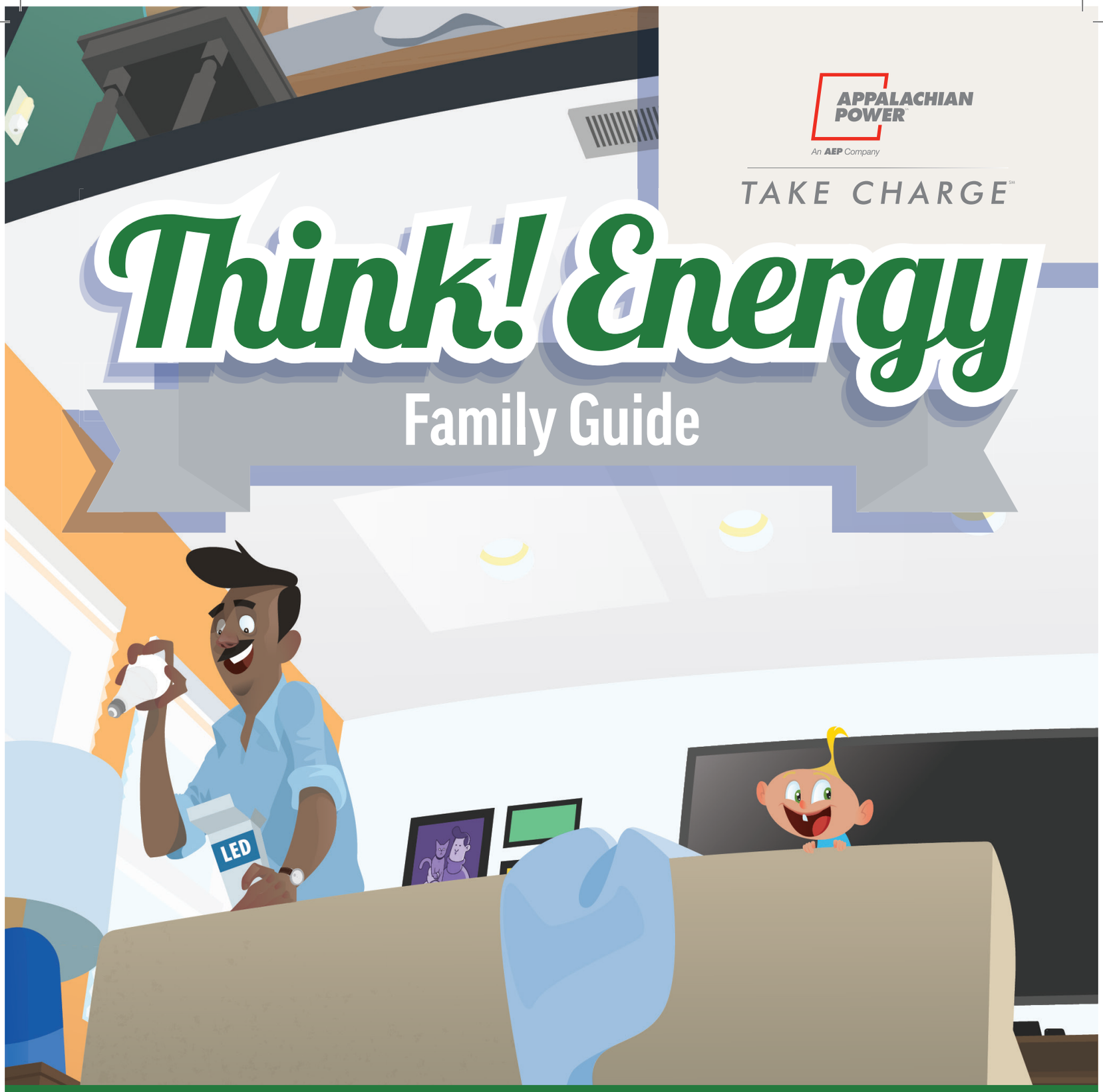
APPALACHIAN POWER
An AEP Company

TAKE CHARGE℠

Think! Energy

Family Guide



Appalachian Power School Energy Efficiency Kits Program

Welcome to the Appalachian Power School Energy Efficiency Kits Program.

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 TakeCharge 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!

Earn your color-changing pencil by completing the *Home Energy Worksheet* (HEW) online at thinkenergy.org/TakeChargeVA or returning it to your teacher.

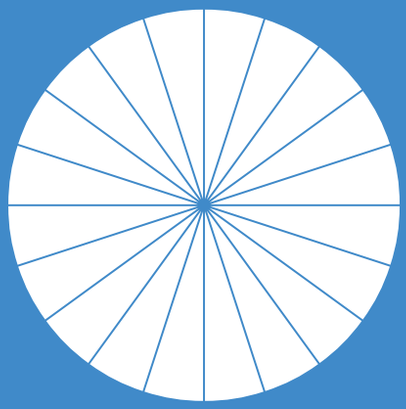


Activity
1

Your Home's Electricity Use

Most families in the U.S. use about **38%** of their energy for lighting and to power appliances and electronics, **50%** to heat and cool their homes and **12%** of their energy to heat water.

Choose three colors and fill in the pie chart with the percentages above. You may need to round each number. Each segment on the chart shows five percent.



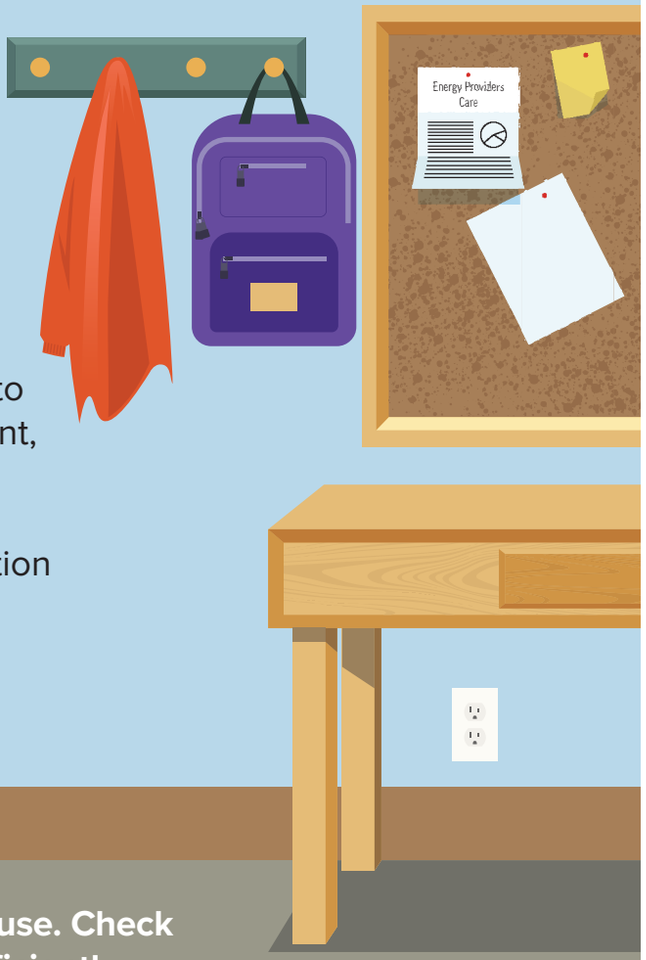
- Lighting, Appliances and Electronics
- Heating and Cooling
- Heating Water

(Source: *https://www.eia.gov/energyexplained/use-of-energy/homes.php Accessed January 2025)*

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 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.

Did you know that most of our energy comes from nonrenewable resources such as fossil fuels (oil, coal, natural gas) and uranium? A small portion of our energy 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 TakeCharge kit*. The installation instructions in your kit or installation videos at ***thinkenergy.org/TakeChargeVA*** can help!



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 TakeCharge kit.

KITCHEN

KITCHEN AERATOR

- [ ] Install an efficient kitchen aerator.
- [ ] Use a flow test bag to measure how fast water comes out of your old and new faucet. How much water are you saving with your new aerator?



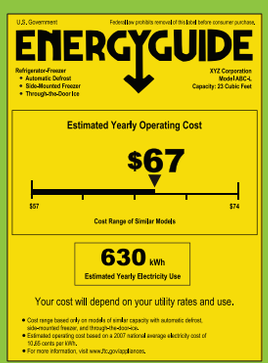
FANS

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

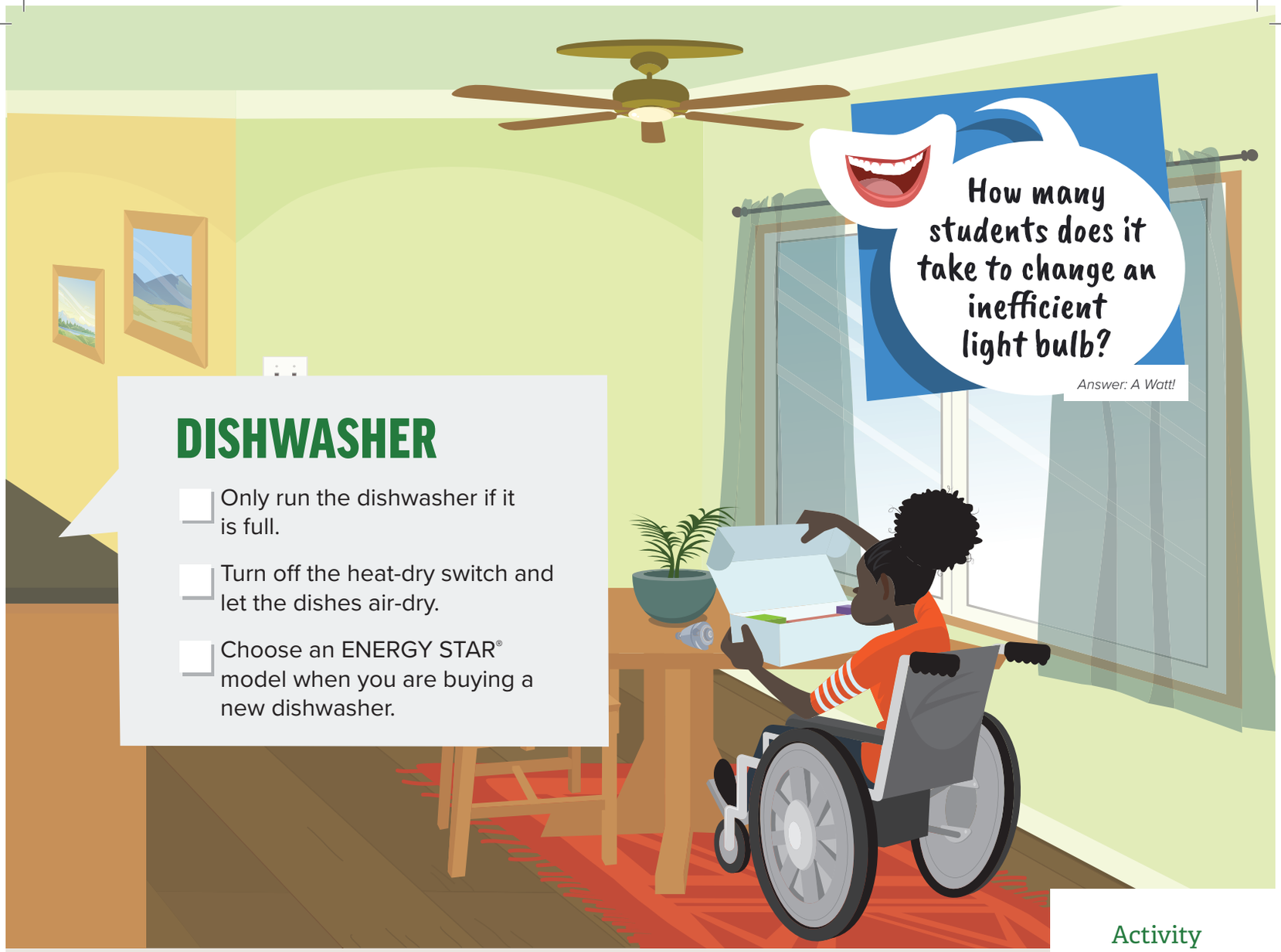
- [ ] Recycle the old inefficient model rather than using it as a spare.
- [ ] Decide what you want before you open the door.

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 90% 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 cold air out.

THERMOSTAT

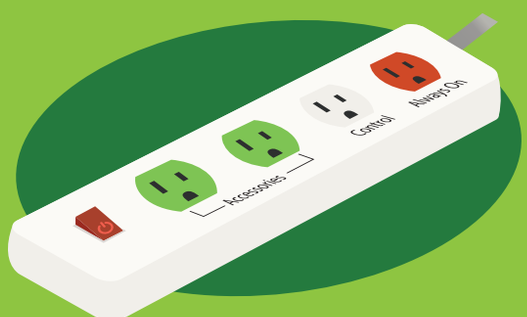
- [ ] Install a programmable thermostat to regulate the temperature of your home according to your schedule. This low-cost item is easy to install and will save both energy and money.
- [ ] Set your thermostat at 68 F in the winter and as high as is comfortable in the summer.



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. When the television is plugged into the control outlet of this power strip, television accessories turn off when the television is off.

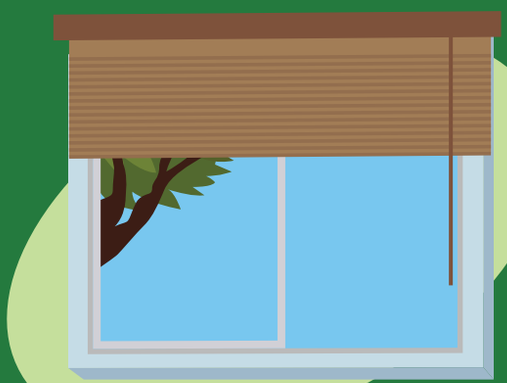
Not intended for all electrical appliances. Follow all product instructions before using.

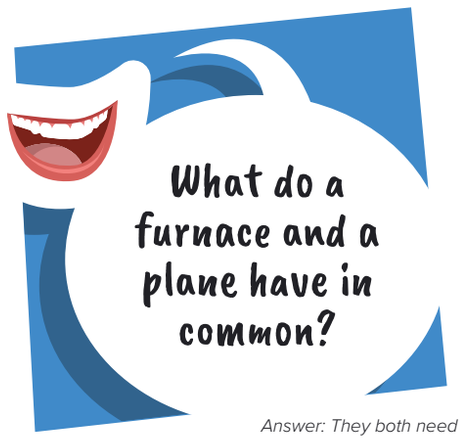


- [ ] Seal small holes around windows and doors with caulk, foam spray or weatherstripping.

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.





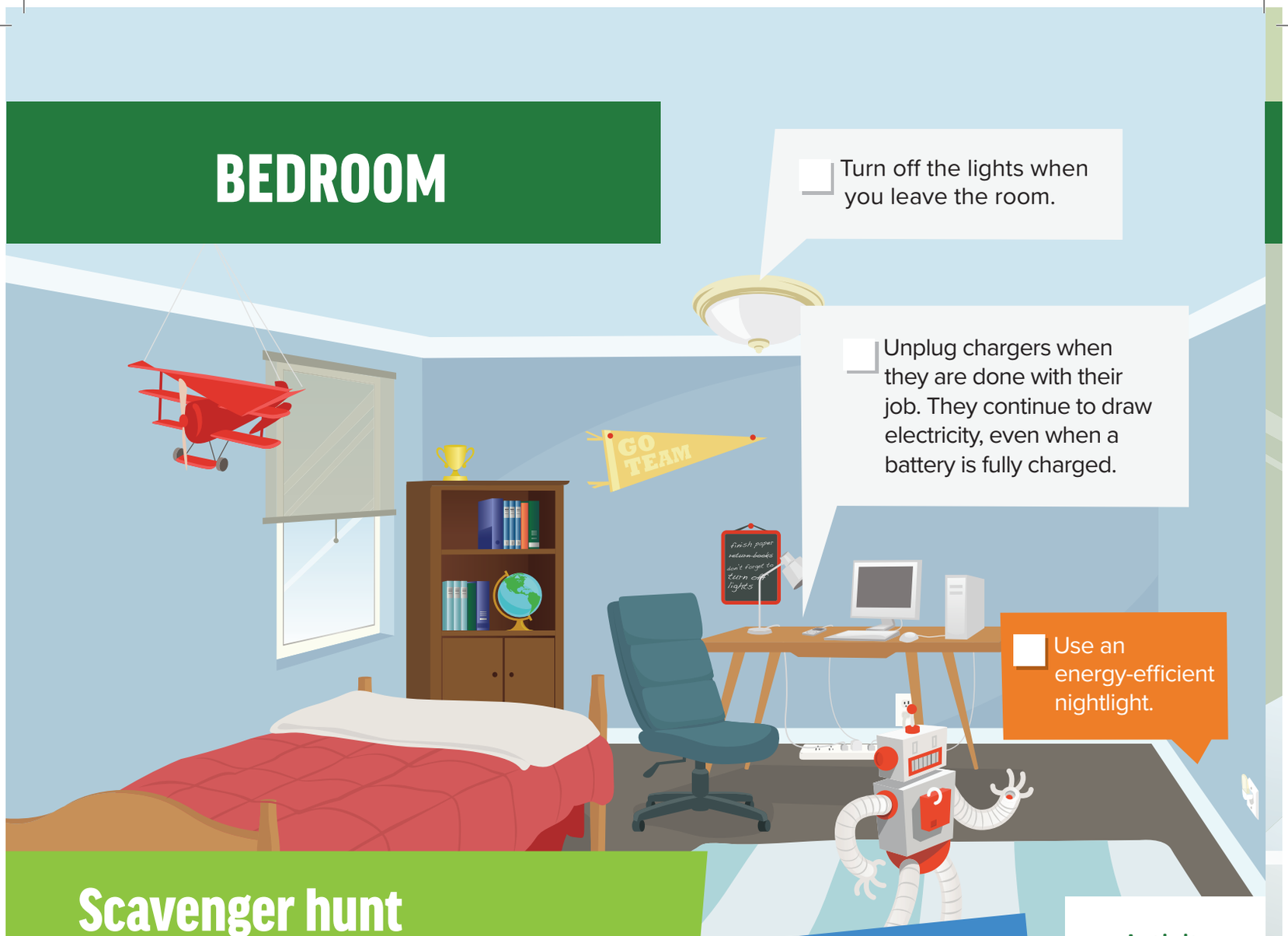
Answer: They both need a pilot.

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 nightlight.



Scavenger hunt

Take a walk around your home and make a tally mark in one of the boxes below each time you see a bulb.

Pick inefficient bulbs that are used often at your home. Then change those bulbs for LEDs. Do not wait until inefficient bulbs burn out. Start saving now!

Activity 3

Why did the silly gardener plant a light bulb?

Answer: He wanted to grow a power plant.

LED	
CFL	
Incandescent	

_____ Total CFLs x $0.49 savings = _____

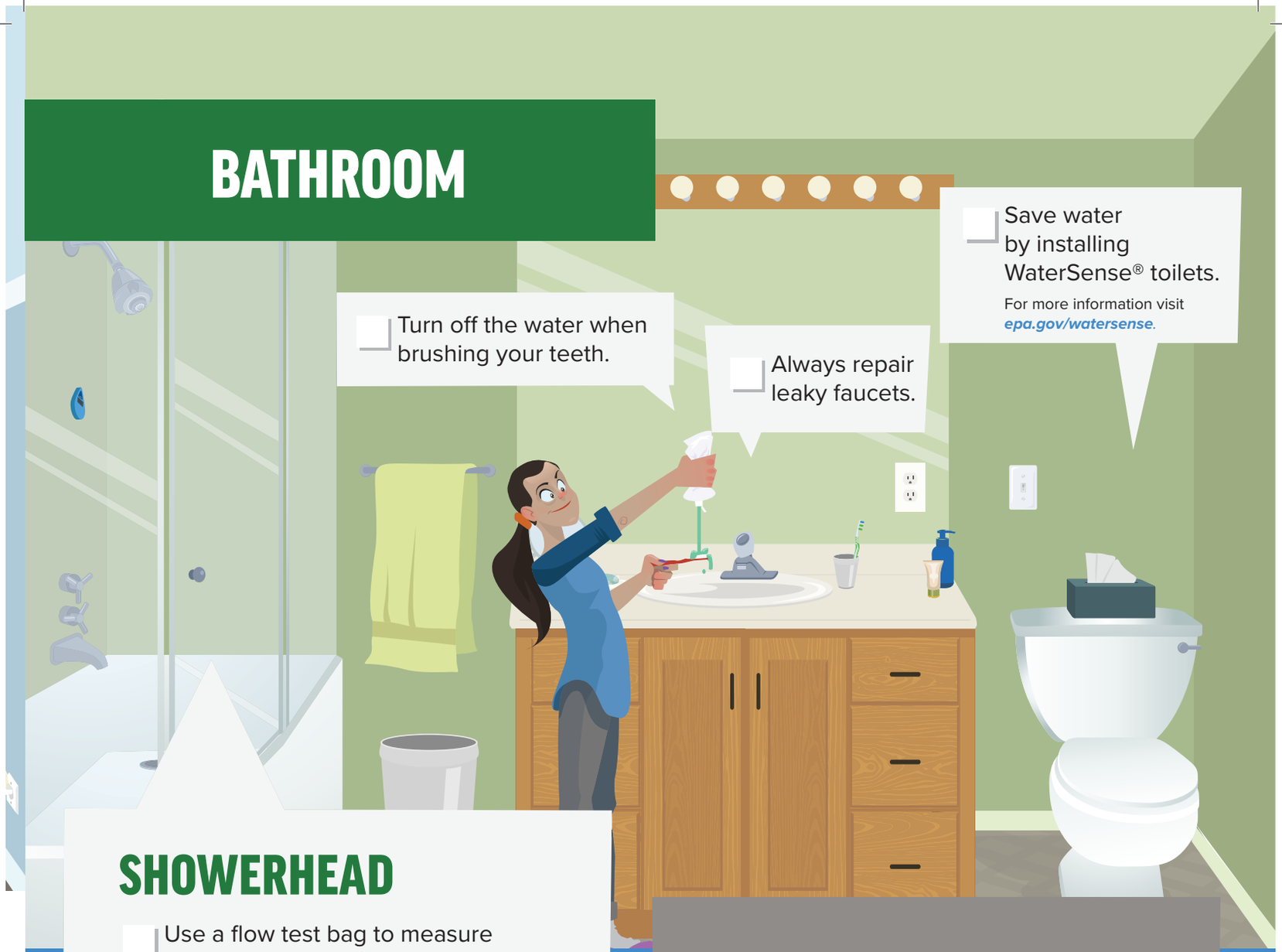
+

_____ Total Incandescents x $6.15 savings = _____

=

Add these two to find your annual savings using only LEDs. _____

BATHROOM



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

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

SHOWERHEAD

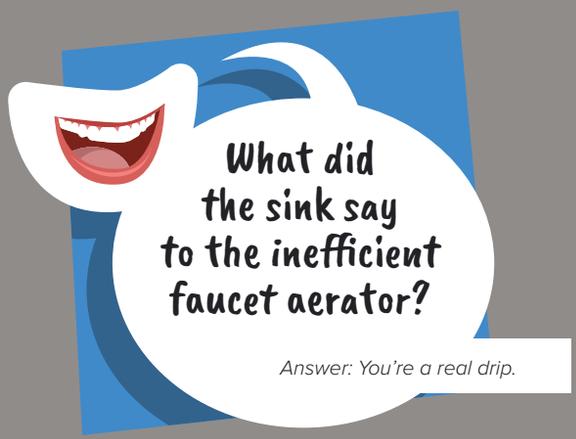
- [ ] Use a flow test bag to measure how fast water comes out of your existing shower head.
- [ ] Install your new, efficient shower head using the plumber's tape in your kit. For help, visit the program website to watch an installation video or see the installation instructions in your kit.
- [ ] Use a flow test bag again to see how much water you can save every minute the shower is on.

SHOWER TIMER

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

BATHROOM AERATOR

- [ ] Install efficient aerators designed for bathroom faucets to cut your water use by 30% or more.



LAUNDRY ROOM

WASHER AND DRYER

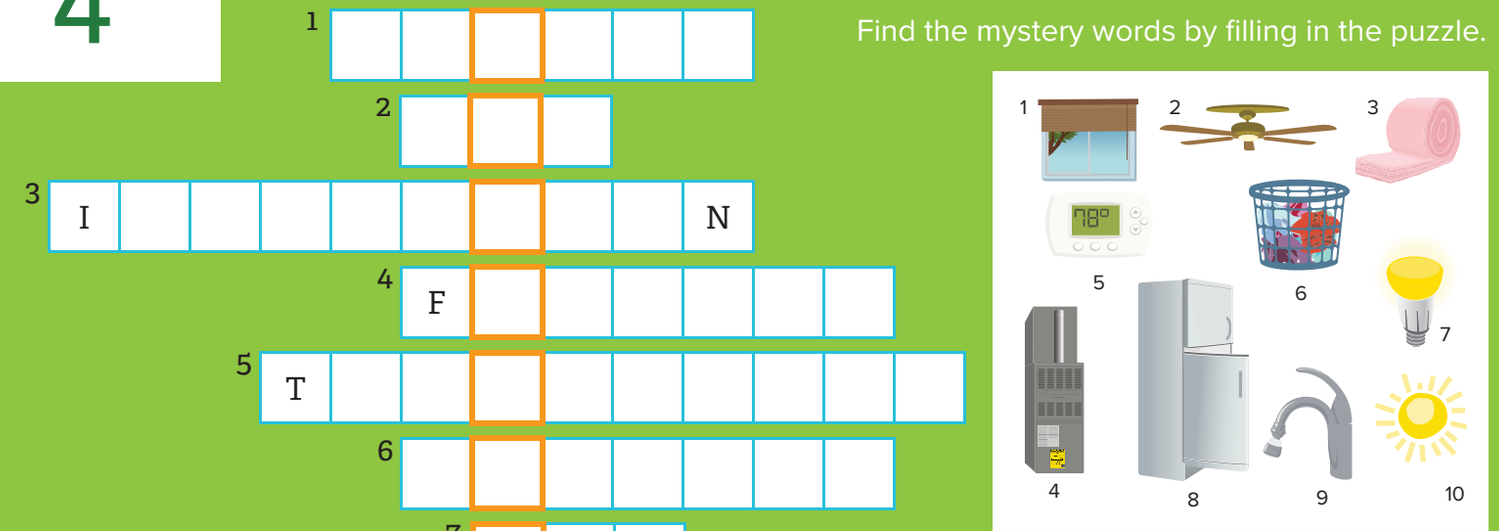
- [ ] Wash with cold water.
- [ ] Always wash a full load.
- [ ] Air-dry laundry when possible.

What renewable energy source do students use?

Answer: Brain power

Activity
4

Find the mystery words by filling in the puzzle.



UTILITY ROOM

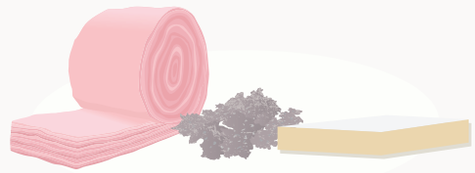
Since natural gas is odorless, a rotten egg smell called mercaptan is added as a safety measure. Be aware of its smell if you have a gas stove, water heater or furnace.

WATER HEATER

- [ ] Your water heater should be set to 120 F. Try another 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 wrap to your conventional water heater.

INSULATION

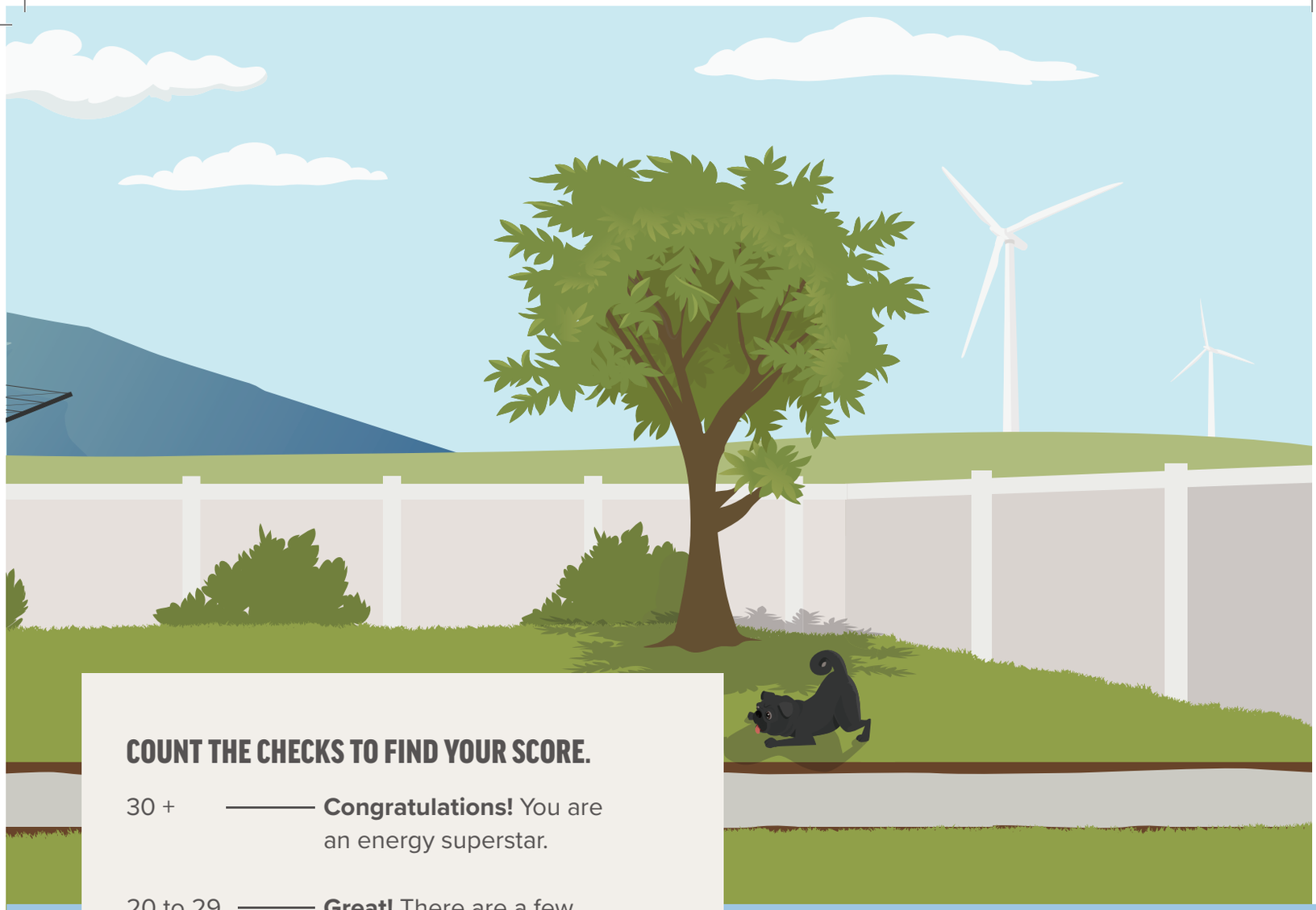
Your house will be more comfortable year-round when you use insulation in its attic, exterior walls and basement to stop the transfer of heat.



Fiberglass Roll Loose Fill Rigid Foam

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.
- [ ] Seal the space under an entry door with a door sweep.



COUNT THE CHECKS TO FIND YOUR SCORE.

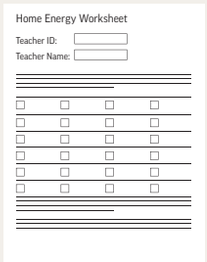
30 + ——— **Congratulations!** You are an energy superstar.

20 to 29 ——— **Great!** There are a few more steps you can take to save energy. For more help, visit **TakeChargeVA.com** and click on 'Ways to Save'.

Less than 20 —— **Keep trying!**

Earn your color-changing pencil by completing the HEW online or returning it to your teacher.

If you cannot use an item from the kit, please give it to a neighbor, friend or relative who lives nearby. The HEW should reflect use of all items from the kit, even if used in someone else's home.


Home Energy Worksheet

Teacher ID:

Teacher Name:

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