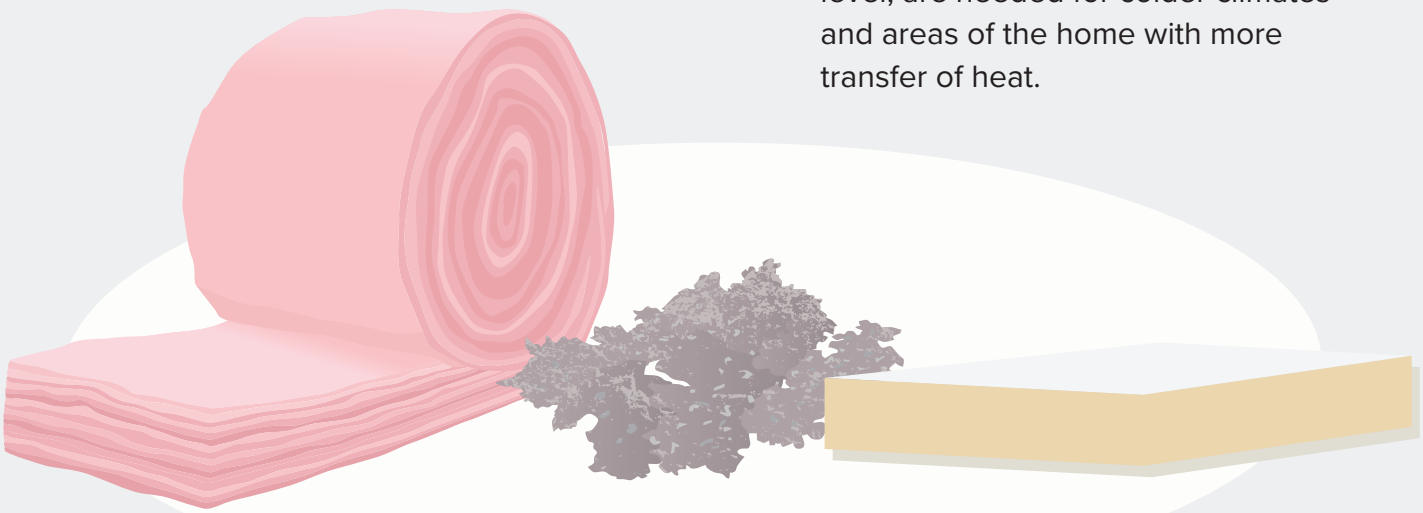


What did the house say to its insulation?

Answer: When it comes to energy efficiency, you're on a roll!

INSULATION

Your house will be more comfortable year-round with insulation in its attic, exterior walls and basement. Materials with a higher R-value, or insulation level, are needed for colder climates and areas of the home with more transfer of heat.



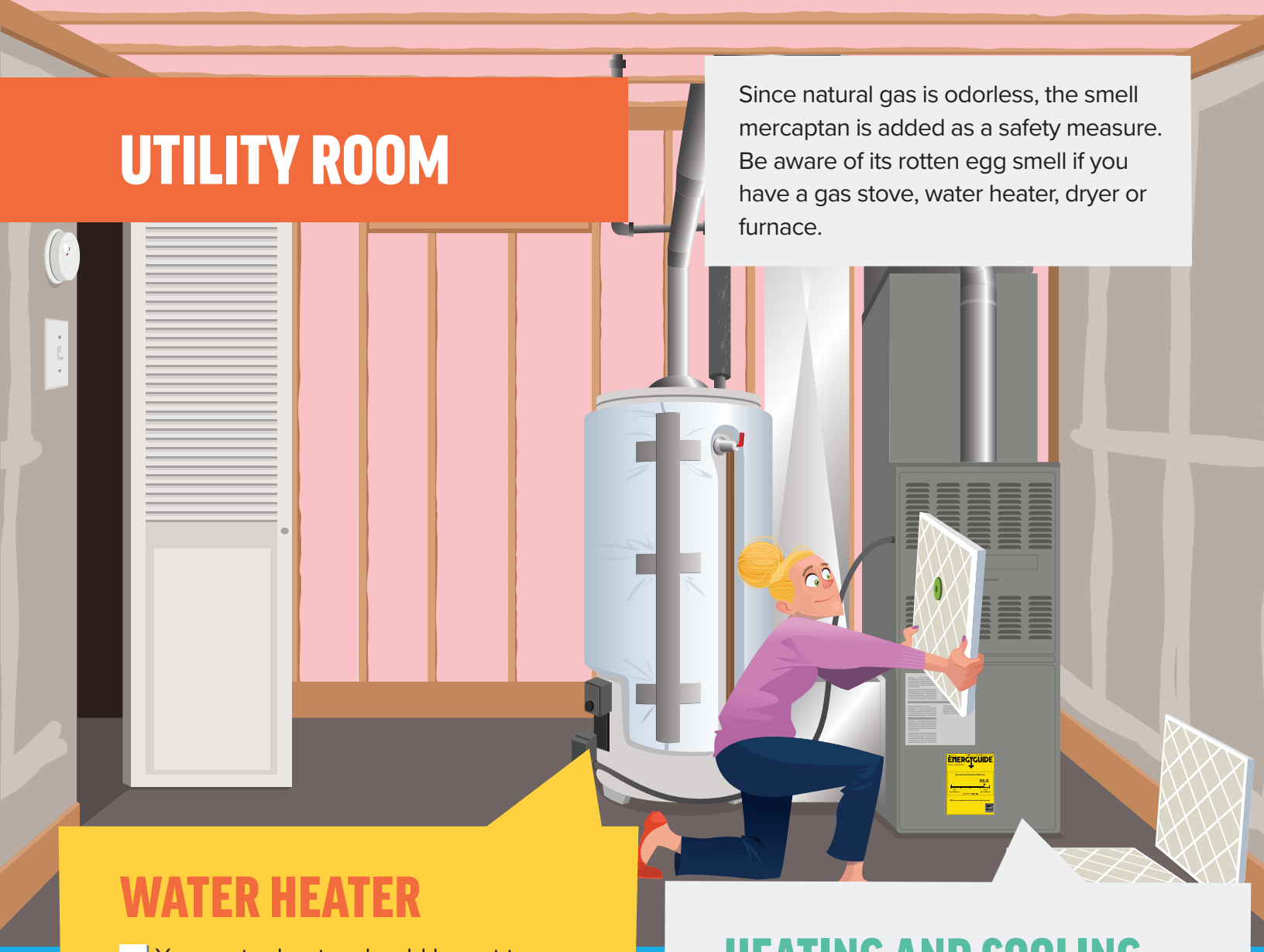
Fiberglass Roll

Loose Fill

Rigid Foam

UTILITY ROOM

Since natural gas is odorless, the smell mercaptan is added as a safety measure. Be aware of its rotten egg smell if you have a gas stove, water heater, dryer or furnace.

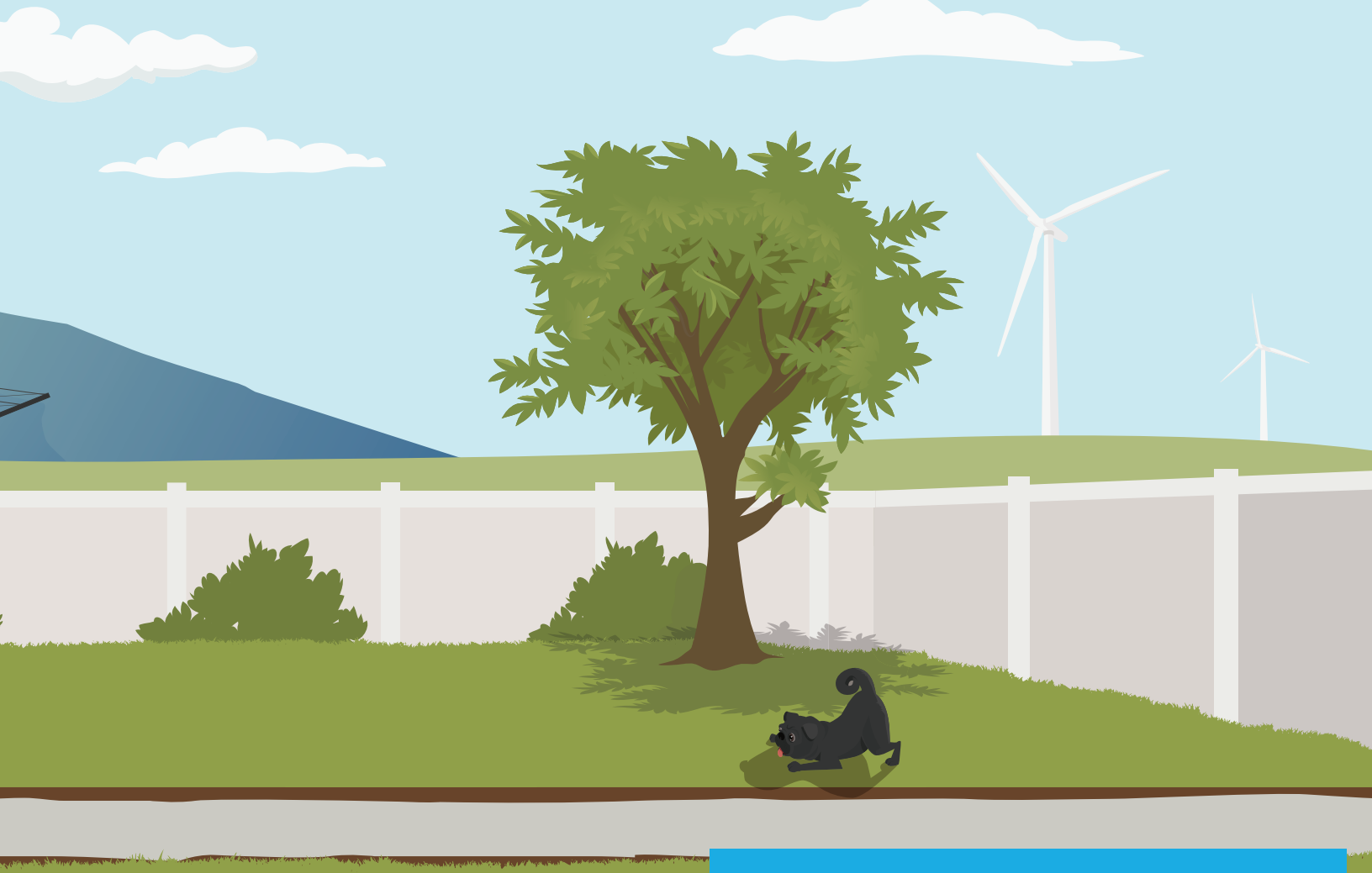


WATER HEATER

- [ ] Your water heater should be set to 120 F. Try a fun science experiment. Use a thermometer to measure the temperature of hot water coming out of a faucet. Is the water heater set correctly? If not, have an adult adjust it.
- [ ] Add pipe insulation to your water heater's hot water pipe.

HEATING AND COOLING

- [ ] Install a furnace filter whistle. It will remind you when the filter needs to be changed. A clean furnace filter saves energy by helping your furnace to operate more efficiently.
- [ ] Clean and service your heating and air-conditioning units once a year.
- [ ] If your equipment is older than 10 years, consider replacing it with an ENERGY STAR® qualified model.
- [ ] Living in an apartment? Ask your landlord if the furnace or boiler is regularly serviced.



OUTDOORS

- ☐ Seal small holes around windows and doors with caulk, foam spray or weather-stripping.
- ☐ Install awnings over windows with a southern exposure.

COUNT THE CHECKS TO FIND YOUR SCORE.

30 or more —— **Congratulations!** You are an energy superstar.

20 to 29 —— **Great!** There are a few more steps you can take to save energy.

Less than 20 —— **Keep trying!**

Do not forget to complete the HEW at *thinkenergy.org/conserveandsave*.

Thank you for saving energy, money and natural resources. Future generations thank you too!

Home Energy Worksheet

Teacher ID: ☐

Teacher Name: ☐

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cultivating energy literacy

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