

SAVING ENERGY IN MY HOME

COLORING & ACTIVITY BOOK



Colorado
State
University

Extension

Saving Energy in My Home

Your family can have fun saving energy in your home. It's easy to do a few simple steps that will save energy and save money.

SAVE ENERGY ~ USE LESS ~ SAVE MORE

There are many options to reduce home energy use with a few simple changes and good energy habits. It's about being aware of our energy uses. Simple actions can reduce energy consumption.

Many people are using more and more energy. Using energy causes our climate to change and may result in higher energy bills. We all need to be more energy efficient and use less, reuse, and recycle in our homes. Working together to save energy will help us have a healthier planet for future generations of families.

Energy Safety in Your Home

1. Don't yank cords from a wall. This may damage the outlet, the appliance, or the plug.
2. Ask an adult to put safety caps on unused electrical outlets. This can help save energy by stopping drafts.
3. Keep electrical appliances and equipment away from water. Water and electricity don't mix.



Learn energy saving tips and good habits

Help your family save money by reducing home energy bills

Know saving energy helps protect natural resources for future generations



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Welcome to Our Home!

Help save energy with Sam, Stacy, Maria, and Kenny.

We will help you look for ways to save energy in your home and give you tips on using energy wisely.

Helping to save energy is fun!

Fill in the blanks to complete ways to help save energy

recycling bulbs waste thermostat unplug



Use energy-saving appliances and light b_____.
Compact fluorescent lamps (CFLs) use less electricity.
Replace traditional incandescent bulbs with CFLs.



Remember to turn off & u_____.
Turn off lights when you leave a room.
Turn off TV, video games, and computer when you aren't using them.
Unplug appliances when they are not being used.
Unplug chargers (cell phone, toothbrush, battery) when they have finished charging.



Control heat & cooling with your home's t_____.
Keep outside doors and windows closed to save heat in the winter & keep cooler air in during hot summer days.
Wear layers of clothes to keep warmer.
Use natural light and heat. Open blinds & curtains to let in sunlight to warm your home when needed. Close them to prevent unwanted heat.



Save energy by reducing w_____ & r_____ in your home.
Write on both sides of your paper.
Use comic papers to wrap gifts.
Buy toys at yard sales.
Give your old clothes and toys to someone who needs them.
Don't throw away anything you can recycle.

Hi! I'm Sam!

Hello ~ I'm Maria.



Print correct letters where they are missing.

HINT The missing letters are vowels: a e i o u

_n_rgy

s_v_ng

_npl_g

_ppl__nc_s

r_cycl_

w_st_

B__

W__S__

&

__S__

L__SS

=

S__V__

What is Energy?

Energy = the ability to do work.

The energy we use in our homes usually comes from oil, coal, or natural gas that has been made into electricity. Energy is used by everything that plugs into an electrical outlet and to heat and cool our homes. Look around your home. Can you see where energy is being used?

How many electronics and appliances use energy in your home? ____

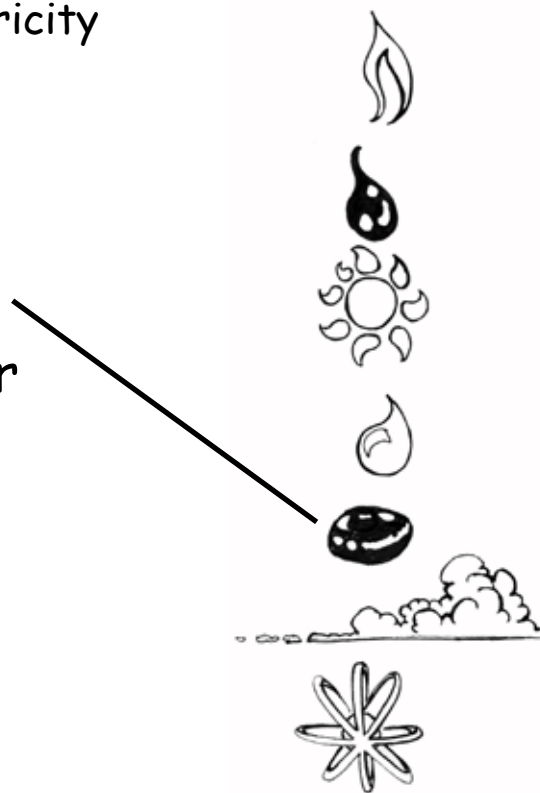
What are sources of energy?

These energy sources make electricity used to light, heat, and cool homes around the world.

Match energy sources to symbols:



- coal
- nuclear
- gas
- wind
- sun
- water
- oil



Why do we need to save energy?

Most of the energy we use comes from fossil fuels: oil, coal, and natural gas. Fossil fuels are made from plants and animals that lived millions of years ago. They take millions of years to form and cannot be replaced.

Energy from oil and coal is unlocked by burning and can only be used once. These are nonrenewable sources of energy. Someday people may not be able to find enough oil, coal, and natural gas to create energy. We need to use less energy to make sure these natural resources do not disappear in the future.



FIND AND CIRCLE
THE FOLLOWING:

- BIOMASS
- CFL
- COAL
- COOL
- ELECTRICITY
- ENERGY
- FOSSIL
- FUELS
- GAS
- GEOTHERMAL
- HEAT
- LIGHT
- NATURAL
- NUCLEAR
- OIL
- PETROLEUM
- SAVE
- SOLAR
- WATER
- WATT
- WIND

Energy Word Search Puzzle

Words can be horizontal, diagonal, & backwards.

J	P	L	J	H	S	L	E	U	F	S	E	Q	A	C
N	F	Y	A	U	L	N	C	B	A	S	N	M	U	D
T	U	T	P	M	I	L	B	G	M	X	E	U	A	M
W	H	C	T	Z	R	D	N	I	W	R	R	E	L	K
Y	O	G	L	A	T	E	X	L	H	X	G	L	F	K
E	S	F	I	E	W	B	H	S	R	P	Y	O	C	J
T	F	P	A	L	A	C	L	T	H	D	N	R	Y	L
P	O	I	L	M	I	R	C	R	O	S	D	T	S	E
B	U	B	K	Q	K	I	E	Q	I	E	L	E	W	S
Y	T	I	C	I	R	T	C	E	L	E	G	P	S	F
C	D	N	Y	K	A	N	W	X	W	K	S	A	O	H
O	O	T	T	W	L	C	O	A	L	A	M	S	Y	E
T	E	O	P	Y	O	B	K	V	V	O	S	X	O	A
G	R	Q	L	W	S	W	K	E	I	I	U	O	O	T
N	A	T	U	R	A	L	A	B	L	A	W	V	V	X

Save Energy - Lighting

Turn off lights when you leave a room.

Use energy-efficient light bulbs.

Use natural light where possible.

Can you play and read by daylight from a window?

Major types of light bulbs:

Incandescent bulbs make light by heating a metal filament wire to a high temperature until it glows. Be cautious as these bulbs get too hot to touch. This heat is energy.



Compact Fluorescent Lamps are a type of fluorescent bulb. Usually called CFLs they cost more to buy but use less electricity and last longer by staying cooler. They are not hot to touch. They use up to 80% less electricity than normal bulbs, which make them cheaper to use over time. CFLs must be disposed of properly.



Count the number of lights in your home = _____

How many of the lights have CFL bulbs? _____

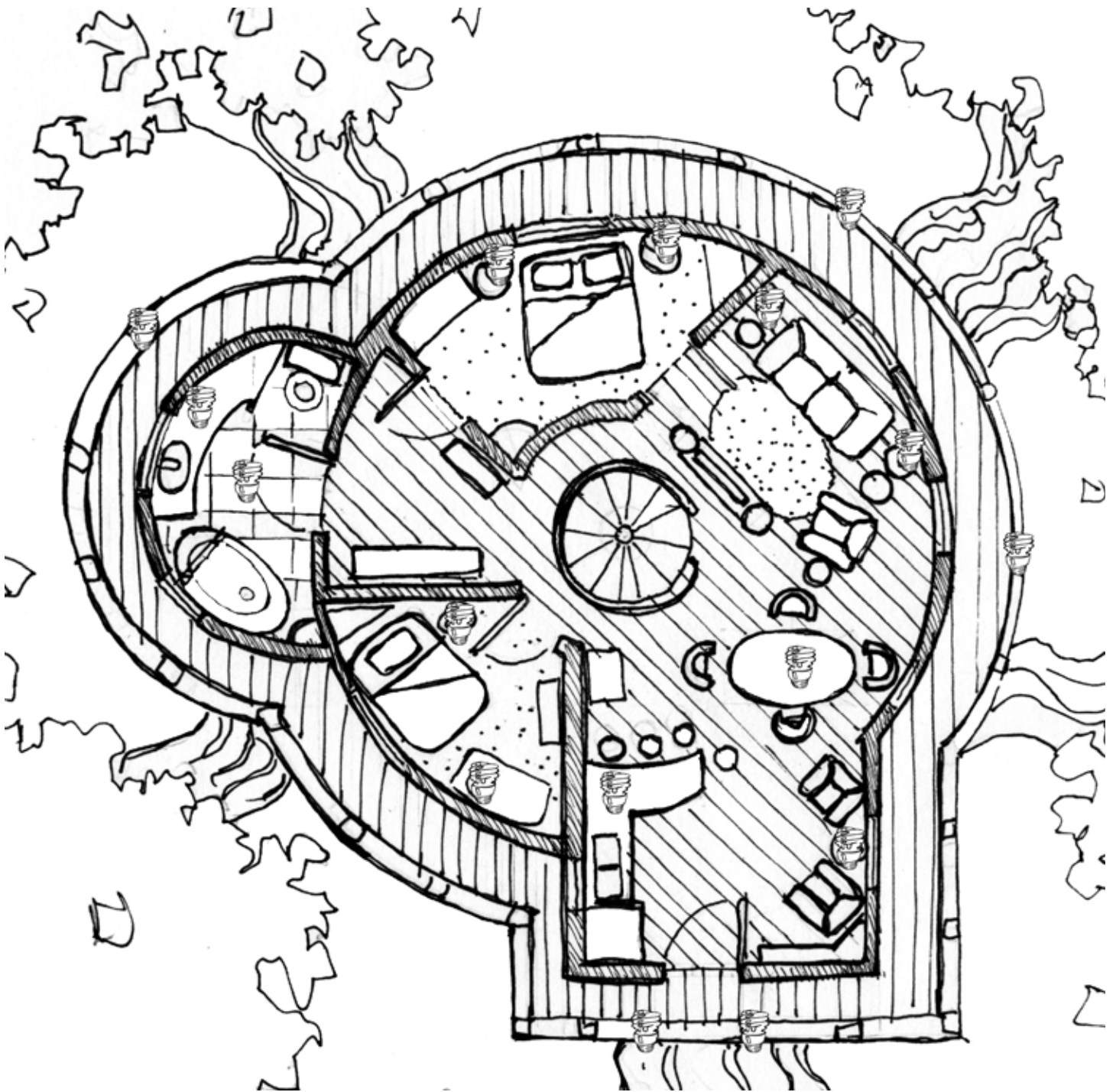
Does your home have other fluorescent lights? _____

HINT Check in the kitchen or garage for lights with long tubes.

Ask adults to buy energy-efficient CFLs when replacing light bulbs.

Look for CFLs with an Energy Star label. They use about one fifth the energy and last ten times longer than a comparable incandescent bulb that puts out the same amount of light.





Place an "X" everywhere you see a CFL bulb →
Don't forget to look on the deck too.

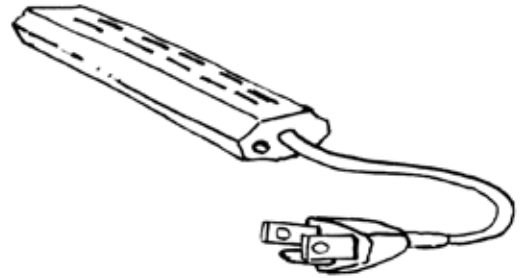
How many CFLs did you find? _____



Save Energy - Turn Off and Unplug!

Turn off the TV, computer, and other home electronics when you and your family are not using them.

Use a power strip to turn off standby power in electronics and appliances.



Unplug energy vampires!

Energy is used even if equipment is not turned on. Unplug these "energy vampires." Even if they are turned off they still use a small amount of electricity called phantom loads. Americans may waste nearly one month's electricity bill each year on vampire energy. Remember to unplug small electronics (radio, toaster, hairdryer) when you are not using them to avoid unnecessary energy use. First check with an adult in your home.

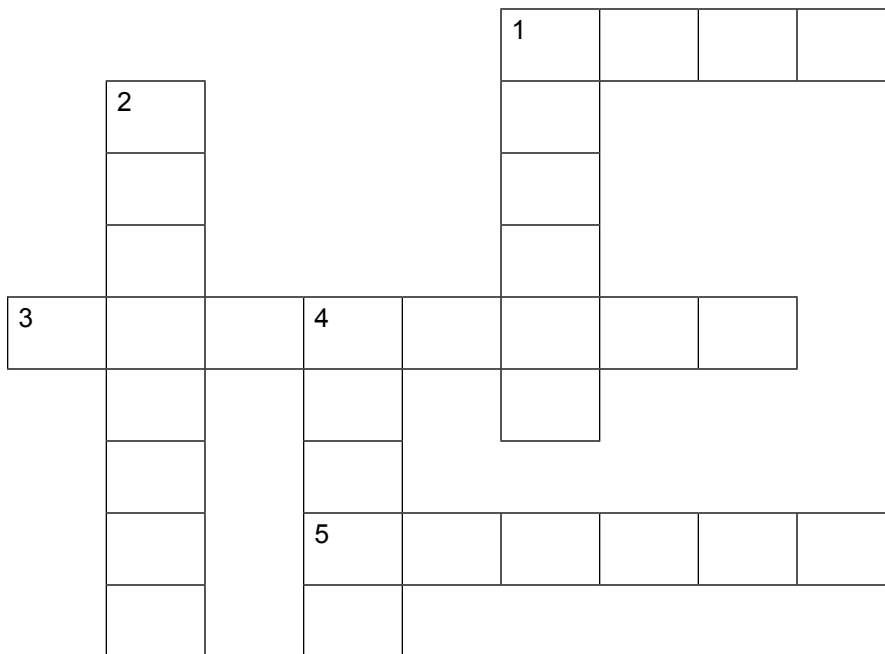
CROSSWORD PUZZLE

ACROSS

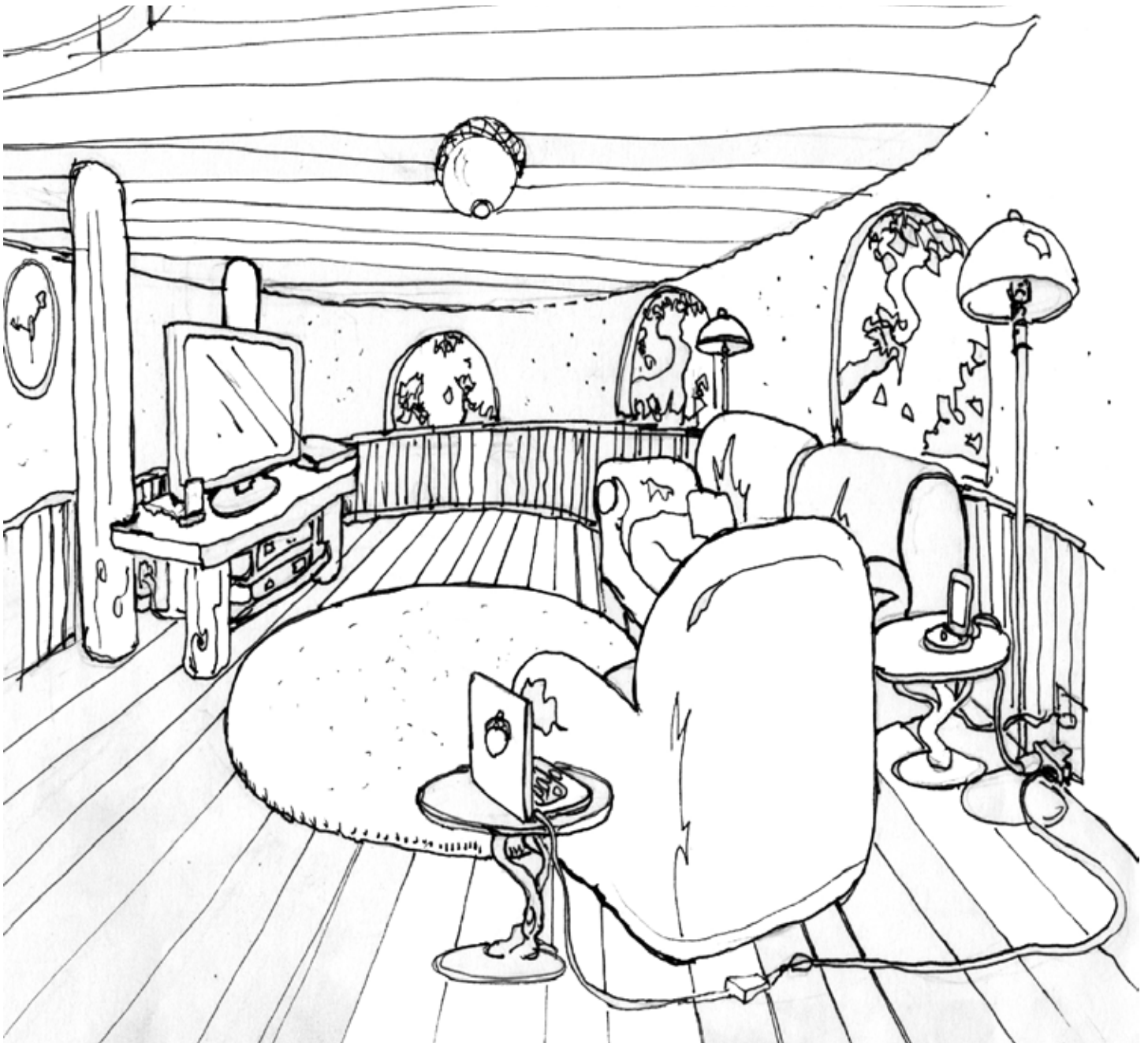
1. Look for Energy Star electronics & appliances that use _____ energy.
3. Turn off the _____ if you are not going to use it for more than 2 hours.
5. Computer screen savers are not _____ savers. Check the power options to save energy.

DOWN

1. Flip the switch! Turn off _____ when they are not being used.
2. A _____ is a unit that measures electrical energy.
4. Use a _____ strip to make it easier to turn off multiple electronics.



Word Hints:
computer
energy
kilowatt
less
lights
power



How many items use electricity in this room? _____

In your home how many items are plugged into outlets? _____

Circle the energy using equipment or appliances you use:

- ceiling light TV video game hairdryer cell phone microwave
electric toothbrush toaster computer radio hair curling iron
blender bedside lamp clock (plugged in an outlet)
VCR/DVD player CD player electric fan iron
equipment or cell phone charger

Save Energy - Save Heat

No and low cost ways to stay warm in the winter.

Fill in the blanks using these words:

clear outside air drafts damper chilly night blankets

Wear a sweatshirt and slippers if you get _____.

At night use _____ to stay warm in bed.

Close _____ doors and windows when the furnace is on.

Block gaps under doors to stop _____. [Use draft catchers.]

Keep doors inside your home open. This improves ____ circulation and efficiency of the heating system.

Shut the fireplace _____ and doors when not in use.

Let the sunshine in! On sunny days open curtains to allow sun rays in to warm the rooms. Close windows, blinds, and curtains at _____ to keep warm air in.

Keep areas _____ around registers, vents, and heaters.

ASK AN ADULT TO HELP YOU CHECK

Does your home have a programmable thermostat?

It is programmed with different times for heating and cooling needs during the day and night. Turn down the thermostat by 1-2° F to save more energy!

If everyone is gone to work or school during the day, set the home thermostat to be 6 to 10° lower.

Does your home have weather stripping around doors and windows to keep cold air out and warm air in?

Seal leaks and cracks around outside doors and windows with weather stripping and caulking. Reducing air leaks may save 10% from energy bills.

Is the furnace filter clean and replaced when needed?

A clean filter helps the furnace work more efficiently. The furnace is the hardest-working appliance in the home and may use 60% of all the energy used in your home.



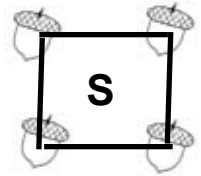
I'm Kenny.



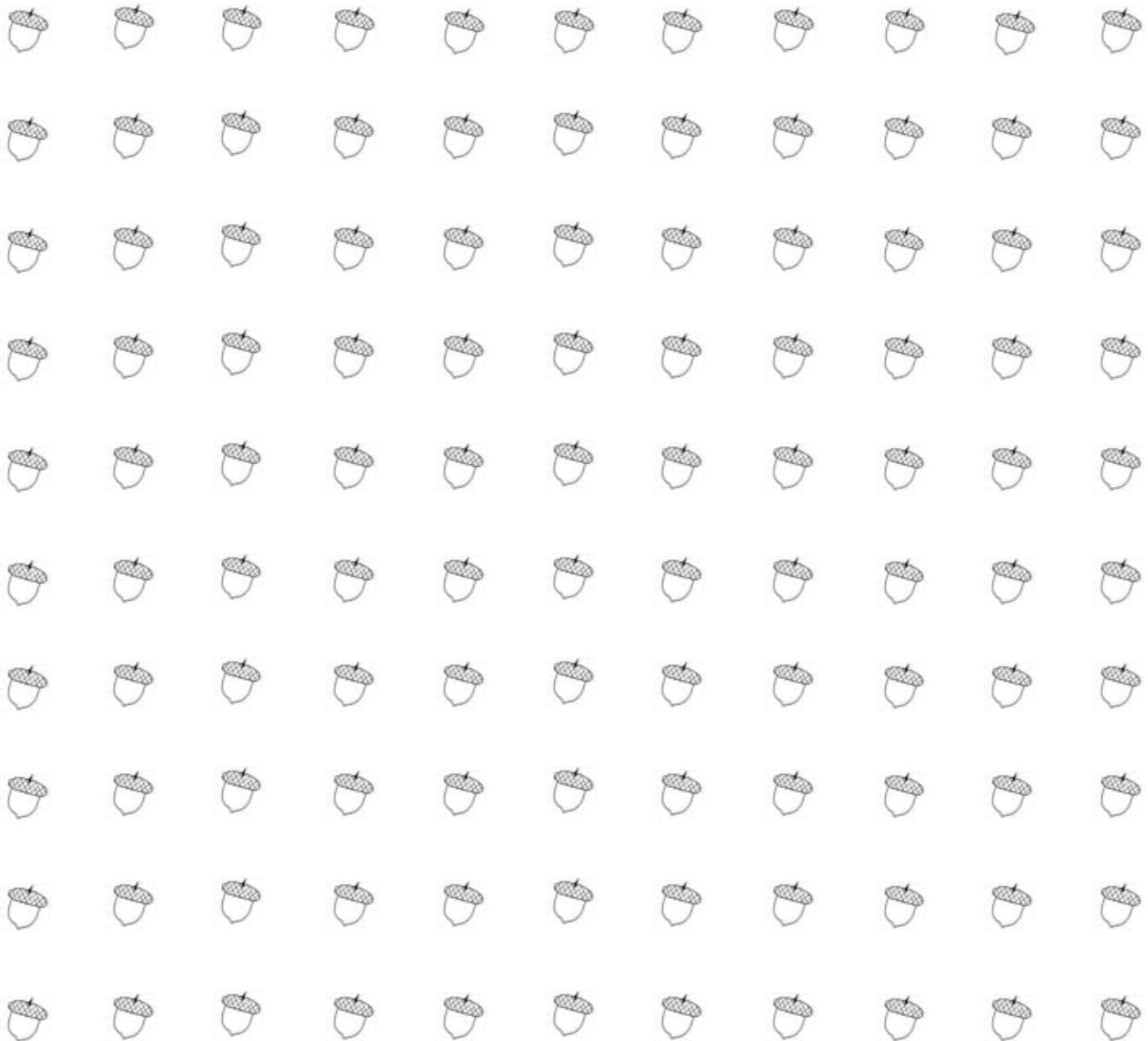
I'm Stacy.

SQUARES: Take turns.

Connect a line from one acorn to another. Whoever makes the line that completes a box puts their initial inside the box.



The person with the most boxes wins!



First Name: _____ = Initial _____ Total number of boxes = _____

First Name: _____ = Initial _____ Total number of boxes = _____

Save Energy - Keep Cool

No and low cost ways to help stay cool in the summer.

Fill in the blanks using these words:

cool barefoot appliances fan sunlight windows filters

Wear a short sleeve shirt and go _____.

Open windows and use a _____ instead of an air conditioner.

Remember that a fan cools people — it doesn't actually reduce room temperature — turn it off when you leave the room.

Keep outside doors and _____ closed when using an air conditioner.

When the air conditioner is being used, pull window shades and curtains closed to keep hot _____ out.

Don't _____ unoccupied rooms (but don't shut too many registers, or it will put pressure on the system).

Clean air _____ on air conditioners monthly.

Minimize indoor humidity by running hot-water _____ in the evening and by showering with the exhaust fan on.

CRACK the CODE

A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	K 11	L 12	M 13
N 14	O 15	P 16	Q 17	R 18	S 19	T 20	U 21	V 22	W 23	X 24	Y 25	Z 26

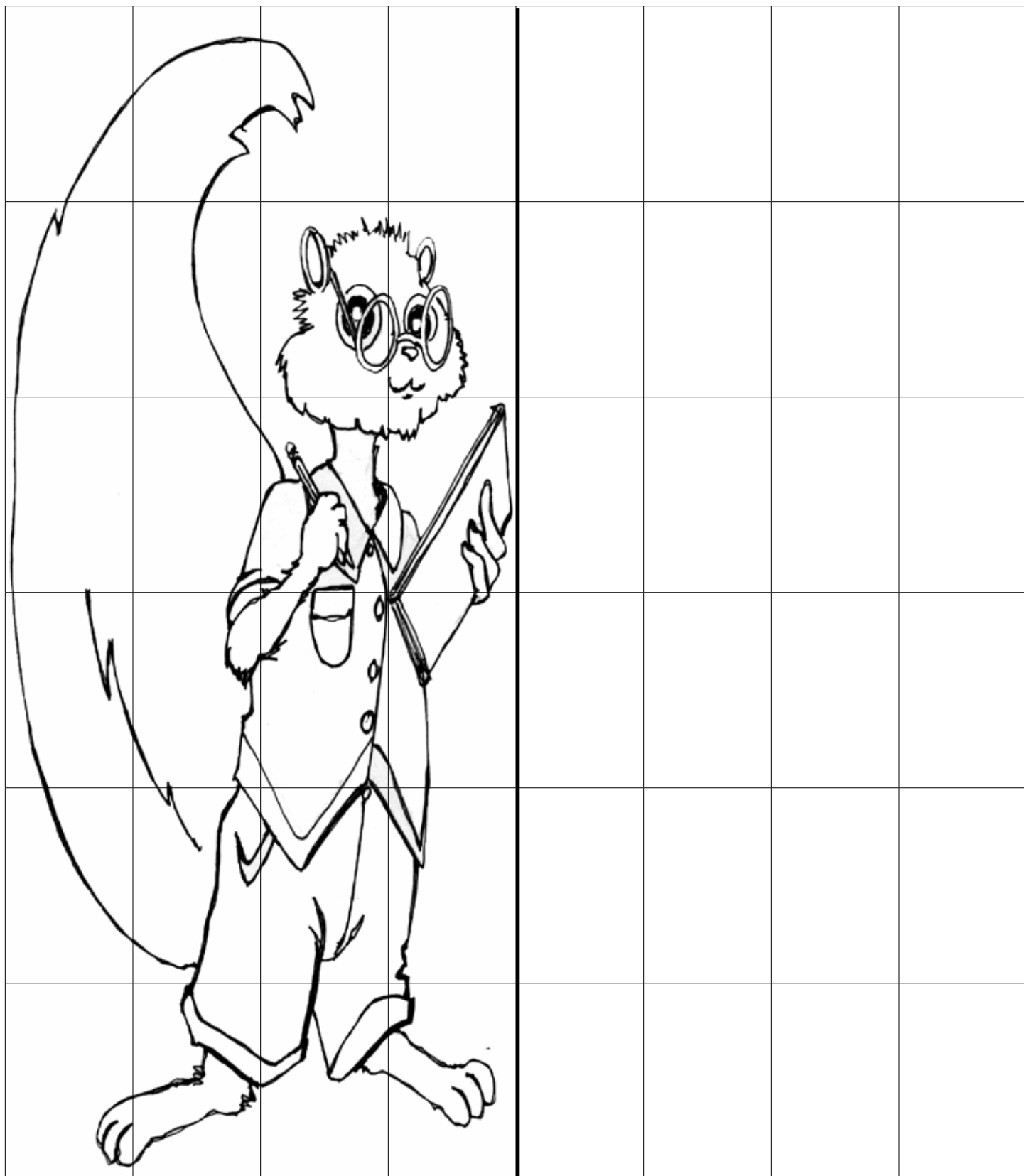
_____ 4 15 _____ 14 15 20 _____ 12 5 1 22 5 _____ 20 8 5

_____ 18 5 6 18 9 7 5 18 1 20 15 18 _____ 4 15 15 18 _____ 15 16 5 14

Quickly get what you want and close the door. Cold air escapes and this uses a lot of electricity.

Use the grid as a guide to draw Kenny on the right.

Color both with cool colors.



Save Energy - Save Water

It's important not to waste water.

Did you know only 1% of all water can be used for drinking?

It takes energy to produce clean water.

Heating water also takes energy.

- Check how you save water. Complete the missing words.

save drip hang brush dish water clothes

- Don't let water run when you your teeth.
- When you take a bath use only the you need.
- Turn off water so it doesn't .

Leaving a faucet running or dripping wastes water, energy, and money.

- Take short showers to water.

Use less hot water so your water heater doesn't have to work so hard. Reduce your time in the shower by 5 minutes and save 25 gallons of water. Does your shower have a water-saving shower head? How can you tell?

- Remind adults to wash in cold water.

Washing in cold water = 90% energy saved.

Most detergents work extremely well at low temperatures.

- When possible help clothes on a clothes line.

- Help fill the washer and turn it on when it's full.

Loading dirty dishes without rinsing saves up to 20 gallons of water.

Switch off the dishwasher before the dry cycle and let dishes dry naturally. Some dishwasher models have an energy saving cycle.

- ASK AN ADULT TO HELP SAVE ENERGY IN YOUR HOME

- Fix leaking faucets.
- Use low-flow shower heads to save more on water bills.
- Set hot water heater temperature at 120 degrees to use less energy to heat water and you won't get burned by hot water.



What message do you see?

HINT Hold up to a mirror

DECODE the MESSAGE

HINTS a = ☉ e = 🌸 r = ★ s = ☀

W _____ I u _____ w _____

I h _____ .

Renewable Energy

Energy produced by a source that continually renews itself is called renewable energy or alternative energy.

For a cleaner energy future many homes will use more renewable energy and will be built smaller with energy and water saving features.

Draw a line to match renewable energy sources with their definitions:

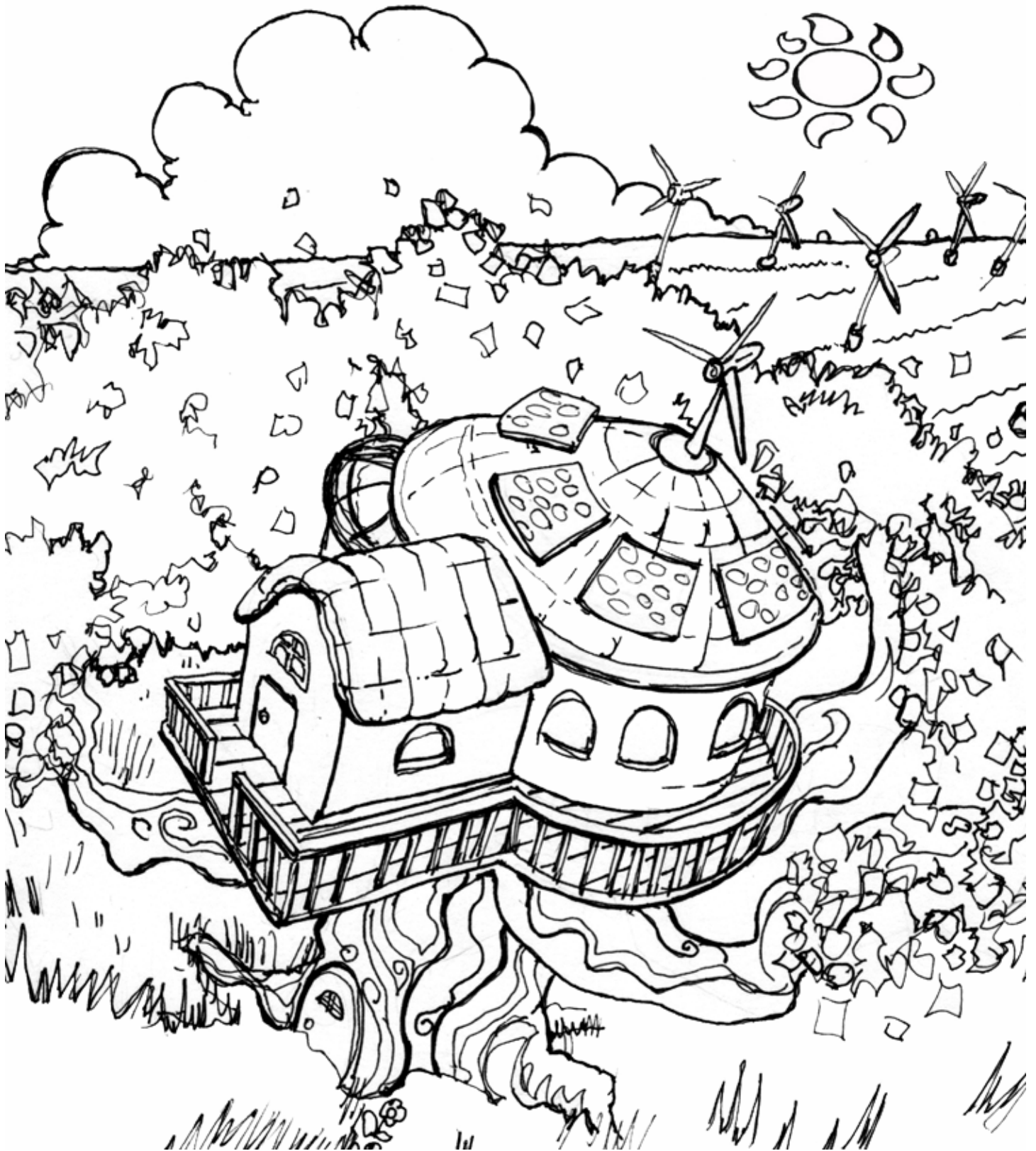
- | | |
|------------|---|
| Biofuels | the sun heats air or water; special cells make electricity |
| Hydropower | energy from heat generated and stored in the earth |
| Geothermal | air moves turbines to power a generator to make electricity |
| Solar | made from plants, including corn, that grow quickly |
| Wind | power from the force or energy of moving water |



Create short words
from
renewable energy

You may combine letters from both words.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



List the renewable energy sources you see.

Draw a swing and a mail box on this picture.

REDUCE + REUSE + RECYCLE

We use natural resources like fossil fuels (oil, coal, and natural gas) faster than the Earth makes them. It is important to be careful how we use them.

Recycle newspaper, glass, and cans and you will be saving natural resources and the energy to produce these products.

Another way to save energy is to use less plastic. Making plastic in factories uses a lot of oil and energy. Try to use plastic packages more than once. It takes less energy to make things from recycled plastic than from new plastic.

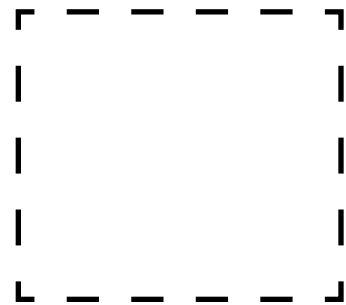
HELP SAVE ENERGY BY REUSING & RECYCLING.

BUY RECYCLED PRODUCTS.

What are recycled products that you use in your home?

Draw the symbol used for recycling →

HINT Look for the picture on a recycle bin



List items you help to recycle.

_____	_____
_____	_____
_____	_____



Design your own "ENERGY" logo on Sam's drum.

Sing these words to the rhythm of "If You're Happy and You Know It, Clap Your Hands."



If You Save Energy and You Know It, Clap Your Hands

Verse 1: If *You Use Less* and you know it, clap your hands.
 If *You Use Less* and you know it, clap your hands.
 If *You Use Less* and you know it, then your face will really show it.
 If *You Use Less* and you know it, clap your hands.

Verse 2: If *You Unplug* and you know it, stomp your feet.



Verse 3: If *You Reuse* and you know it, wave your hands.

Final verse: If *You Save Energy* and you know it, do all three.

It's Vacation Time!

Stacy and Sam will be gone with their family for 5 days.

What do they need to remember to do to help save energy in their home while they are gone on summer vacation?

Use these words: thermostat heater unplug lights

1. _____ all electronic appliances — the energy vampires
2. Be sure all _____ are turned off.

If your home has a security light with a timer be sure it uses a CFL bulb.

3. Set the programmable _____ at a higher temperature.
4. Turn the water _____ to "vacation mode."

Water heating may be 15 - 25% of the energy consumed in your home. A large part of the cost of running your home's water heater is due to the "stand by" losses — waiting for the family to use hot water.

The family is trying to save energy and will not drive a car.
What kind of transportation do you think they will use?

Cut down on car trips and carpool by sharing rides.

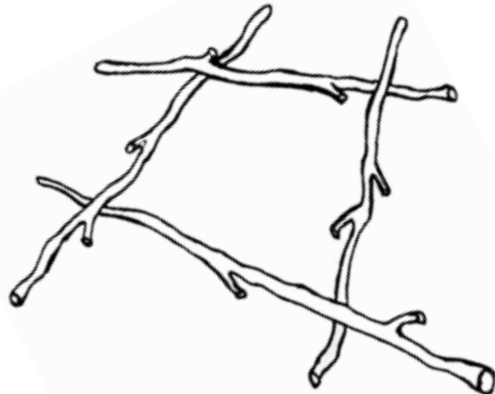
Do you help save gas?

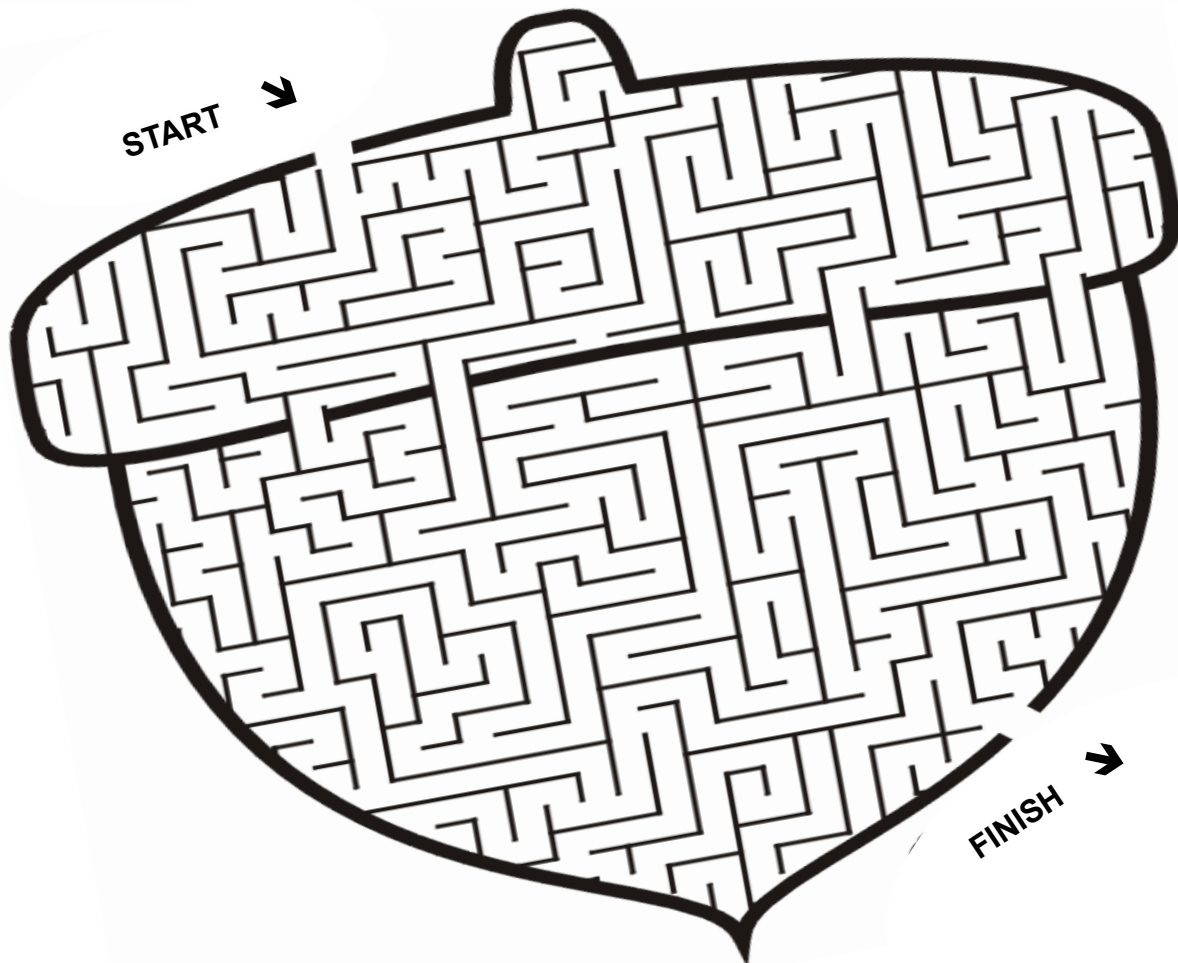
Do you walk, ride your bike, carpool, ride a bus, or take public transportation to school and back home? _____

Use your legs — walk or bike when you can and it is safe.
Human energy used to ride a bicycle is renewable and nonpolluting.



TIC-TAC-TOE





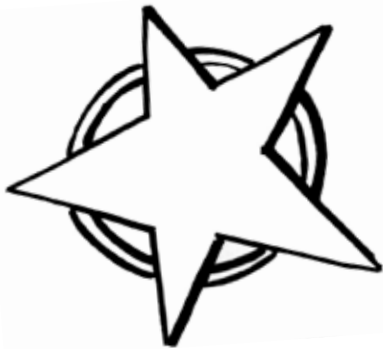
Do You Save Energy?

Check how often you help save energy:

	A Lot	Not Often	Never
I turn off lights when no one needs them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I unplug appliances that I'm not using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I turn off the TV or radio when not in use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I put on a sweater or sweatshirt when I'm chilly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I close outside doors when the heat is on.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I turn the water off while I brush my teeth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take quick showers or limit water in the tub.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I walk or ride my bike when possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I help recycle: cans, newspaper, glass, and plastic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Count total number of check marks for each: ___ ___ ___

Congratulations! If you have checked "A Lot" at least 4 times color yourself a special ribbon on the next page.



You are an Energy Star!

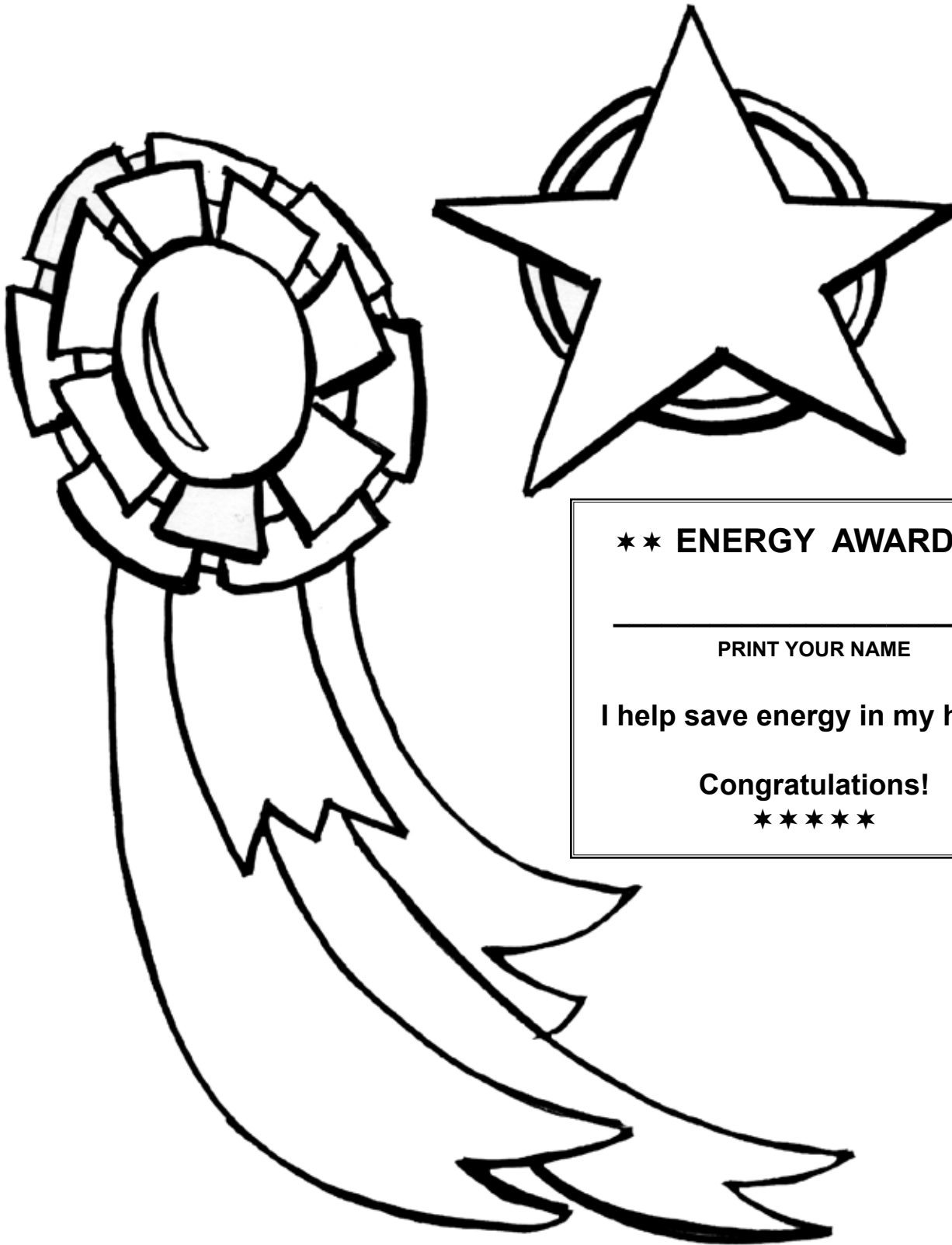
Write your name in a star.



What are **YOUR** creative ideas for saving energy in homes of the future? Ask others for ideas too.

Here's one idea: solar cells as roof shingles!

Congratulations!
You are helping to save energy in your home.
Add designs and color the ribbon and medal.



**** ENERGY AWARD ****

PRINT YOUR NAME

I help save energy in my home.

Congratulations!

Answers for Selected Activities

PAGE

2 bulbs, unplug, thermostat, waste, recycling

3 energy, saving, unplug, appliances, recycle, waste Be Wise & Use Less = Save Energy

5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1			L			S	L	E	U	F	S	E			
2	N			A						A		N	M		
3	T	U	T		M				G			E	U		
4		H	C	T		R	D	N	I	W		R	E	L	
5			G	L	A		E					G	L	F	
6				I	E	W		H				Y	O	C	
7					L	A			T				R		
8		O	I	L			R		R	O			T		
9								E			E		E		S
10	Y	T	I	C	I	R	T	C	E	L	E	G	P	S	F
11	C					A						S	A	O	H
12		O			W	L	C	O	A	L	A	M	S		E
13			O			O				V	O	S			A
14				L		S			E	I	I				T
15	N	A	T	U	R	A	L		B	L					

OVER, DOWN, DIRECTION
 BIOMASS: 9, 15, NE
 CFL: 14, 6, N
 COAL: 7, 12, E
 COOL: 1, 11, SE
 ELECTRICITY: 11, 10, W
 ENERGY: 12, 1, S
 FOSSIL: 15, 10, SW
 FUELS: 10, 1, W
 GAS: 9, 3, NE
 GEOTHERMAL: 12, 10, NW
 HEAT: 15, 11, S
 LIGHT: 5, 7, NW
 NATURAL: 1, 15, E
 NUCLEAR: 1, 2, SE
 OIL: 2, 8, E
 PETROLEUM: 13, 10, N
 SAVE: 12, 11, SW
 SOLAR: 6, 14, N
 WATER: 5, 12, NE
 WATT: 6, 6, NW
 WIND: 10, 4, W

7 X s = 16

8 ACROSS: 1. less 3. computer 5. energy DOWN: 1. lights 2. kilowatt 4. power

10 chilly, blankets, outside, drafts, air, damper, night, clear

12 barefoot, fan, windows, sunlight, cool, filters, appliances
 Crack the code: Do not leave the refrigerator door open.

14 brush, water, drip, save, clothes, hang, dish

15 Decode the message: When I use less water I help save energy.

16 Biofuels: made from plants, including corn, that grow quickly
 Hydropower: power from the force or energy of moving water
 Geothermal: energy from heat generated and stored in the earth
 Solar: the sun heats air or water; special cells make electricity
 Wind: air moves turbines to power a generator to make electricity

17 solar and wind

20 unplug, lights, thermostat, heater



Save energy!

Tell others to save energy in their homes.

Do you know? Energy facts to read with your family.

Americans use more energy in their homes than they use to drive their cars.

Lowering the temperature of your home's thermostat by 1 or 2 degrees could reduce your energy bill by 5 - 10%.

Energy-efficient light bulbs last about 10 times longer than ordinary bulbs and consume one fifth the energy. About 90% of energy used by traditional incandescent bulbs is wasted in the heat they produce.

Without insulation, water heaters may waste about 70% of the energy they use. Insulate the water heater if it feels warm to the touch.

Power strips may be purchased with built-in sensors to shut off electronics when not in use.

Using LED holiday light strings is a good way to save energy.

When replacing appliances it is important to look for Energy Star labels that are proven to be energy saving in homes.



Resources for home energy saving tips and activities

www.eia.gov/kids

www.energystar.gov/kids

www.need.org

www.classroom-energy.org

www.eere.energy.gov/kids



www.ext.colostate.edu/energy

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Energy Outreach Colorado
Helping all Coloradans afford home energy.



Governor's
Energy Office