

Energy Savers

Activity Book

Part of the SMECO
Energy Efficiency
Kit for Kids

EmPOWER
MARYLAND

SMECO
People. Power. Progress.

Hello!

Welcome to your very own **Energy Savers Activity Book!** I'm so excited to share what's inside, but first:

What does it mean to save energy?

Every time you watch your favorite TV show, play a video game, or just turn on a light, you're using energy.

By using the items in the kit, and completing the activities in this book, you can use all your favorite devices while also using **less** power. That's saving energy.

Doing your part to prevent energy waste means helping protect the environment for future generations – that means kids, like you!

Did you know?

Even when a device is turned off, it could still be using energy just by being plugged in. This is called **phantom load** and it's a big cause of energy waste. Spooky!

Here's what you'll find inside the kit:

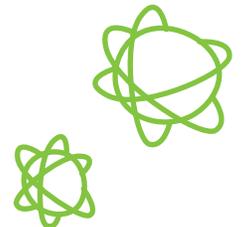
- o **1 advanced power strip:** Ask an adult to help you plug items into this power strip before you plug it into the wall. It will prevent phantom load and protect your favorite devices from power surges.
- o **1 LED night-light:** This night-light uses up to 75% less energy and lasts 25 times as long as a traditional bulb!*
- o **This Energy Savers Activity Book, which has a collection of fun activities, including:**
 - Energy Monsters – page 3
 - ENERGY STAR® Lorax – page 17
 - Energy Source Poster – page 23
 - NEED Coloring Book – page 24

Have fun! And thanks again for doing your part to save energy!



Jennifer Raley

Energy and Technology Programs Manager, SMECO



*How Energy-Efficient Light Bulbs Compare with Traditional Incandescents, U.S. Department of Energy. Accessed April 7, 2020, at <https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money/how-energy-efficient-light>.

PLAY MORE

SAVE MORE



ENERGY MONSTERS

Fun energy-saving activities you can do at home!





I'm an Energy Monster

I love to save energy. These are a few of my friends!



There are so many ways to save energy in my house. Let's learn how energy works, and then see where you can save energy in your house!

ENERGY ACTIVITY: Motion

Circle the objects that burn fuel to move.

Put an X through the objects that need people power to move.

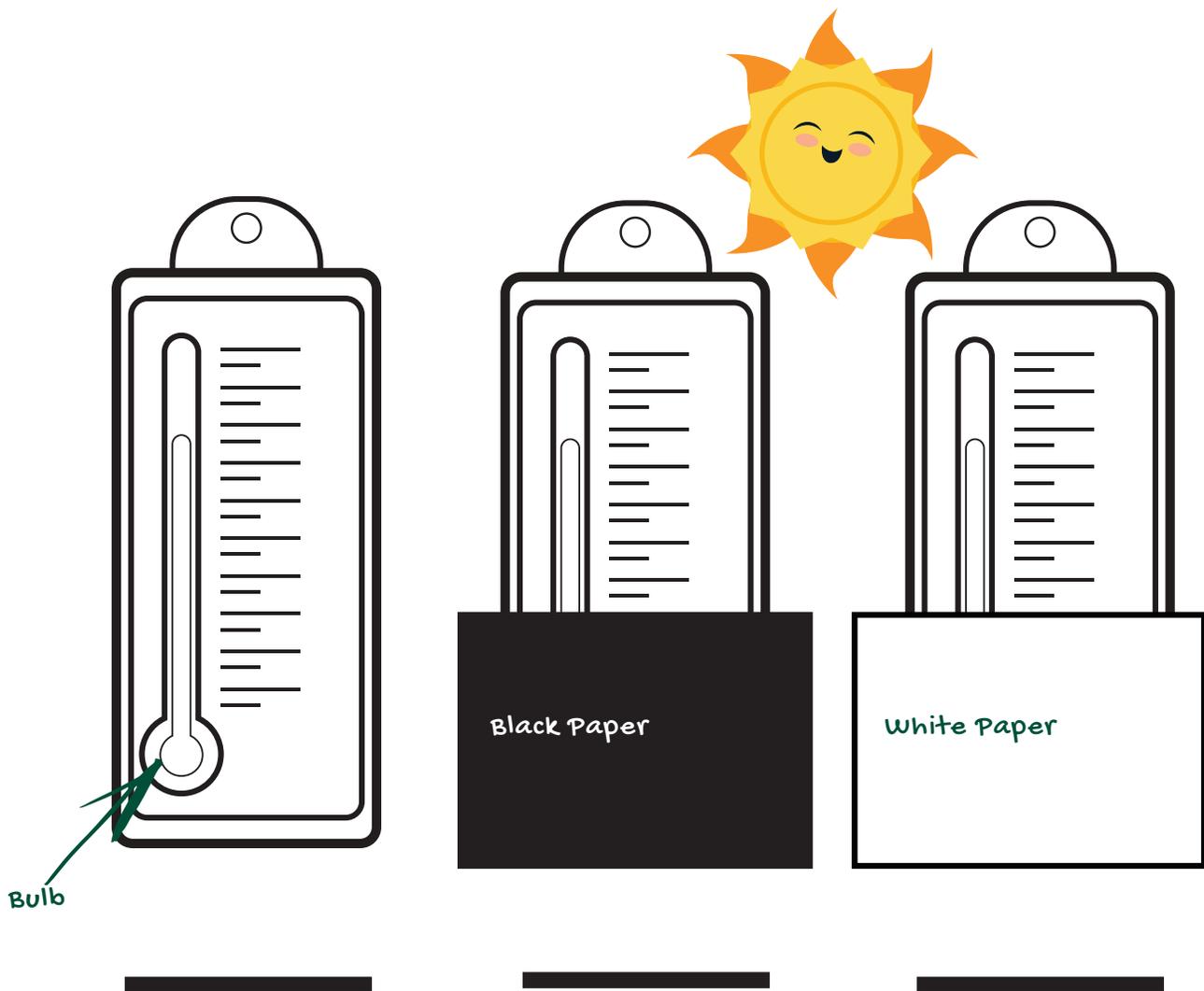


ENERGY ACTIVITY: Energy From the Sun

When solar energy hits objects, some of the energy is reflected and some is absorbed and changed into heat. Some colors absorb more solar energy than others.

Follow these steps to learn about energy from the sun.

1. Put three thermometers in a sunny place.
2. Cover one thermometer bulb with black paper, one with white paper, and leave one uncovered.
3. Predict which thermometer will get the hottest. On the lines below, number the thermometers 1, 2, and 3, with 1 as the hottest.
4. Wait a few minutes.
5. Look at the results. How well did you predict what was going to happen?



The Tale of the Fern Fossil



Once upon a time, a beautiful fern tree grew in a swamp. All day, she soaked up sunlight and stored it in her fronds. The sun's energy helped her grow tall.



The biggest frond was Fern Fossil. Every day she stretched closer to the sun. She was proud to be the tallest frond on the tree.

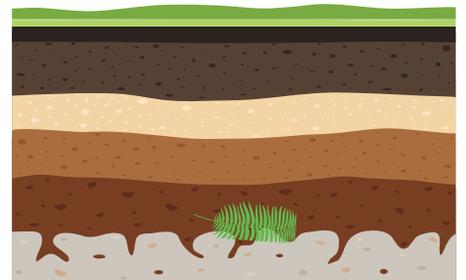
One day, the sky grew dark and a strong wind blew. The other fronds huddled together. They gave each other strength. But Fern was too high. She was all alone. There were no fronds tall enough to help her.

The wind blew harder and Fern's stem snapped. She fell from the tree into the dark water. Fern sank to the bottom of the swamp. She thought her journey was over.

Nature had a different plan for Fern. For a long time, she lay in the swamp. More plants fell into the water. They covered Fern like a blanket.

After many years, the water dried up and the swamp turned into land. Dinosaurs roamed over the earth. Fern lay under the ground, buried deeper and deeper.

The weight of the dirt and the heat of the earth changed Fern. She was no longer green. She lost her leafy shape. But she still had the sun's energy stored in her.



Fern Fossil had turned into a shiny black rock full of energy. She was a piece of coal. Fern and many other plants were now a big seam of coal buried under the ground.

One day, a big machine dug into the earth. It took away the dirt on top of the coal. It lifted Fern from the earth and put her into a huge truck. She was taken to a building where she was washed, and then put on a train.

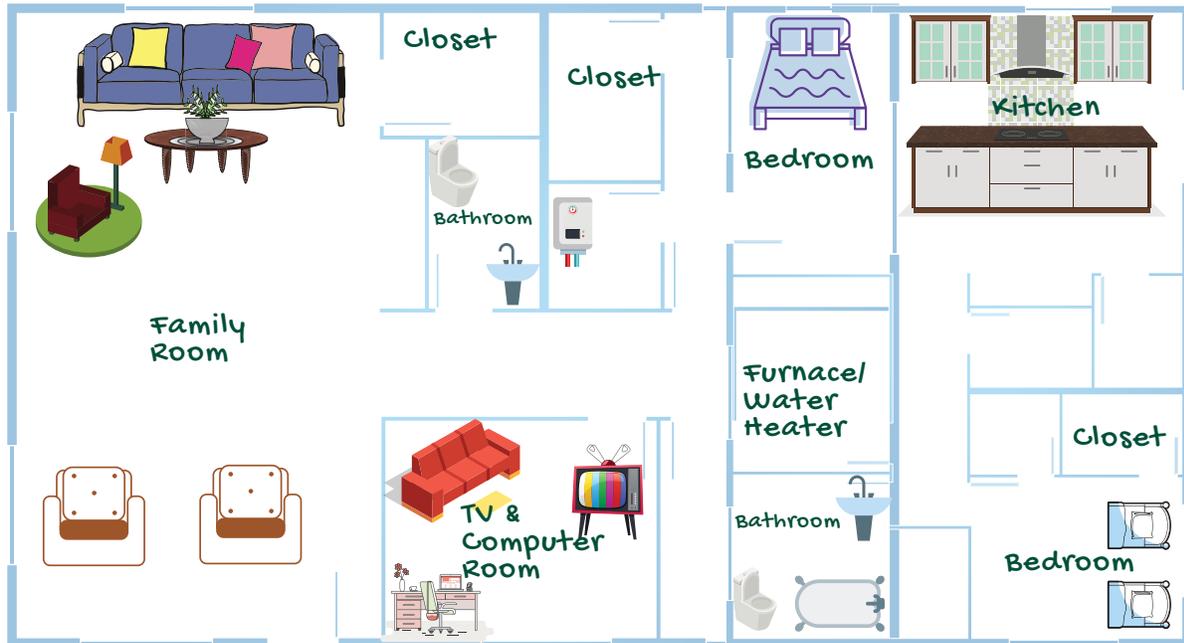


The train chugged through the night to a power plant. Fern was put into a boiler and burned. Her energy produced a lot of heat.

The power plant used Fern's energy to make electricity. The electricity traveled through a power line to a house. In that house, a little boy turned on a light so that he could read.

The energy that Fern had gotten from the sun millions of years ago was lighting the little boy's room. Fern had traveled a long way.

ENERGY ACTIVITY: Energy at home



- How many  live in this house? (Hint: Count the pillows on the beds.)
- Each bathroom has two . How many  are in all the bathrooms?
- Each bedroom has two  and each closet has one . How many  in all?
- The family room, kitchen, utility room, hall and TV/computer room each have one . How many  are there in the whole house?
- Each  uses one  for four hours each day. How many hours a day are they used in all?
- Each  uses one cent (\$.01) worth of electricity per hour. How much does the family pay for electricity every day?
- Two  take showers every day and two  take baths. Each shower uses 10 gallons of  and each bath uses 20 gallons. The family also uses 20 gallons of  a day to wash dishes. How many gallons of  are used each day?

The Tale of Annie Soakley



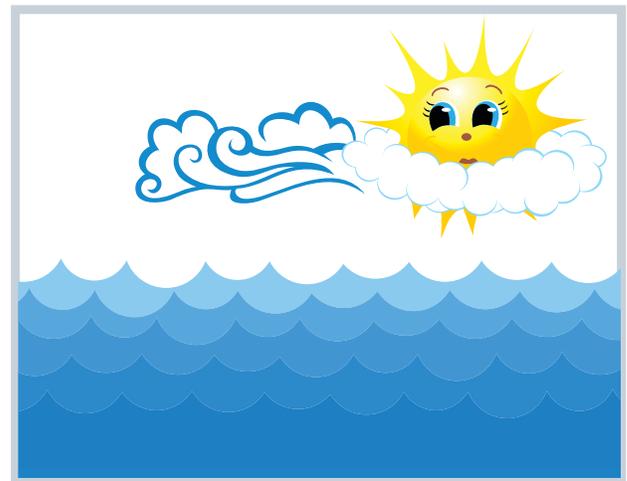
I'm Annie Soakley. I am a world traveler. Let me tell you about my last trip. It began in the Pacific Ocean. I was floating in the waves with my friends. We were bobbing up and down, watching the sun rise over the mountains. What a beautiful sight!

The sun climbed higher in the sky. I began to get warm. I got warmer and warmer. Suddenly, I rose out of the water. I floated toward the sky. I grew bigger. My molecules got farther and farther apart. I expanded.

I didn't look like a drop of water anymore. I was invisible. I had turned into water vapor. I had evaporated! I rose high into the sky. Many of my friends came with me. They had evaporated, too. Together, we formed clouds.

The wind pushed us through the sky. We sailed over the ocean toward land. The people on the beach were sad to see us. We blocked the sun.

We passed over them and headed for the mountains. The wind kept pushing us. We reached the mountains as the sun set. The air over the mountains was cold. It made me cold. As I cooled, I grew smaller. My molecules got closer together. I turned into a drop of water again. I condensed.



I was too heavy for the cloud to hold me. I began falling toward the earth. I was a rain drop! My friends condensed, too. The weather person on TV called us **precipitation**, which is water falling to the earth.

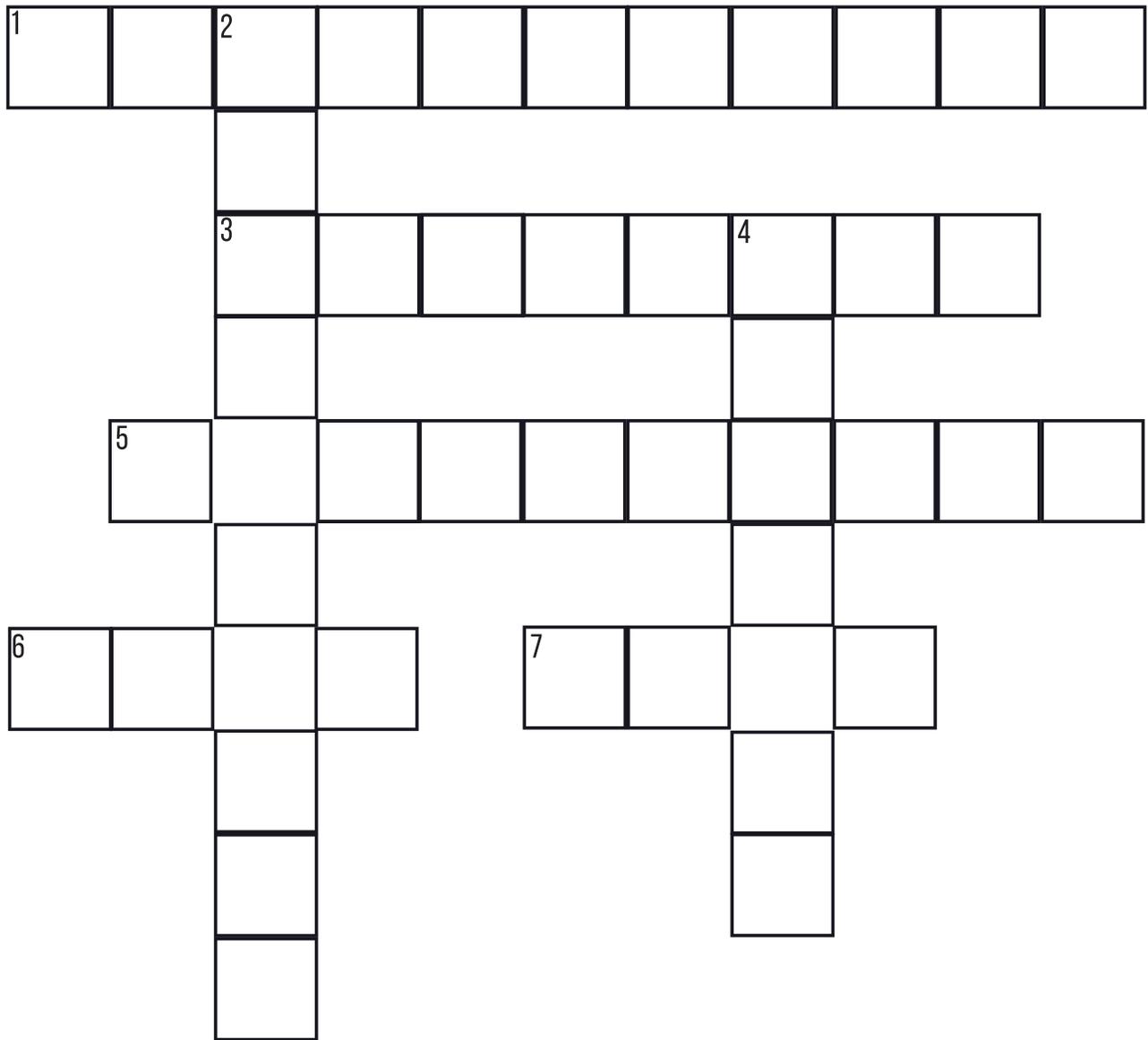


Gravity was pulling us down. Soon, other drops of water joined us and we turned into a small creek. As we flowed down the mountain, more creeks joined us and we grew. We turned into a roaring river. We were moving very fast. We had a lot of energy.

Suddenly, we found ourselves in a long tunnel. A machine called a turbine was at the end of the tunnel. We rushed through the turbine, making it spin. The turbine used our energy to make electricity.

We flowed back into the river. The river made its way through farms and towns until it reached the ocean. I floated out into the waves, glad to be home again. It had been an exciting trip through the **water cycle**.

ENERGY ACTIVITY: Energy Word Puzzle



Across

1. This powers our light bulbs.
3. A form of transportation that burns fuel to move. (Hint: It flies.)
5. Propane turns into a liquid after this has been done to it.
6. A black rock full of energy.
7. In the United States, ethanol is made from what plant?

Down

2. When a drop of water becomes invisible, it does this.
4. The color black does this to solar energy.

The Tale of Jane Energy Seed



I'm Jane Energy Seed. I plant energy seeds in a big field on my farm.

The sun shines. There is energy in the sun's rays. It helps my seeds grow into tall plants. My plants store the sun's energy in their roots, stalks, leaves, and ears. Soon my energy plants are tall and strong.

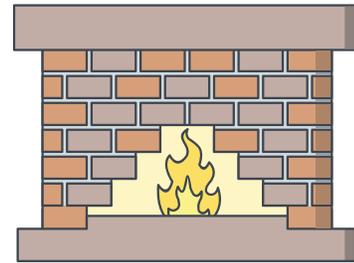


I can use the energy in my plants for many things. I can eat the seeds for energy for my body. This energy will help me grow and move and think.

I can feed my energy plants to my chickens, pigs, cows, and horses. The energy will make my animals grow big and strong.



I can hang my energy plants in my barn to dry. Then I can burn them in my fireplace. The energy in my plants can keep me warm on cold winter nights.



I can put my energy plants into a big container that keeps out the air. As my plants decay, they can make a gas that I can burn in my stove to cook my food.

I can also turn my energy plants into fuel for my tractor. I turn them into alcohol, like grapes are turned into wine. This alcohol fuel, called ethanol, can run my tractor.

As you can see, a seed of corn really is an energy seed. Why don't you plant some corn seeds and explore the ways you can use the energy in the plants you grow?



ENERGY MONSTER HUNT!

The more you know, the further you will go!



The next page has the Energy Monster Hunt game board.

To play you will need:

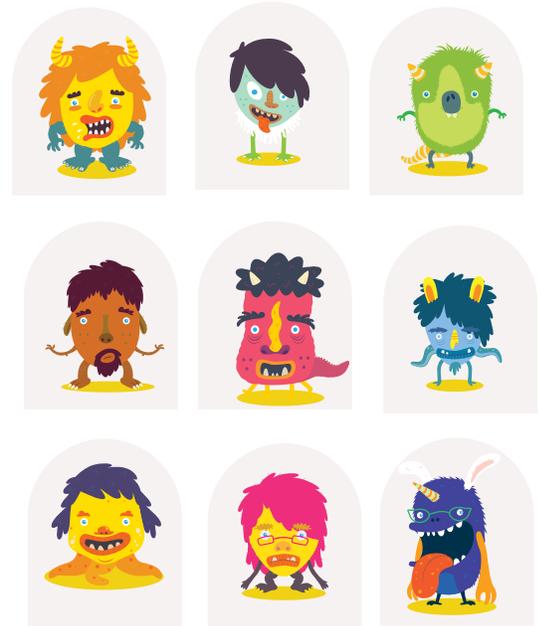
- Spinner and Energy
- Paper clip
- Monster player pieces
- Pencil

To play: Cut out the spinner and the Energy Monster player pieces below. Then tape the two pages of the game board together and follow the rules printed on the game board. Have fun, and remember the more you know, the further you will go!

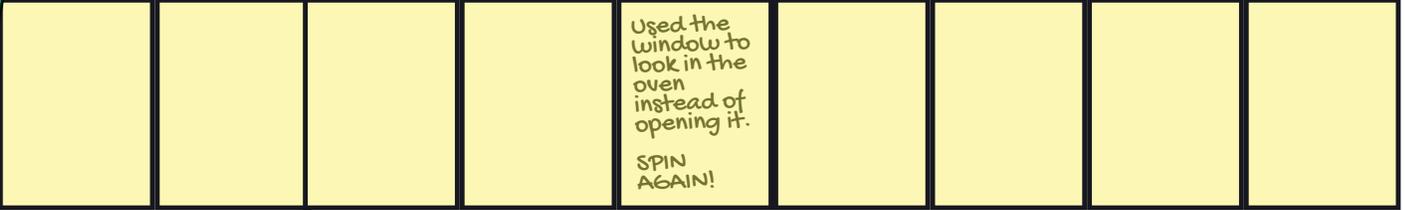


Energy Monsters

Cut out your energy monster game pieces to play the game.



Cut out the spinner above. Place a paper clip on the point of a pencil and place the point of the pencil (with the paper clip) in the small white circle in the middle of the spinner. Fling the paper clip around and see which section it stops on. Read the comment in that section and follow the rules to move.



Rules:

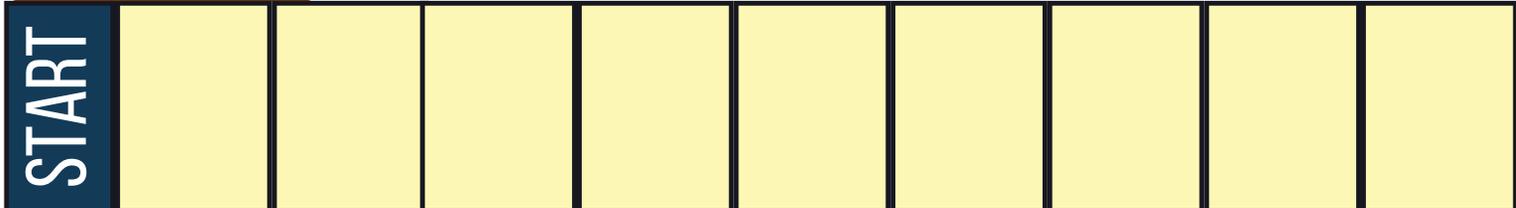
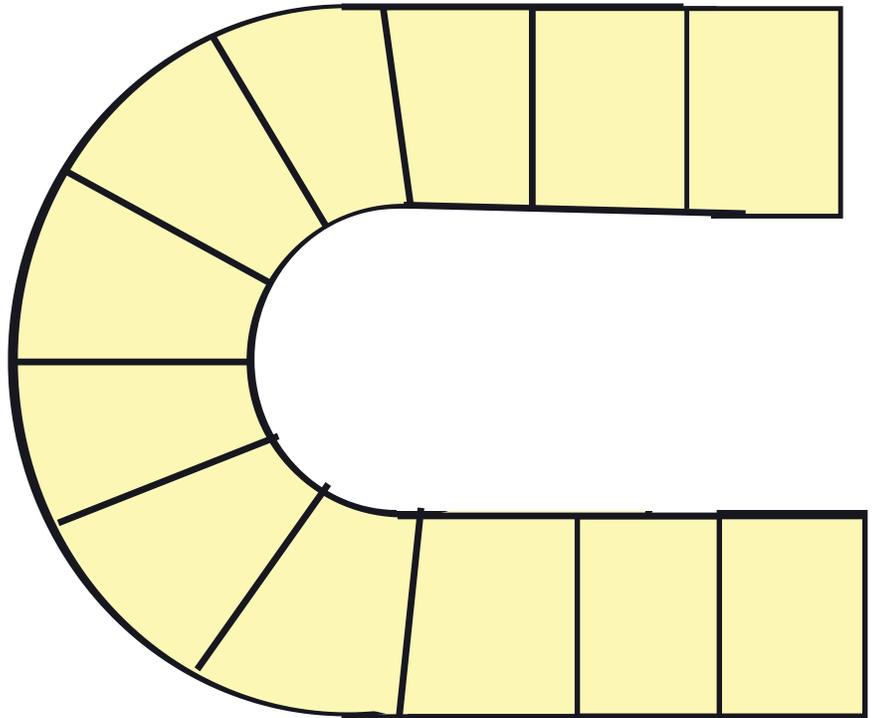
The oldest person goes first.

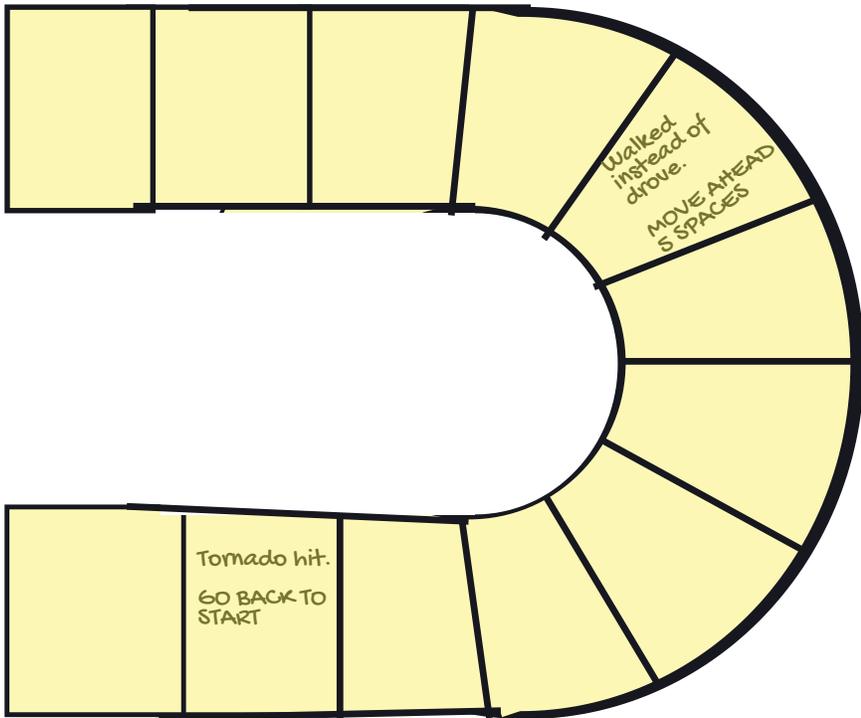
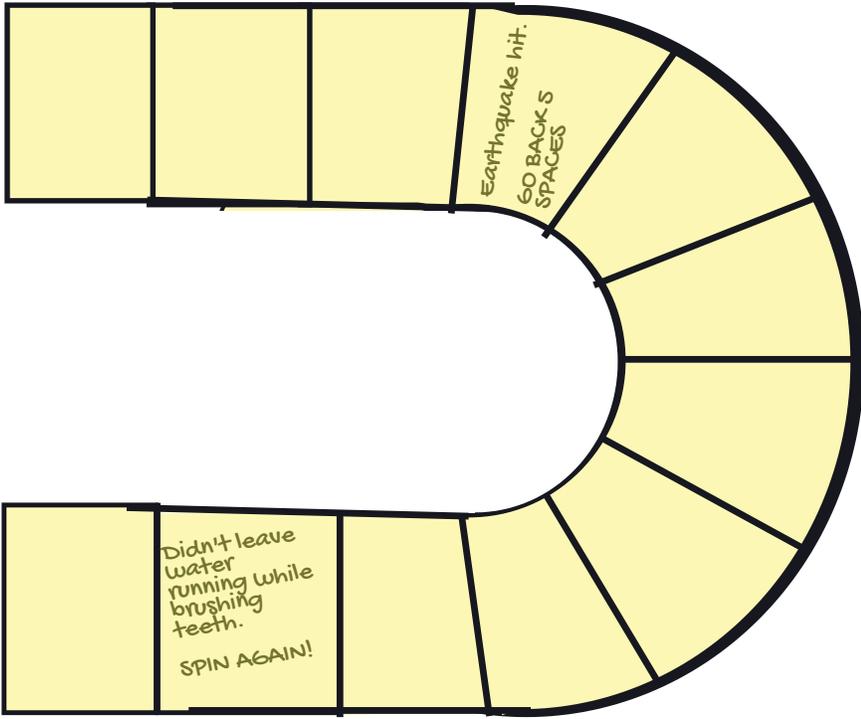
Everyone should have an energy monster game piece or something else to use as their playing piece.

Now, spin!

- If the paper clip lands on a conservation tip, move forward two spaces.
- If the paper clip lands on something that uses energy, move back one space.

The first player to the energy-saving house wins!





ENERGY ACTIVITY:

Energy-Saving Scavenger Hunt

Saving energy is great for the earth, and saves money on our electricity bills. Use the scavenger hunt activity below to find out how you are already saving energy and to look for ways you can save even more!

ENERGY STAR Appliances

If you have ENERGY STAR appliances in your home, you're already saving energy!

(Hint: Look in your living room and kitchen.)



How many appliances can you find in your house with the ENERGY STAR symbol? You get 2 points for each appliance with the ENERGY STAR symbol!

How many points did you get?

Energy-Saving Habits

When lights burn out do you replace old light bulbs with CFL or LEDs?

Always Sometimes Never

Do you turn off your lights when you are not using them or leave the room?

Always Sometimes Never

Do you turn off ceiling fans when you leave the room?

Always Sometimes Never

Do you leave the doors open when you go outside?

Always Sometimes Never

Do you turn off the TV when you leave the room?

Always Sometimes Never

Do you have blinds or curtains on your windows?

All

Some

None



How did you do?

20 or more points - You're an Energy-Saving Monster!

10-19 points - You get energy efficiency!

0-9 points - You have now learned some great ways to save energy.

Any ideas on ways you can save more energy at home?



How many points did you get? Green answers get 2 points, blue answers get 1 point, and red answers get 0 points.



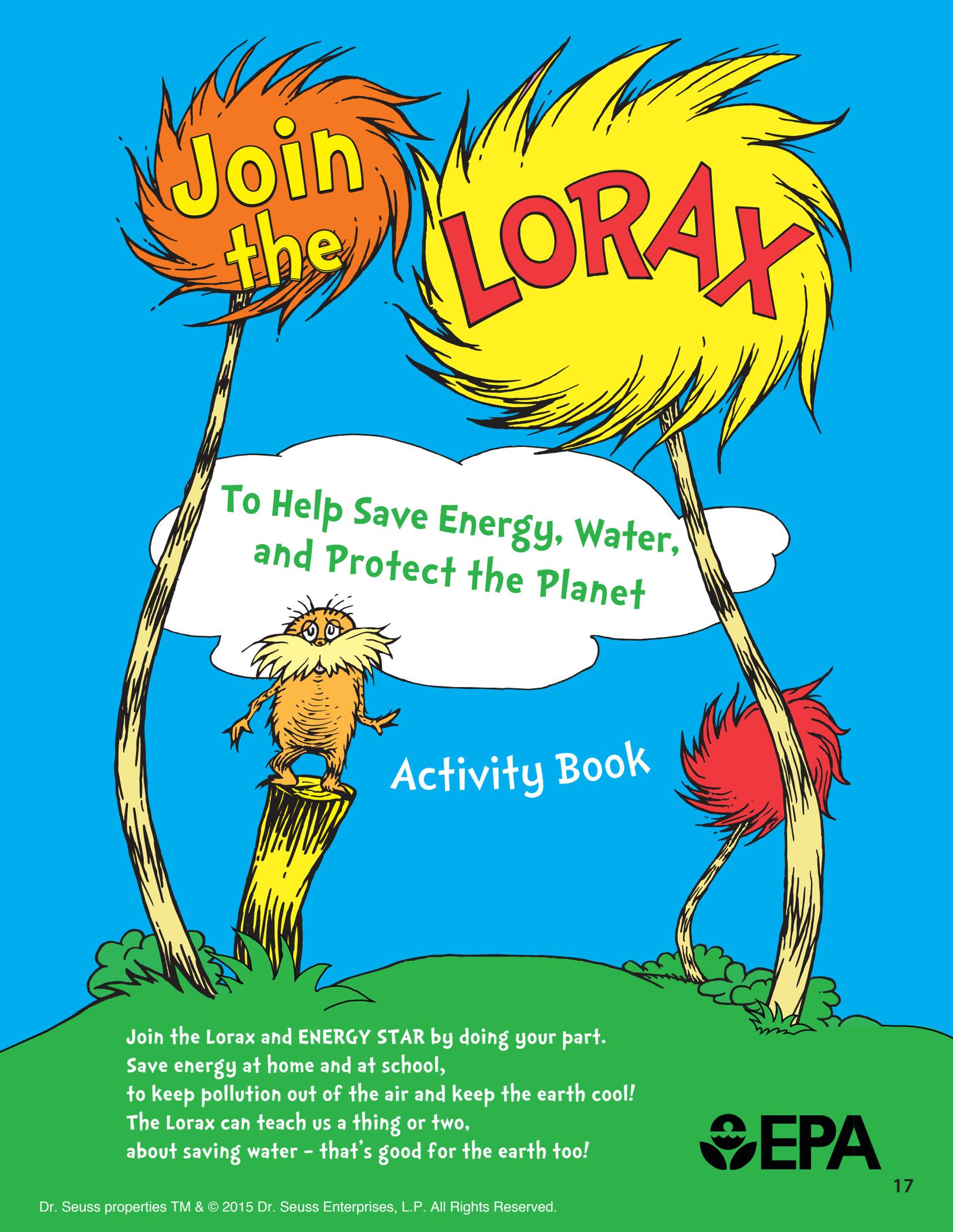


ENERGY MONSTERS

Activity Book



This activity book is a collaborative project developed by ICF, SMECO, EmPOWER Maryland, and the National Energy Education Development (NEED) Project.



Join
the

LORAX

To Help Save Energy, Water,
and Protect the Planet

Activity Book

Join the Lorax and ENERGY STAR by doing your part.
Save energy at home and at school,
to keep pollution out of the air and keep the earth cool!
The Lorax can teach us a thing or two,
about saving water - that's good for the earth too!



The **Lorax** is proud to speak for the earth!
 Without it, what would our **future** be worth?
 Now he **needs YOU** to be of assistance
 And to all the **Once-lers**, offer **resistance!**
 Join **US** in **spreading the word**,
 And finally the **voice** of the **earth** will be heard.



START

Do you want to help?
 Well it's your lucky day—
 The tips on this trail will show you the way.
 Just follow the path – go hurry on in,
 And mark what you've read by coloring in!



Heating and cooling your humble abode,
 Increases your home's total energy load.
 Stop energy waste, and keep your air clean.
 By shutting the doors and the windows you've seen!

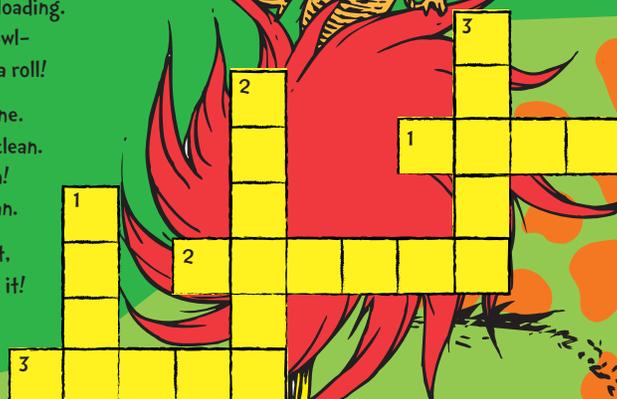
WATER CROSSWORD PUZZLE

Truffula Trees can grow greener and taller,
 When you take simple steps to help conserve water!
 Check out the poem below for ways to save and reduce.
 And then fill in the blanks about smart water use.

It's wasteful to leave the tap pouring and running—
 So turn off the **faucet** while brushing.
 And **scrape** dishes off before dishwasher loading.
 Wash **fruit** and veggies in a water-filled bowl—
 No need for running water – now you're on a roll!

What else uses water? The washing machine.
 Make sure it's **full** before getting clothes clean.
 Time for a shower? Keep it short if you can!
 Five minutes is plenty to get spick and span.

And when the time comes for a new faucet,
WaterSense means it's efficient – so pick it!



Across

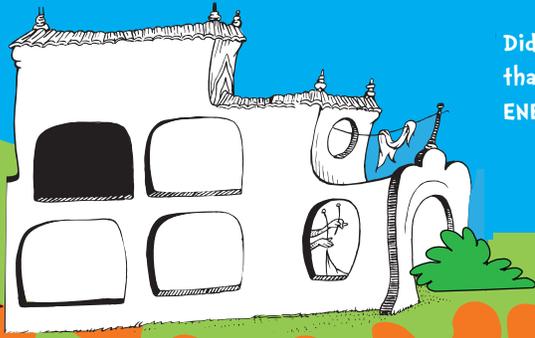
- 1- Make sure the washing machine is _____ and set to use cold water before turning it on.
- 2- Turn off the _____ while you brush your teeth.
- 3- Look for Water _____ labeled shower heads, faucets, and other products.

Down

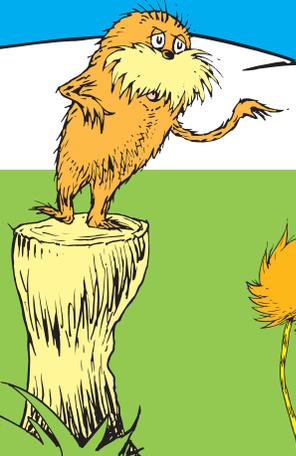
- 1- Keep your showers to _____ minutes or less.
- 2- _____ off dishes, instead of rinsing, before they go in the dishwasher.
- 3- Wash _____ and veggies in a container or bowl, instead of under running water.

When you walk by the trash basket today,
 Remember the Lorax and what he would say:
 Paper is made from the Truffula Trees,
 So whenever you can, recycle it please!

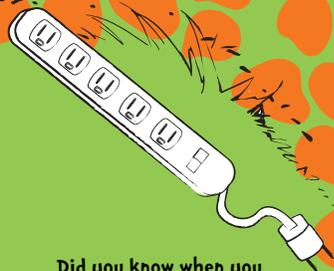




Did you know? Buildings and homes that save energy can earn the ENERGY STAR too!



It may be surprising -
it may make you scoff,
But electronics use energy
even when turned off!
A "smart" power strip cuts
the energy flow,
When you turn off the TV
at the end of your show!



ENTER

EXIT

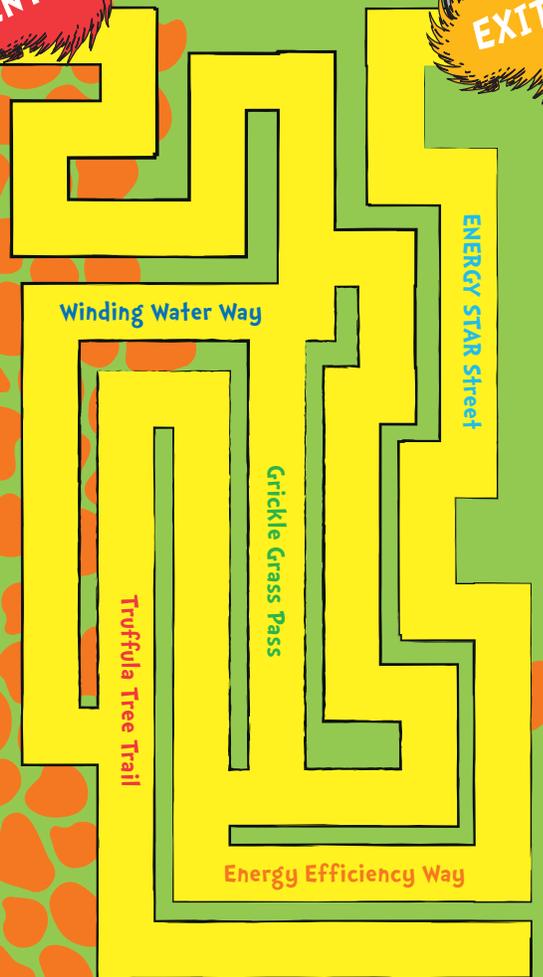


Did you know when you
recycle your plastic,
Its transformation can be
truly drastic?
Playgrounds and t-shirts,
and sleeping bags too,
Are just some of the ways
plastic can be made new.

WORD SEARCH

Here are some ways you can help save the planet,
And a puzzle to make it more fun, while you're at it!
The words in this puzzle are hidden, it's true—
But look very closely and they'll come into view.

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



CONSERVE | PROTECT | RECYCLE | REDUCE | REUSE | SHARE
LEARN | ENERGY STAR | WATERSENSE

ENERGY STAR and WaterSense Super Sleuths

When you go to the store, you face so many options:
"Pick me!" "I'm the best!" say all the contraptions.

In all of those sounds, there is one little voice saying,
ENERGY STAR is the simple choice!

So open your eyes and put on your glasses—
And see who can find all these items the fastest!

Can you find these things? **ENERGY STAR** certified refrigerator, light bulb, washing machine, lamp, window, door, and air conditioner; AND the **WaterSense** labeled showerhead and faucet

The Once-ler comes looking
for Truffula Trees,

In search of new ways to make
profit with ease.

He doesn't reuse or recycle—he hunts,
for the things that he wants
and will use only once.



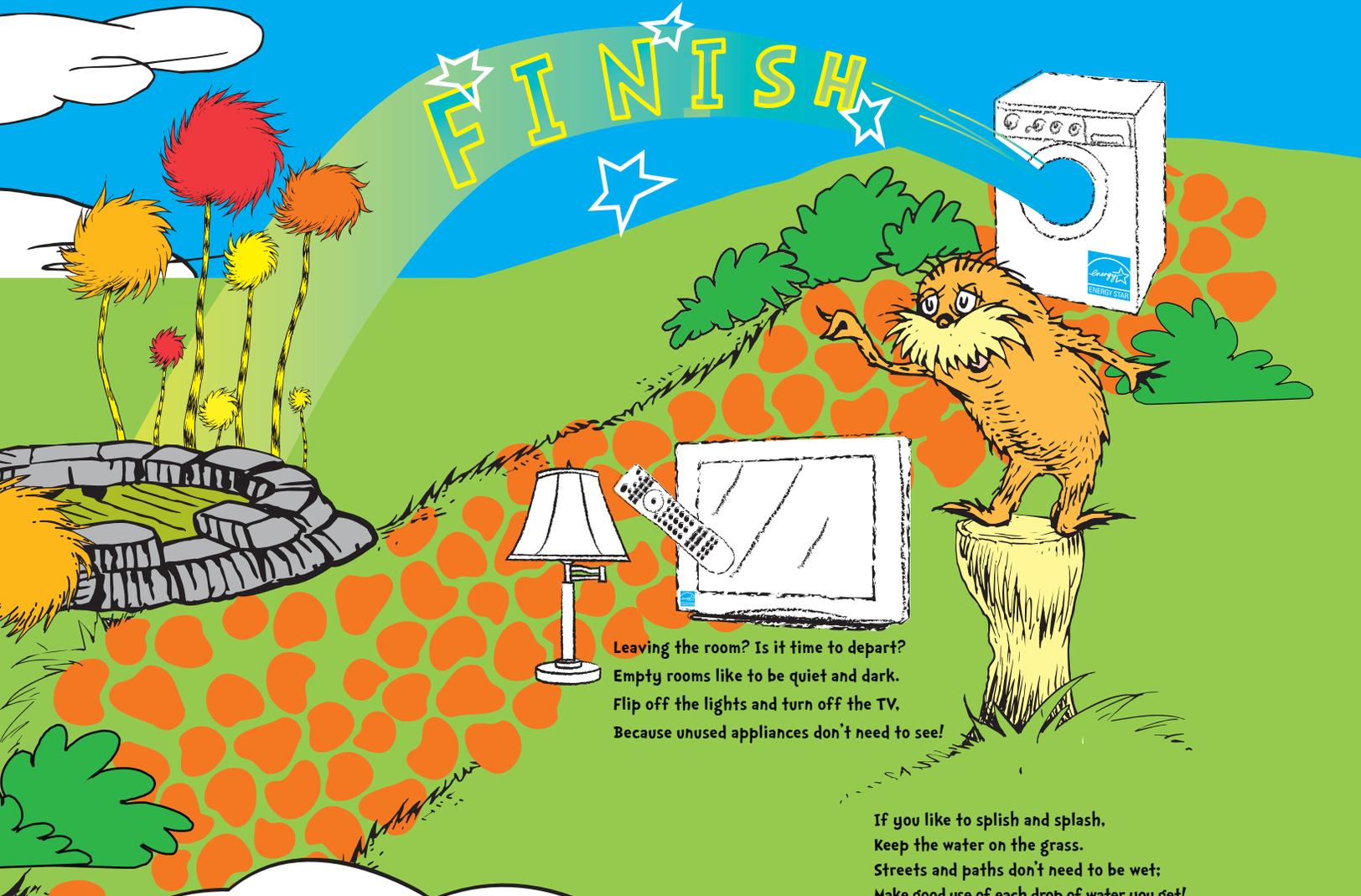
More ways to help

Our planet has limited resources, but the population continues to grow—
so EPA offers tips and tricks to help us reduce, reuse, and recycle.
Learn how you can save and share what you learn with your friends and family!

energystar.gov/kids | epa.gov/watersense/kids | epa.gov/recycle



FINISH

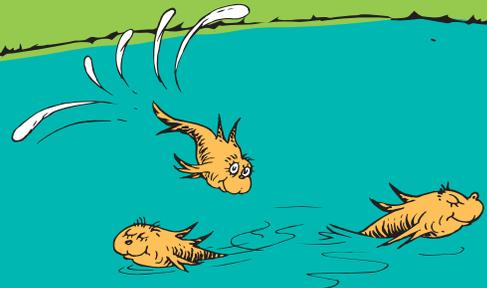


Leaving the room? Is it time to depart?
 Empty rooms like to be quiet and dark.
 Flip off the lights and turn off the TV.
 Because unused appliances don't need to see!

If you like to splish and splash,
 Keep the water on the grass.
 Streets and paths don't need to be wet;
 Make good use of each drop of water you get!

FUN WITH SAVING MATCH GAME

Each of us must do our part to conserve,
 But if two work together, that steepens the curve!
 The trees must stay green; the ice must not melt—
 So ENERGY STAR and WaterSense are here to help.
 Cut out the cards, and place them face-down.
 Pick up a card, and flip it around.
 Can you remember the right card to match?
 Two at a time only, please—that's the catch!



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Do-It-Yourself!

Fill in the blanks to write your own poem and see how the world will look if we all find ways to save energy and protect the environment.

Protecting the _____ is a tough job for one.

your favorite part of nature

But if nobody starts, it never gets done!

So when leaving the _____, be energy smart.

room in your home

Turn off the _____ so you're doing your part!

rhymes with "rights"

And if you're getting a new game console or TV,

ask for one that's proven to _____ energy!

verb

Together we'll keep _____ healthy and clean,

your favorite part of nature

And the skies always _____,

color

And the trees always _____.

color

For kids – and grown-ups too – who care a whole awful lot,
don't fret the book is over; our mission to protect the earth is not!

To learn more, go to:

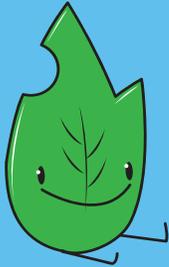
energystar.gov/kids and
epa.gov/watersense/kids



THE 10 ENERGY SOURCES

RENEWABLE

Fuels that can be easily made or replenished; we can never use up renewable fuels.



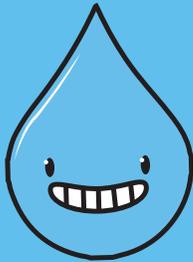
BIOMASS

Anything that is alive, or anything that was alive a short time ago is called biomass. Trees, crops, garbage, and animal waste are all biomass. Most of the biomass we use for energy today is wood.



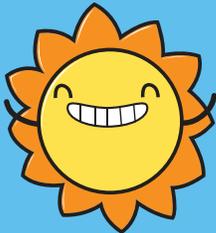
GEOHERMAL

Geothermal energy is heat from inside the earth. The inside of the earth is very hot. Sometimes this heat comes near the surface. We can use this heat to warm our houses. We can generate electricity with it.



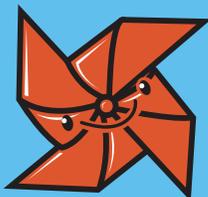
HYDROPOWER

Hydropower is energy created by moving water. Moving water has a lot of energy. We use that energy to generate electricity.



SOLAR

The sun provides lots of energy to the earth. We call it solar energy. It travels from the sun to the earth in rays. The energy from the sun makes rain fall, wind blow, and plants grow.



WIND

Wind is moving air. We can use the energy in wind to do work.

NONRENEWABLE

Fuels that cannot be easily made or replenished; we can use up nonrenewable fuels.



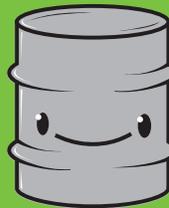
COAL

Coal was formed millions to hundreds of millions of years ago from plants. Coal is often shiny, black rock. Coal is a fossil fuel* that we burn for energy.



NATURAL GAS

Natural gas is a mixture of gases you can't see, smell, or taste. We often add an odor to it so we can smell it. It has a lot of energy in it. You can burn it to make heat. Natural gas is a fossil fuel.*



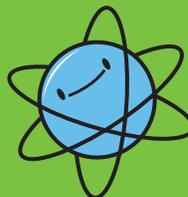
PETROLEUM

Petroleum is a liquid that is found underground. Sometimes we call it oil. Oil can be as thick and black as tar or as thin as water. Petroleum is a fossil fuel* that has a lot of energy we release when we burn it.



PROPANE

Propane is the gas we use to fuel our backyard grills and operate machines in warehouses. You cannot see it, smell it, or taste it, but you can burn it to produce heat energy. Propane is fossil fuel.*



URANIUM

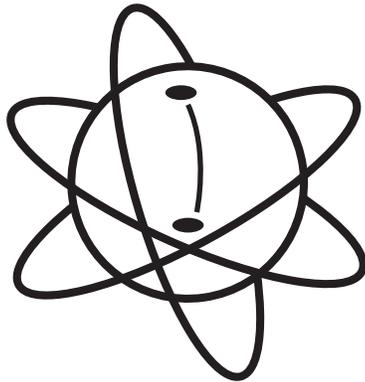
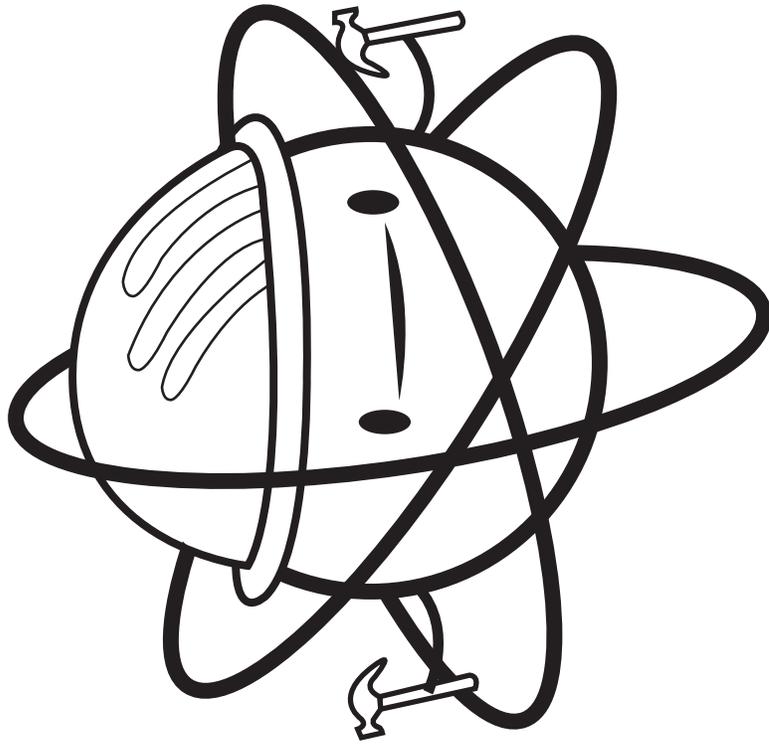
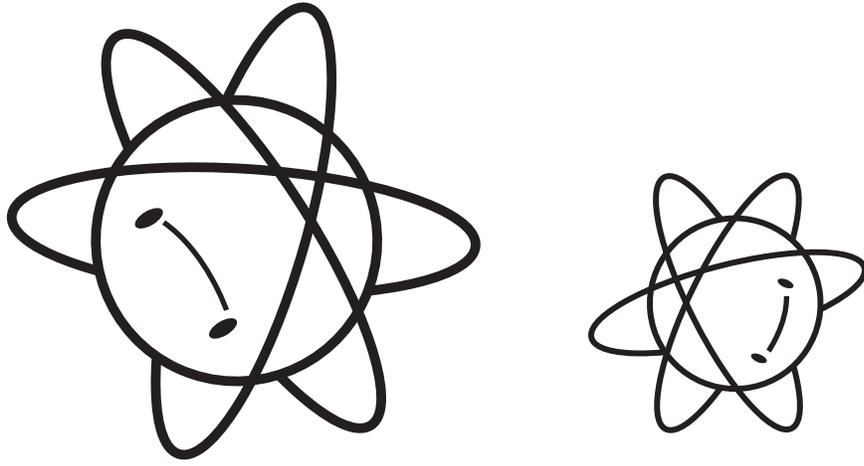
Uranium is a mineral found in rocks in the ground. We split uranium atoms to release energy in nuclear power plants.

***FOSSIL FUEL:** Formed millions to hundreds of millions of years ago from the remains of living organisms. The plants and animals received their energy when they were alive from the sun. It was stored in them when they died.



COLOR SOME ENERGY!

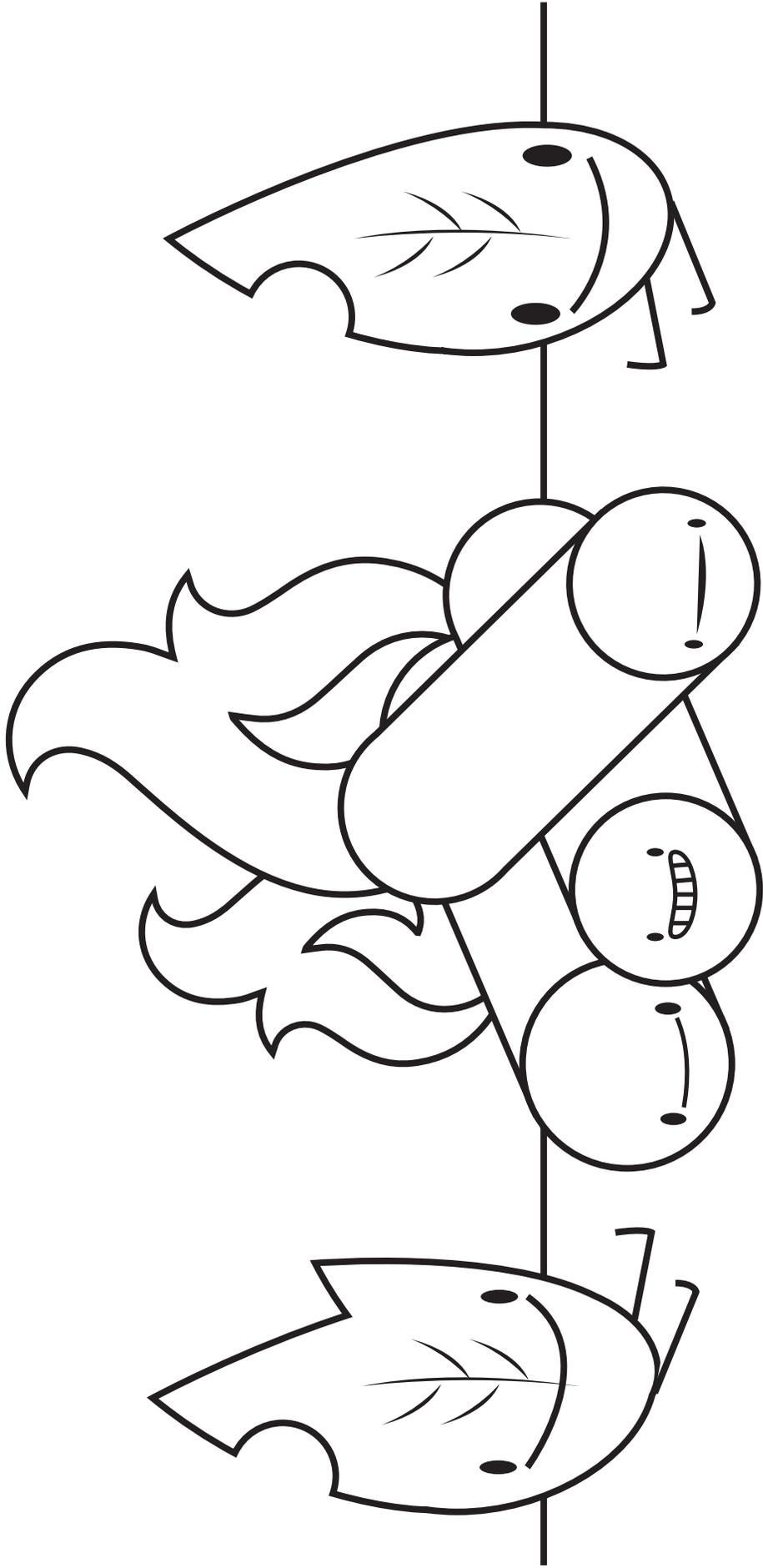




ATOMS MAKE UP EVERYTHING

Everything is made of atoms – every star, every tree, every animal. Even people are made of atoms. The air and water are, too.

Atoms are the building blocks of the universe. They are very, very tiny particles. Millions of atoms would fit on the head of a pin.

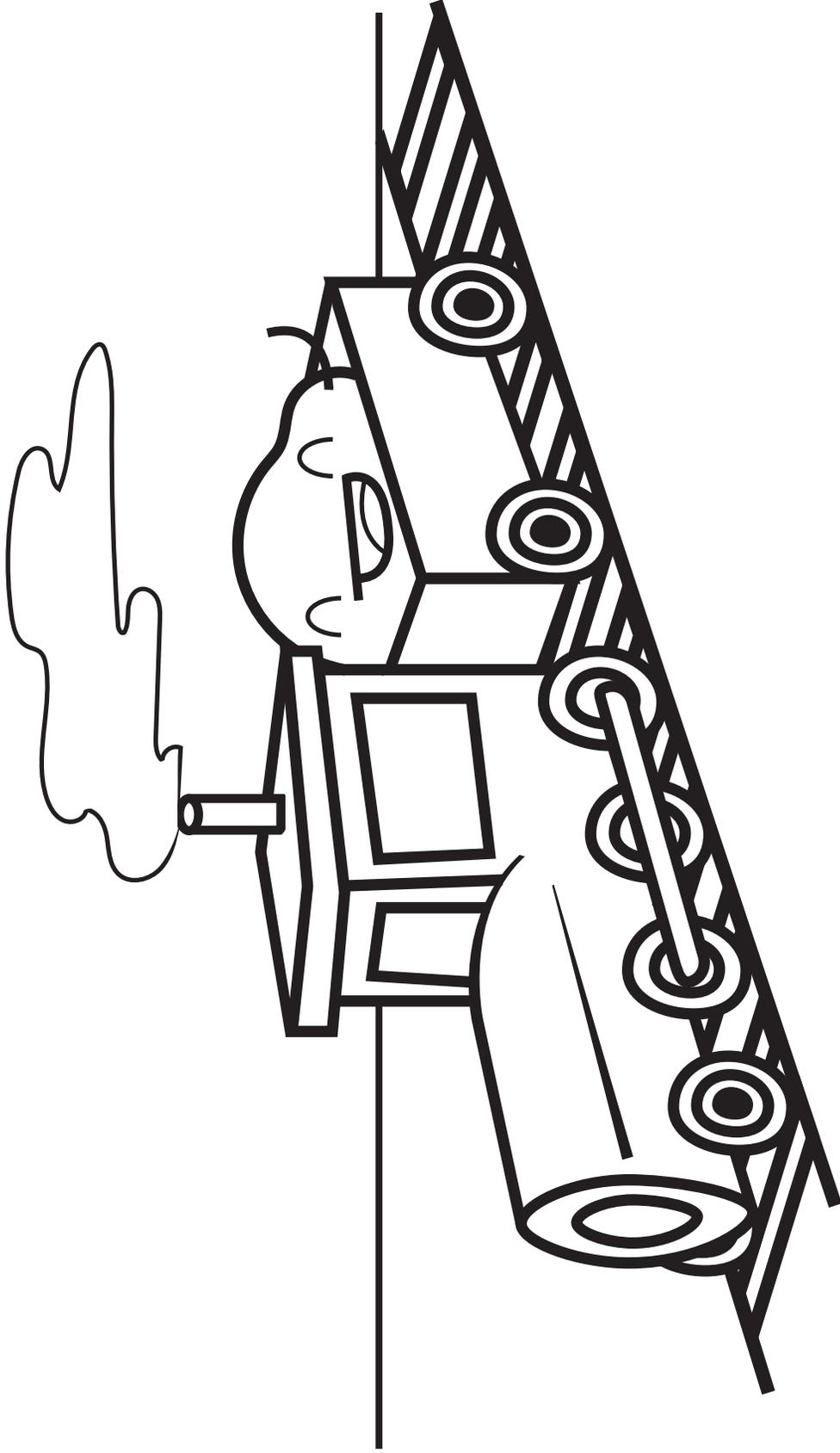


BIOMASS IS ANYTHING THAT IS ALIVE OR WAS ALIVE A SHORT TIME AGO

Trees, crops, garbage, and animal waste are all biomass.

Most of the biomass we use for energy today is wood and biofuels made from plants.

We burn these items to make heat and to power our vehicles.



COAL HAS ENERGY

Coal looks like shiny, black rock. Coal has lots of energy in it.

When it is burned, it makes heat and light energy.

Many years ago, Native Americans burned coal to make pots.

The early settlers didn't use much coal – they burned wood.

People began using coal in the 1800s to heat their homes.

Trains and ships used coal for fuel. Factories used coal to make iron and steel.

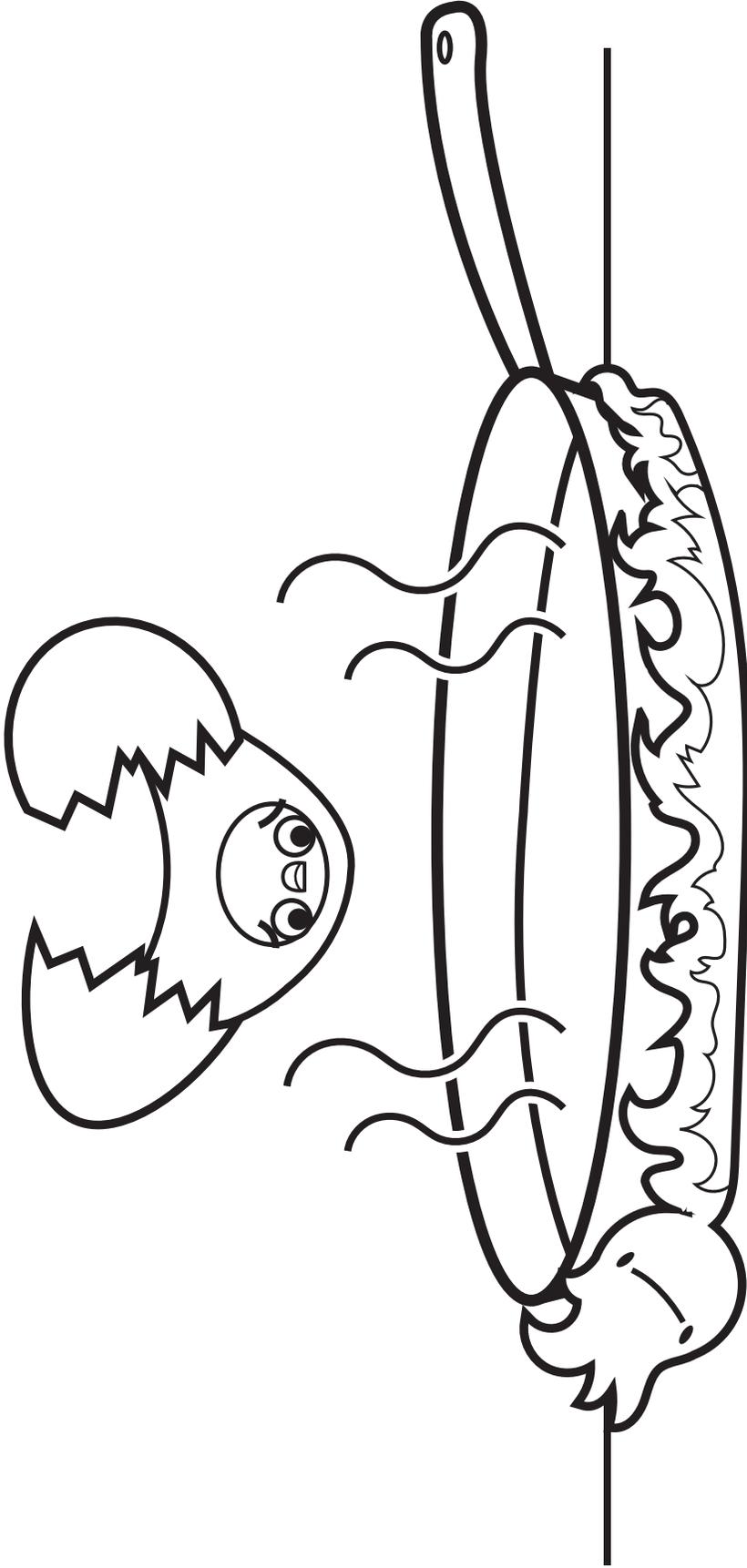
Today, we burn coal mainly to make electricity.



THE EARTH IS HOT

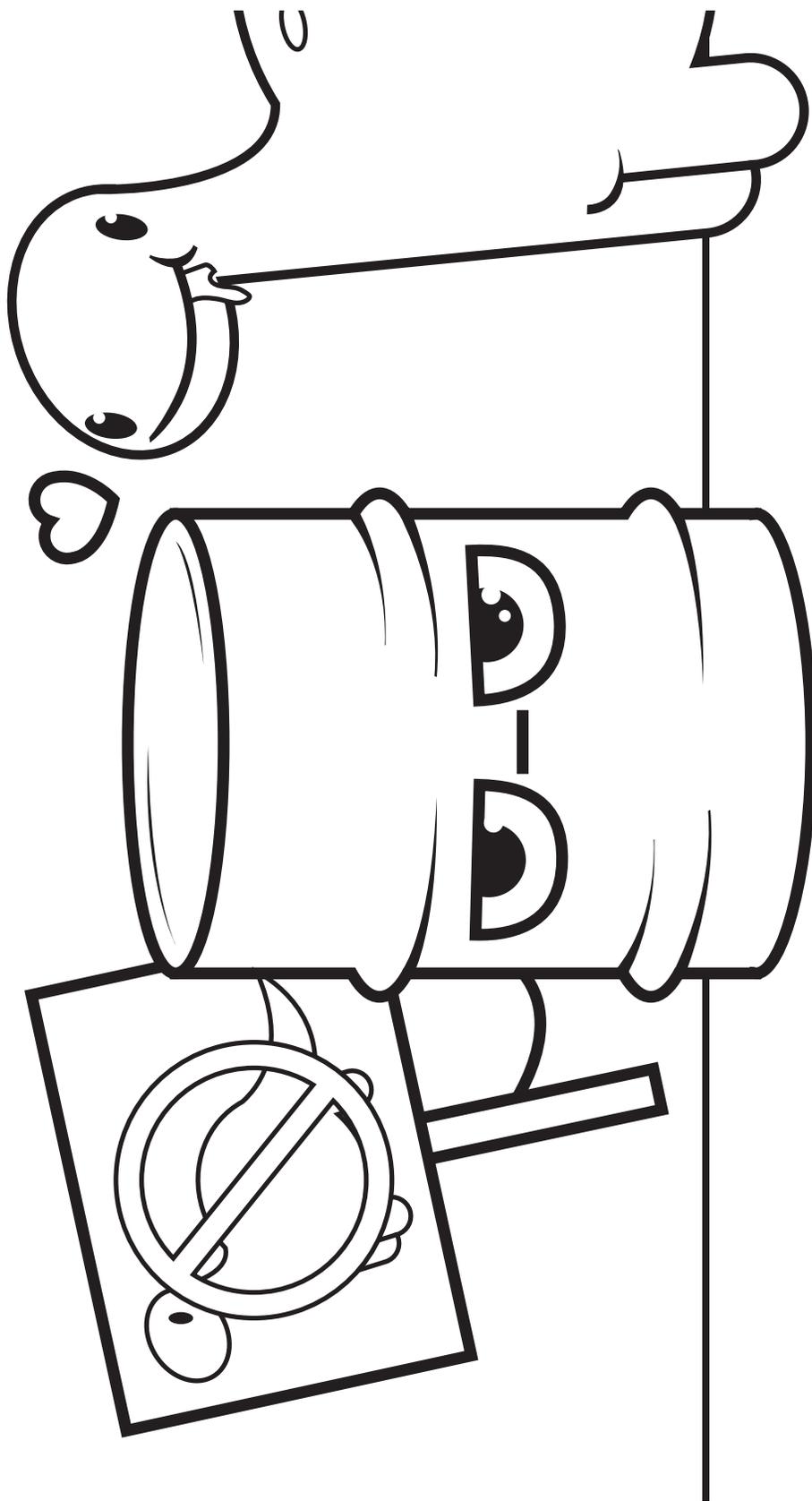
Geothermal energy is heat inside the earth. The inside of the earth is very hot. Sometimes this heat comes near the surface. We can use this heat to warm our houses. We can make electricity with it.

- The earth is made of parts or layers, like a hard-boiled egg. At the center is a core of iron.
- Around that is an outer core of iron and rock so hot, the rock is melted. This liquid rock is called magma.
- The middle layer is a mixture of rock and magma called the mantle.
- The shell of the earth – with the oceans and mountains – is called the crust.



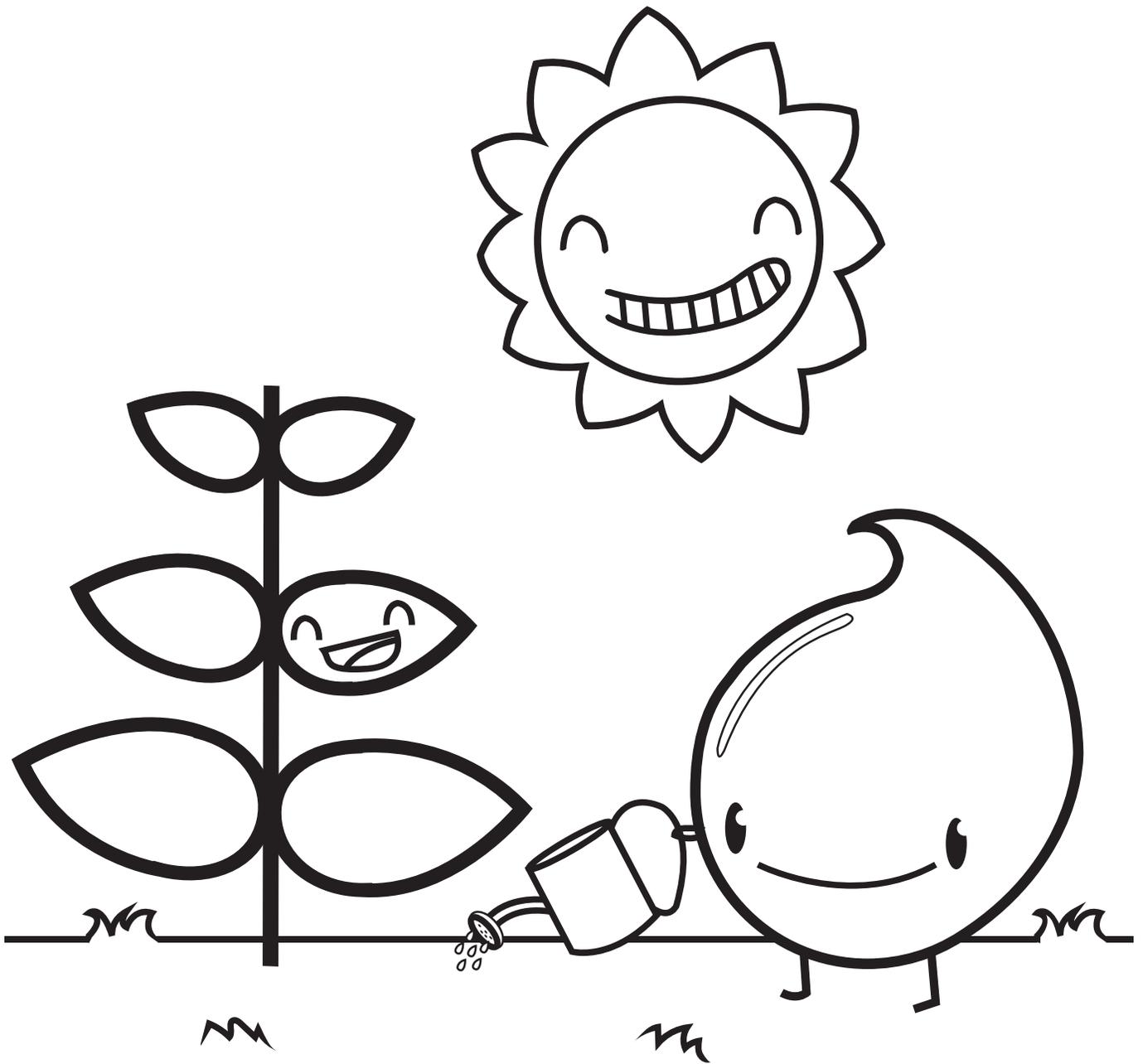
WE USE NATURAL GAS EVERY DAY

- Almost everyone uses natural gas.
- Most homes use natural gas for heat.
 - So do schools and hospitals.
- Many stoves and water heaters use natural gas, too.



PETROLEUM IS NOT MADE OF DINOSAURS

Petroleum was formed from tiny sea plants and animals that died hundreds of millions of years ago. This was *before* dinosaurs lived.



PHOTOSYNTHESIS

All living things need energy to grow.

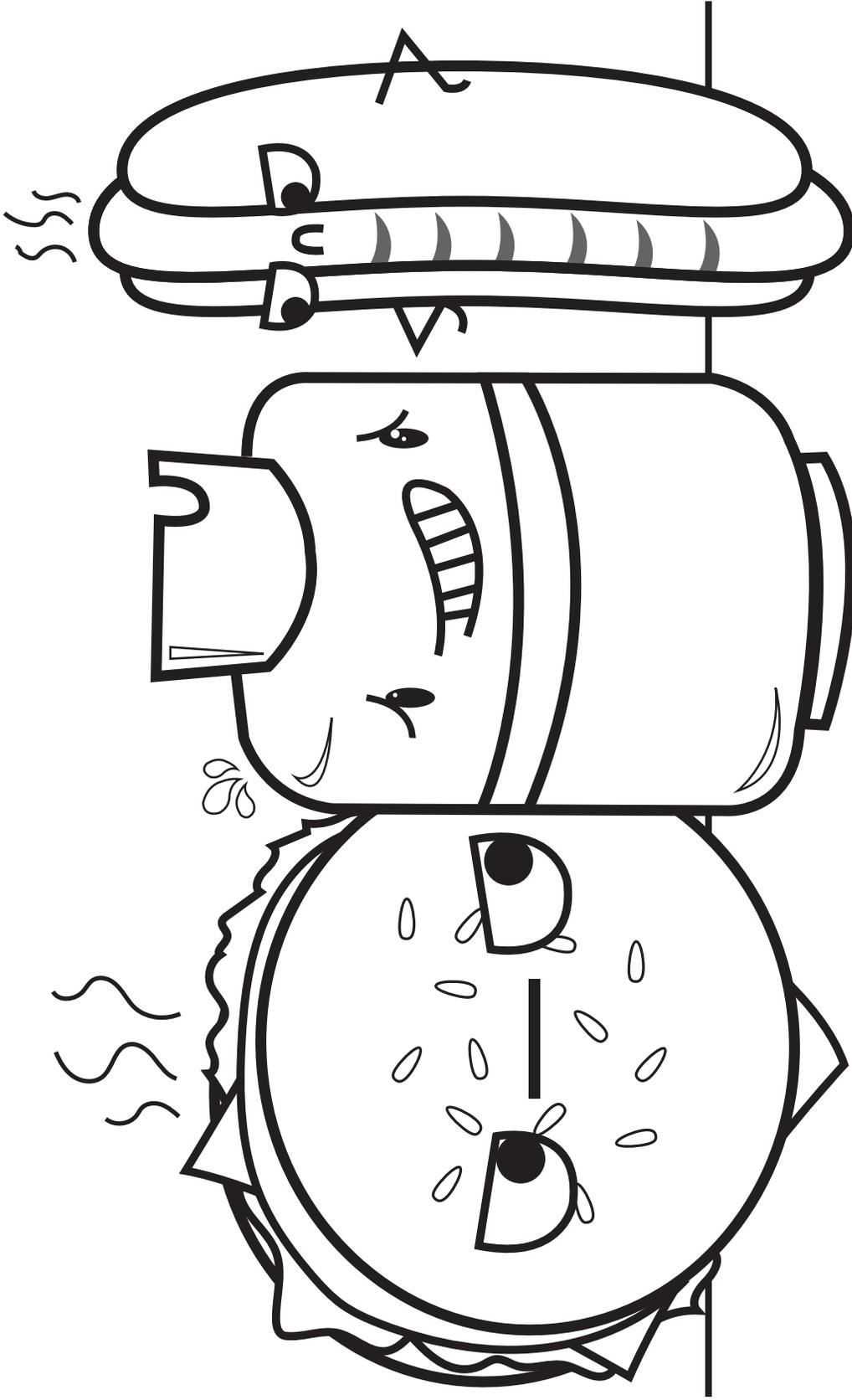
Plants use water and light from the sun to grow.

Plants change the energy from the sun into sugar and store it in their roots and leaves.

This is called photosynthesis.



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PROPANE IS USED AT HOME

Propane is mostly used in rural areas that do not have access to natural gas service. Homes use propane for heating, hot water, cooking, and clothes drying. Many families have barbecue grills fueled by propane gas. Some families have recreational vehicles equipped with propane appliances.



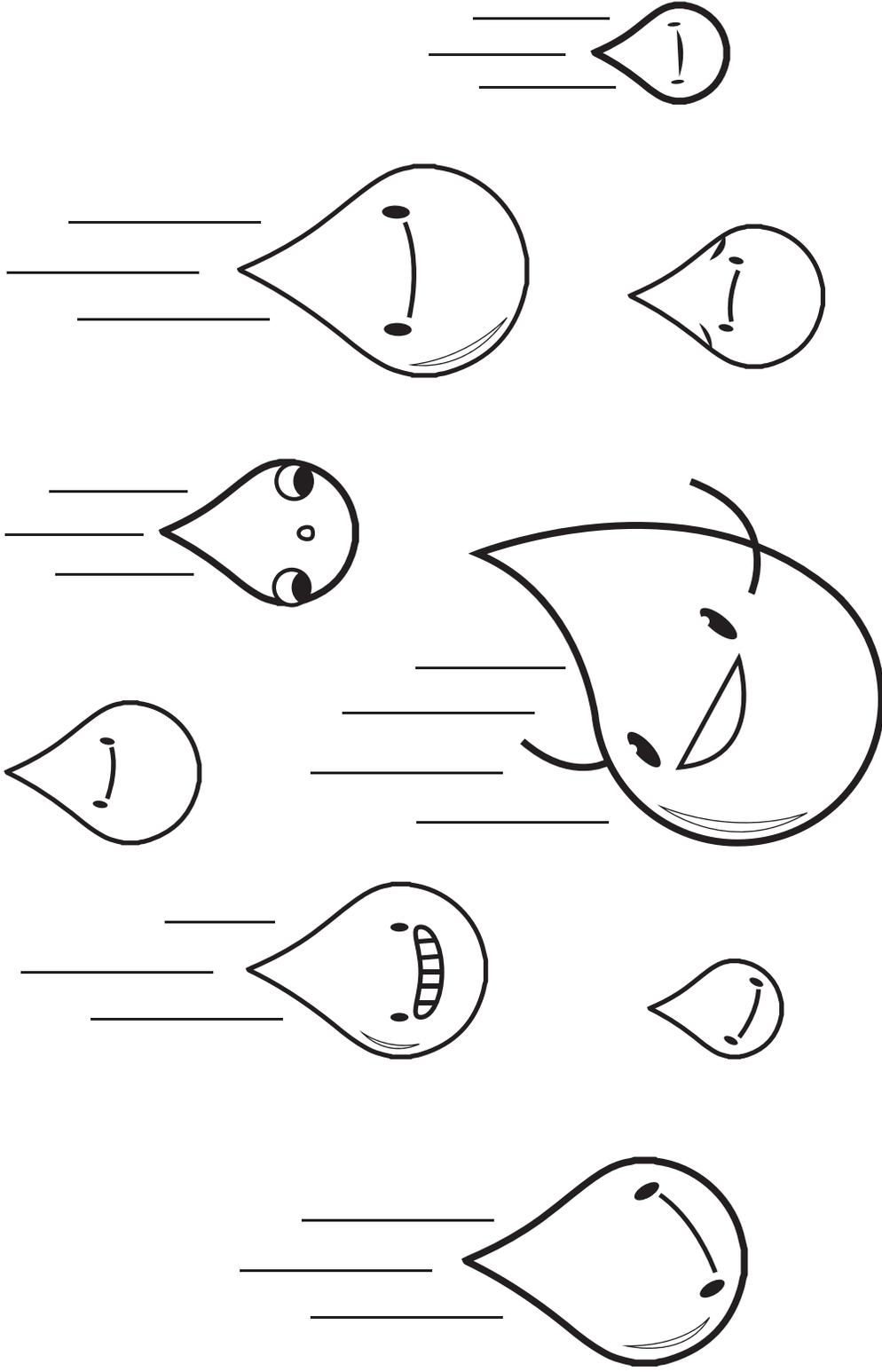
WE USE SOLAR ENERGY IN MANY WAYS

All day, we use sunlight to see what we're doing and where we're going.

Sunlight turns into heat when it hits things.

Without the sun, we couldn't live on the earth – it would be too cold.

We use the sun's energy to heat water and dry clothes.



ENERGY FROM MOVING WATER

Hydro comes from the Greek word meaning water.

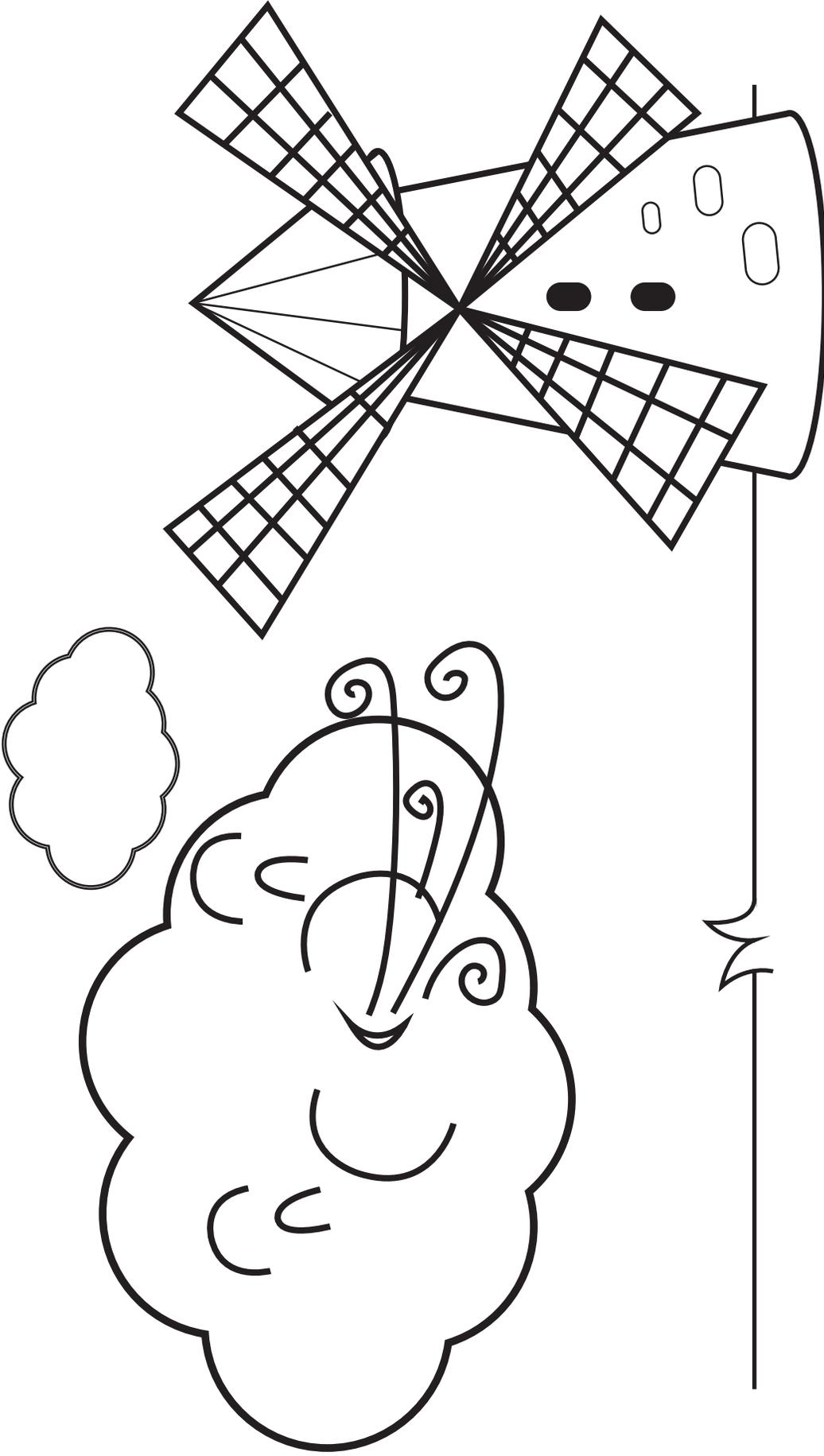
Hydropower is the energy we make with moving water.

Moving water has a lot of energy. We use that energy to make electricity.

Gravity – the force of attraction between all objects – makes the water move.

Gravity pulls the water from high ground to low ground.

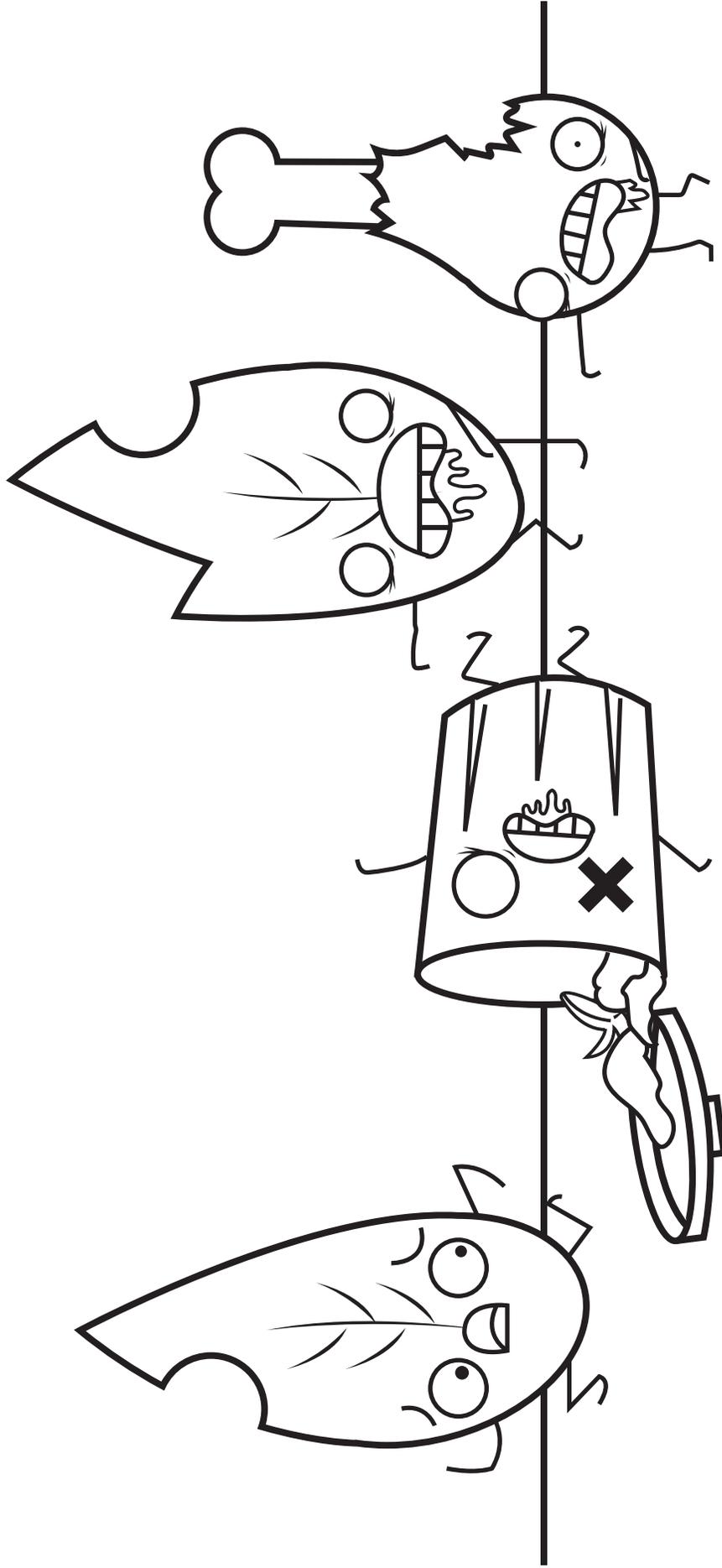
The rain that falls in the mountains flows down the valleys to the oceans.



WIND IS MOVING AIR

We can use the energy in wind to do work. Early Egyptians used the wind to sail ships on the Nile River. People still use wind to move sailboats. In the Netherlands, people used windmills to grind wheat.

The Pilgrims used windmills to grind corn, pump water, and run sawmills. Today, we use wind to make electricity.



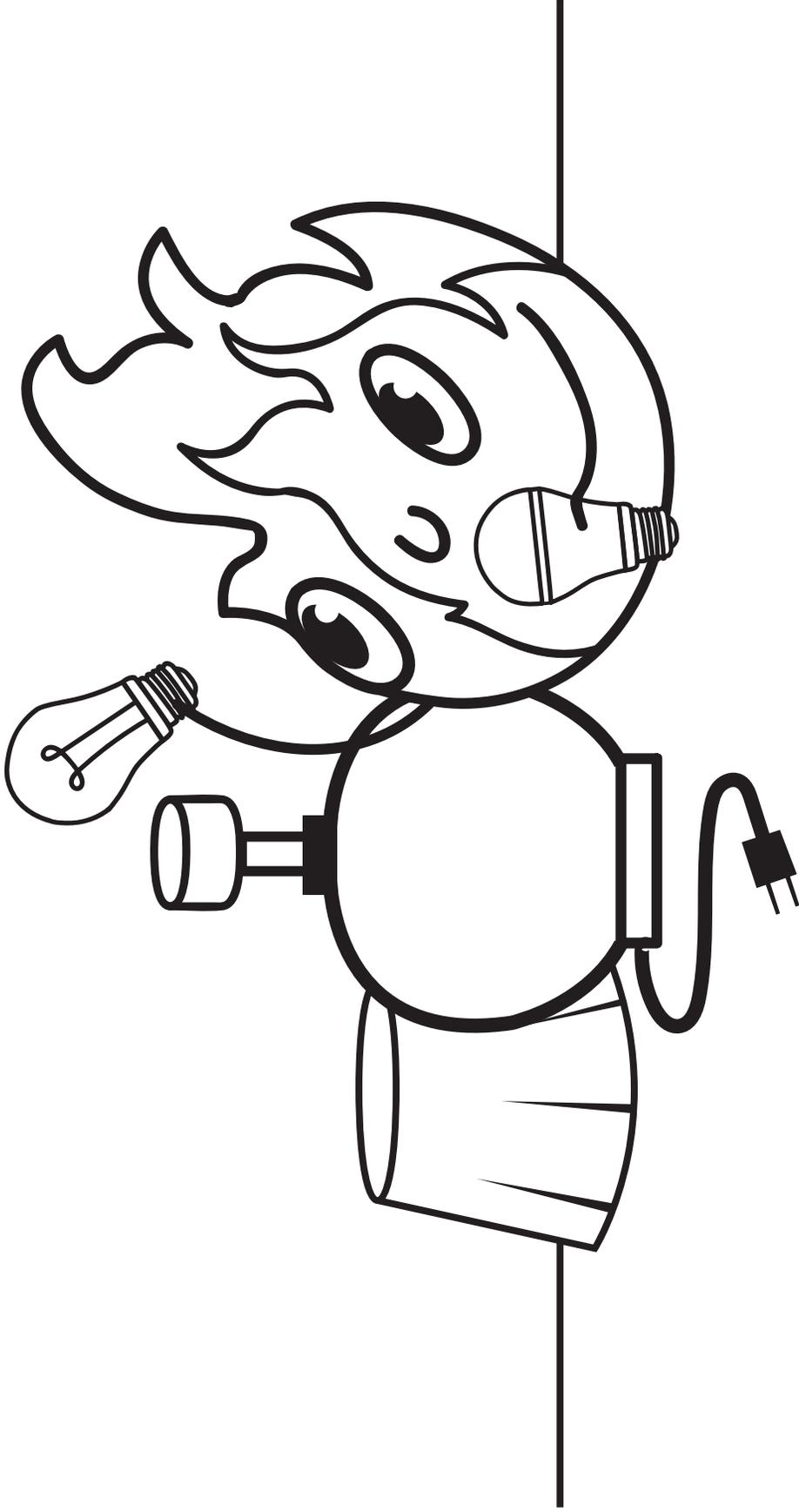
DYING TO GIVE YOU ENERGY

Biomass is anything that is alive or was alive a short time ago.

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Most of the biomass we use for energy today is wood and biofuels made from plants.

We burn these items to make heat and power our vehicles.



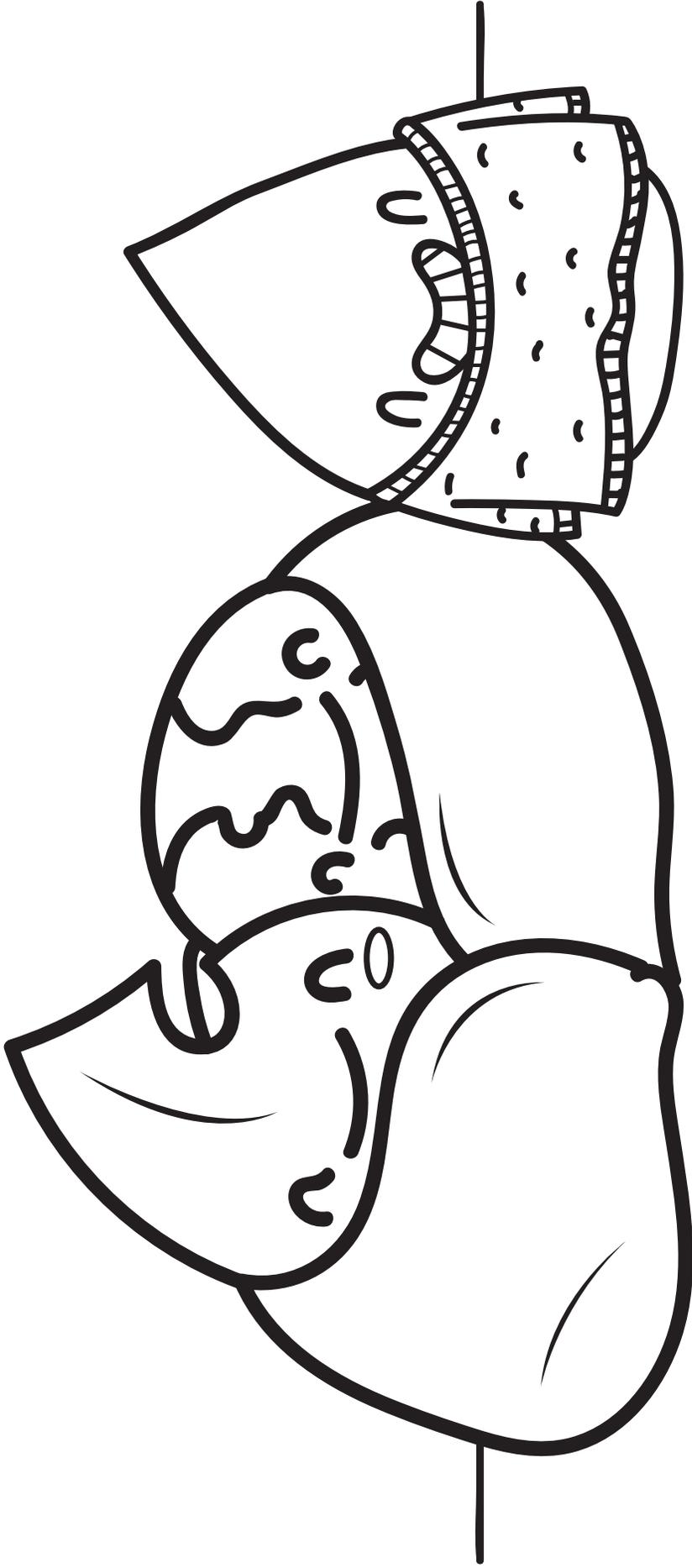
SAVE ENERGY WITH LIGHTING

Homes and schools use energy for lighting. We use electricity to light most buildings.

Turn off lights when you leave a room. Use the sun's light whenever you can. Use outdoor lights only when needed.

Use only the light you need for a task. To read, for example, use a reading lamp, not an overhead light.

Use energy-saving fluorescent lights in schools. At home, use energy-saving compact fluorescent light bulbs (CFLs) or light emitting diodes (LEDs) instead of incandescent light bulbs. They save energy and money.



SAVE HEAT

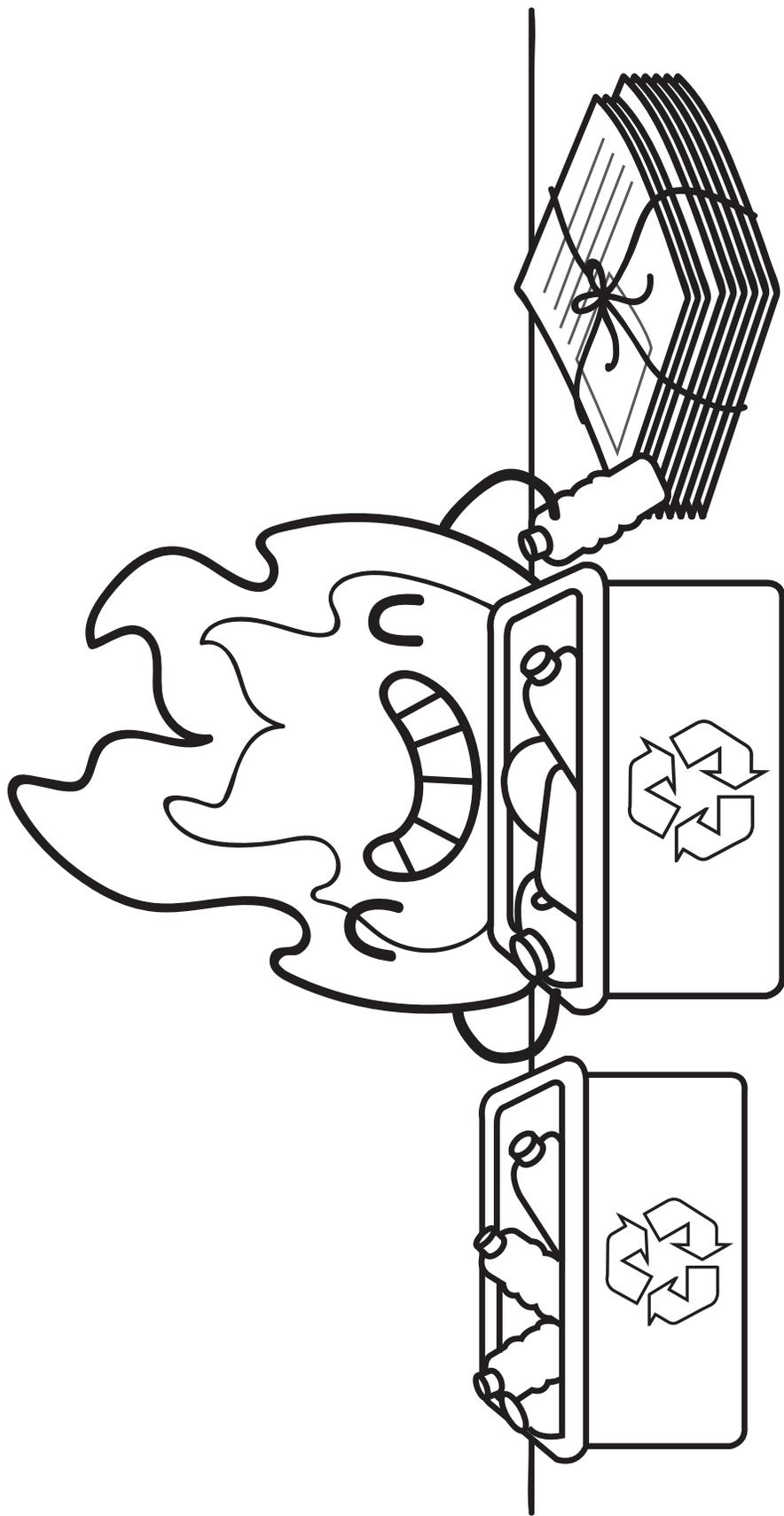
It takes a lot of energy to heat houses and water. If the heat is on, keep doors and windows closed.

Wear warm clothes instead of turning up the heat.

At night, use blankets to stay warm.

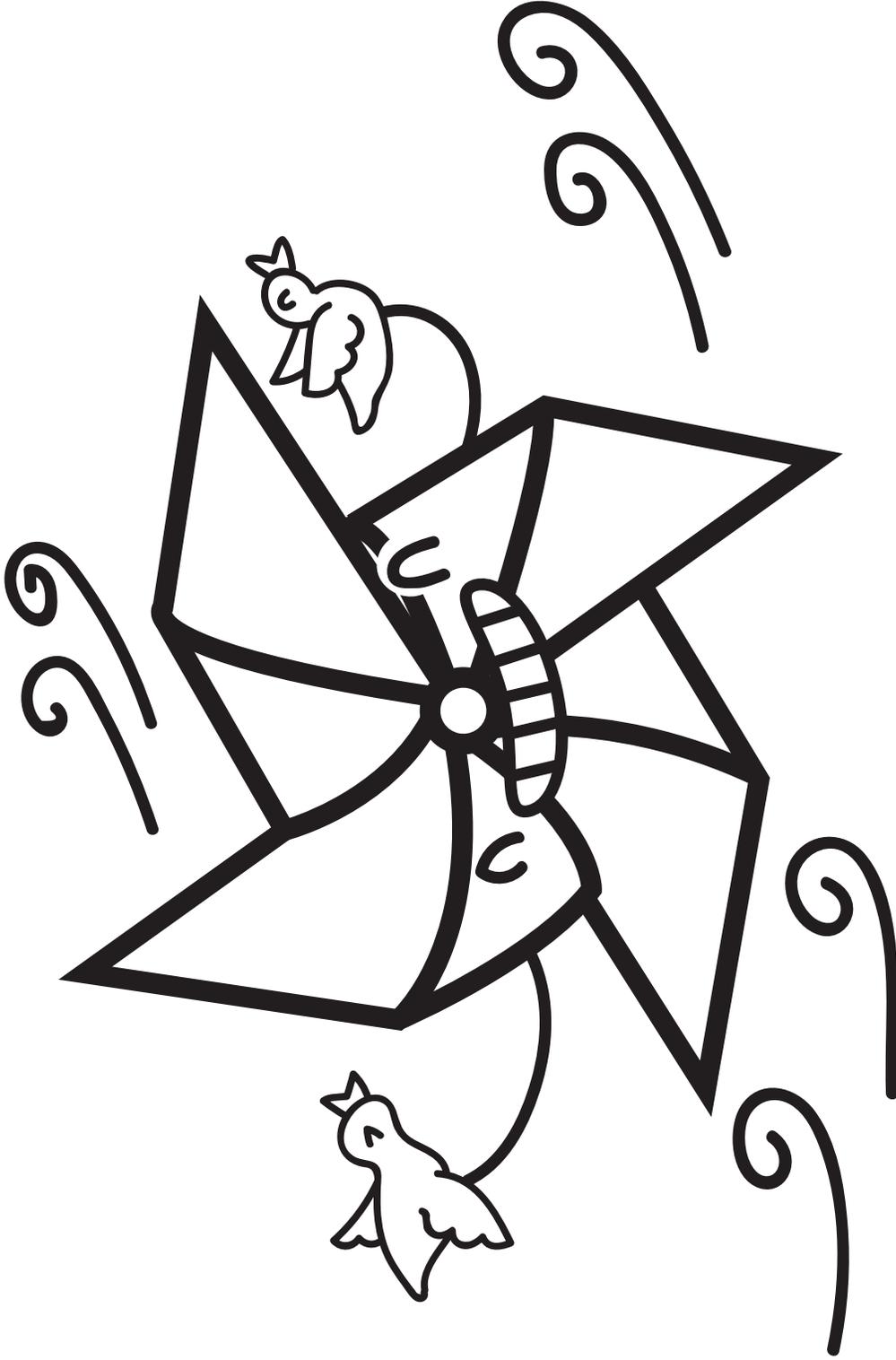
When you take a bath, use only the water you need.

Don't stand in the shower for a long time. Heating water uses energy.



RECYCLING

You can recycle lots of things – cans, paper, glass, and plastic. It only takes a minute to recycle, and it saves energy. It takes a lot of energy to dig up metal and make a can. It only takes a little energy to make a new can from an old one. Cans can be recycled over and over again. Plastic bottles can be recycled into more plastic bottles, clothes, shoes, and rugs. Paper can be recycled into boxes and bags. Don't throw away anything you can recycle.

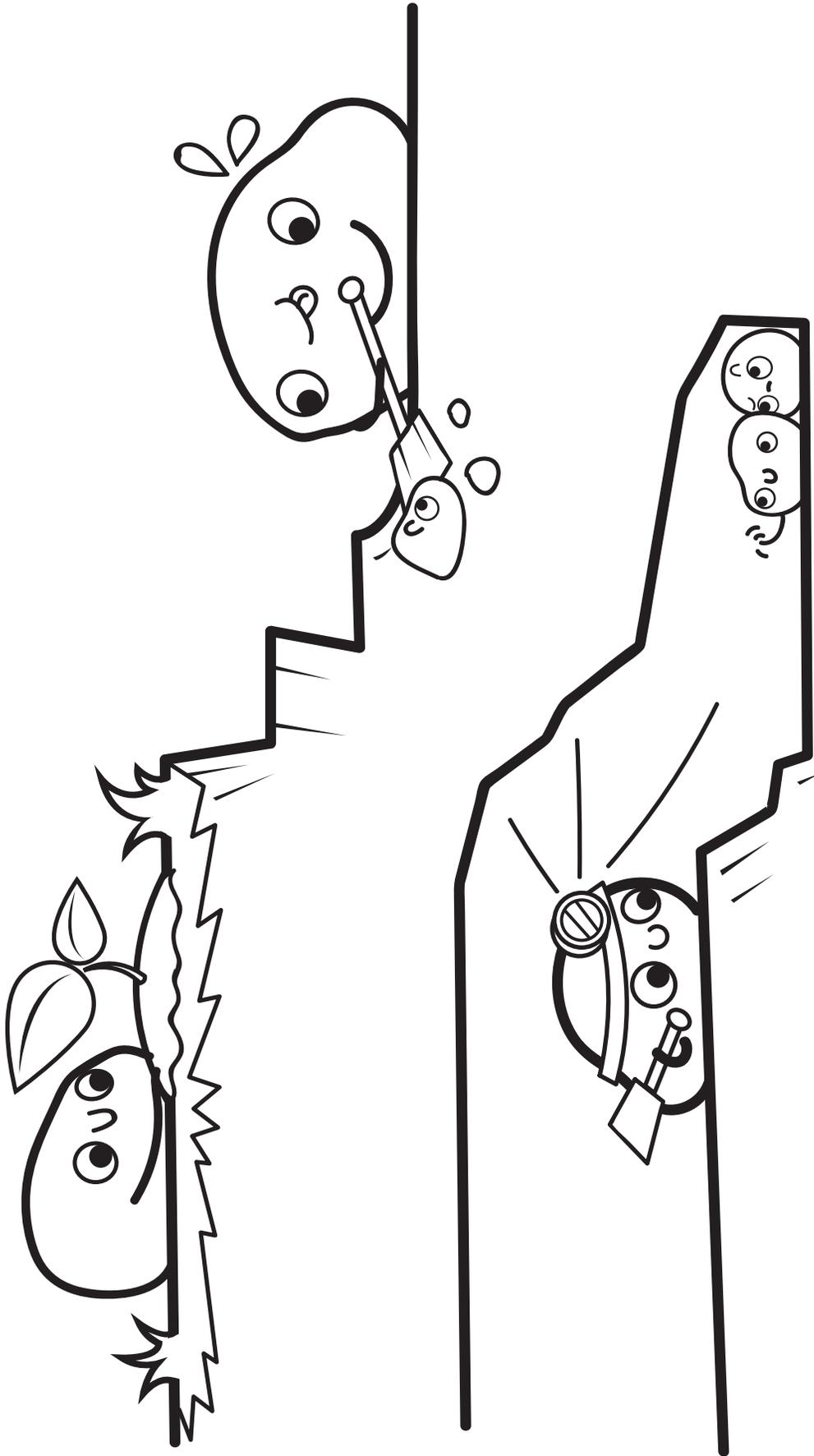


ANIMALS AND THE WIND

Animals also depend on the wind for survival. Many animals depend on smell to warn them of danger. The wind can carry smells a long way. Animals can stay away from predators and catch prey with help from the wind.

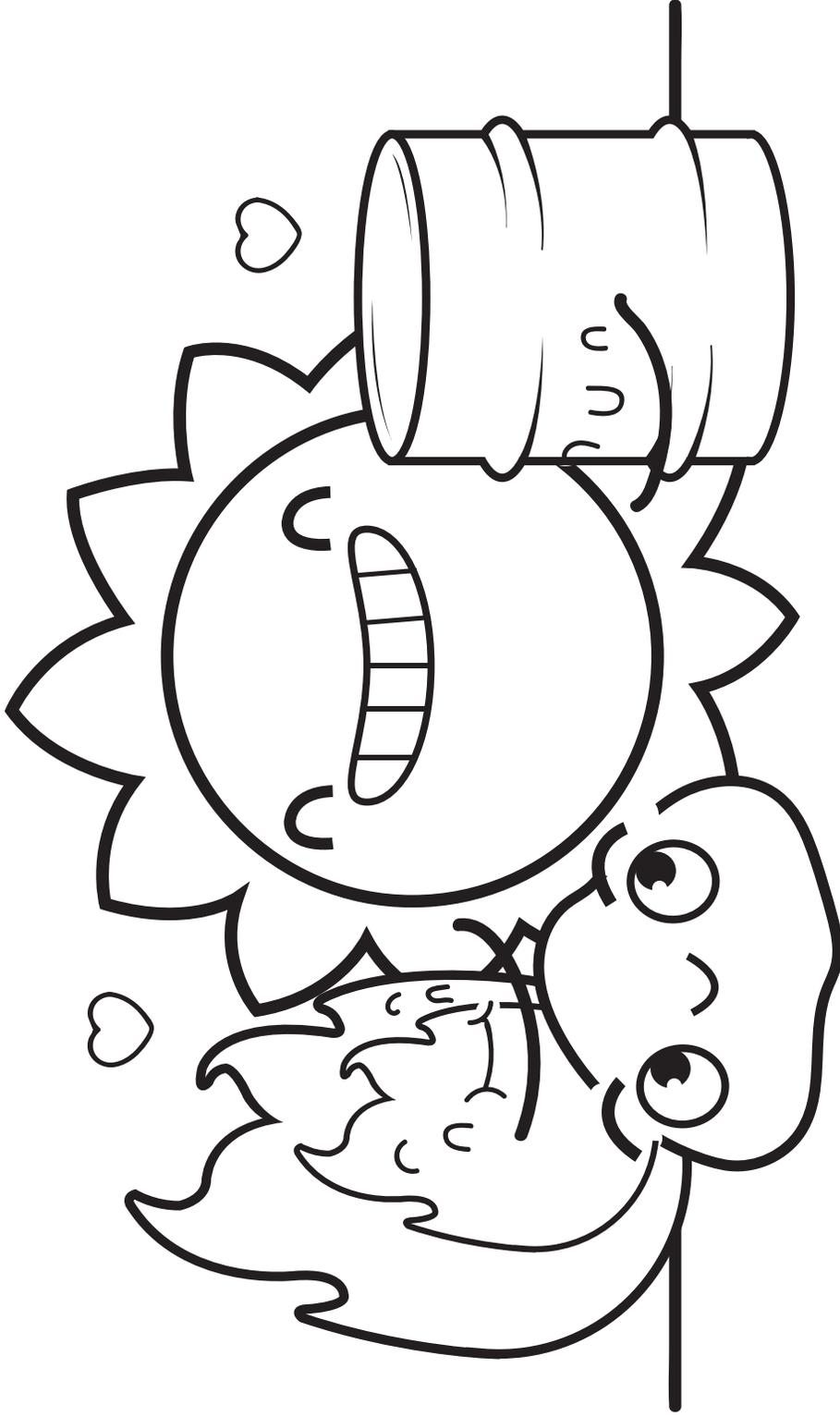
Birds soar in the sky and migrate with the help of the wind.

Some tiny animals even depend on the wind to carry them from one living area to another.



DIGGING FOR COAL

- Most coal is buried under the ground. We must dig it out – mine it.
- If the coal is deep in the ground, tunnels called mine shafts are dug down to the coal.
- Machines dig the coal and carry it to the surface. This is called **deep mining**.
- If coal is near the surface, miners dig it up with huge machines.
- First, they scrape off the dirt and rock, then dig out the coal. This is called **surface mining**.
- After the coal is mined, they put back the dirt and rock. They plant trees and grass. This is called **reclamation**.



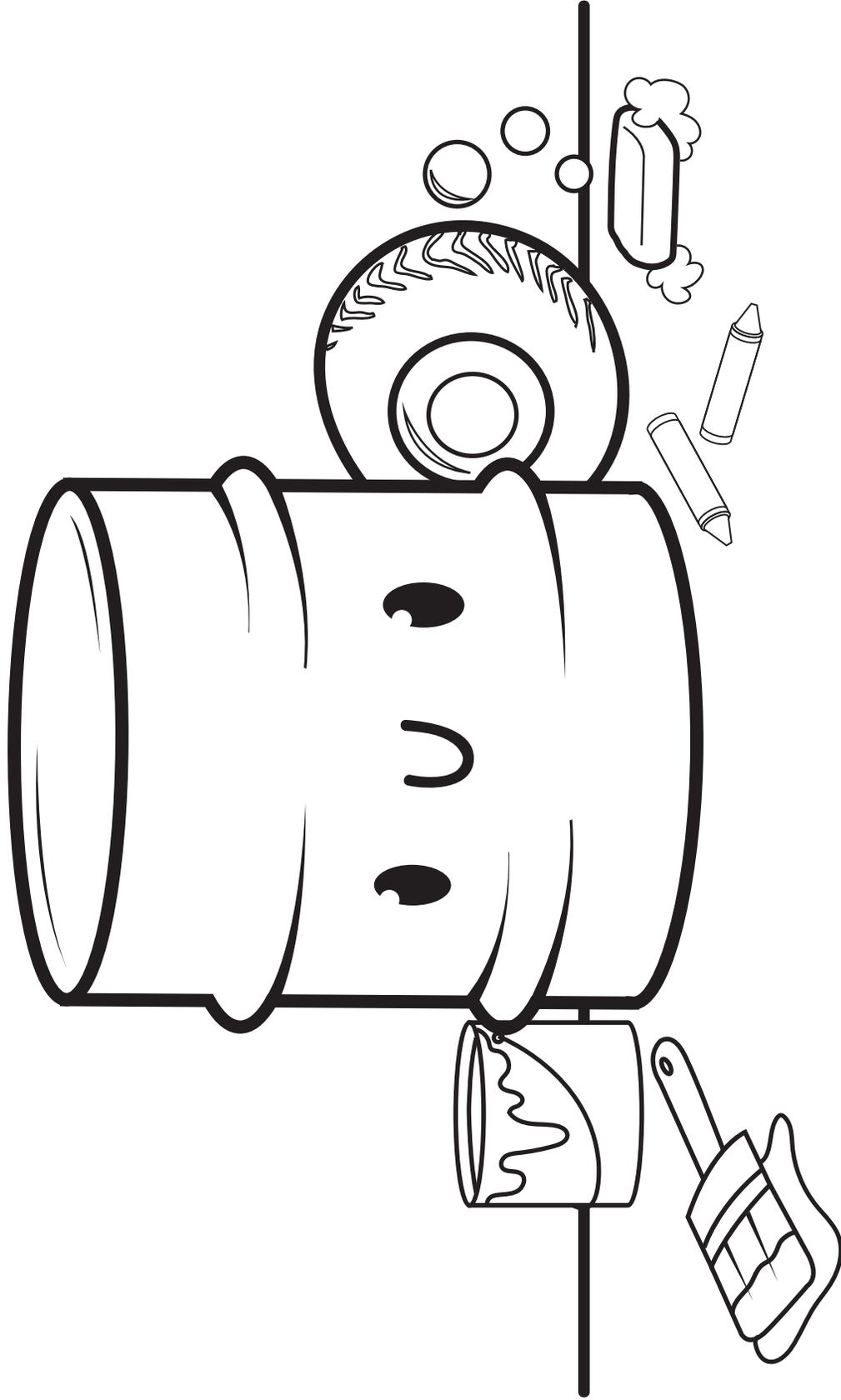
FOSSIL FUELS CONTAIN ENERGY FROM THE SUN

Coal, oil, and natural gas are called fossil fuels because they were made from prehistoric plants and animals.

The energy in the plants and animals originally came from the sun.

We use the energy in fossil fuels to cook our food, warm our homes, run our cars, and make electricity.

Most of the energy we use today comes from fossil fuels.



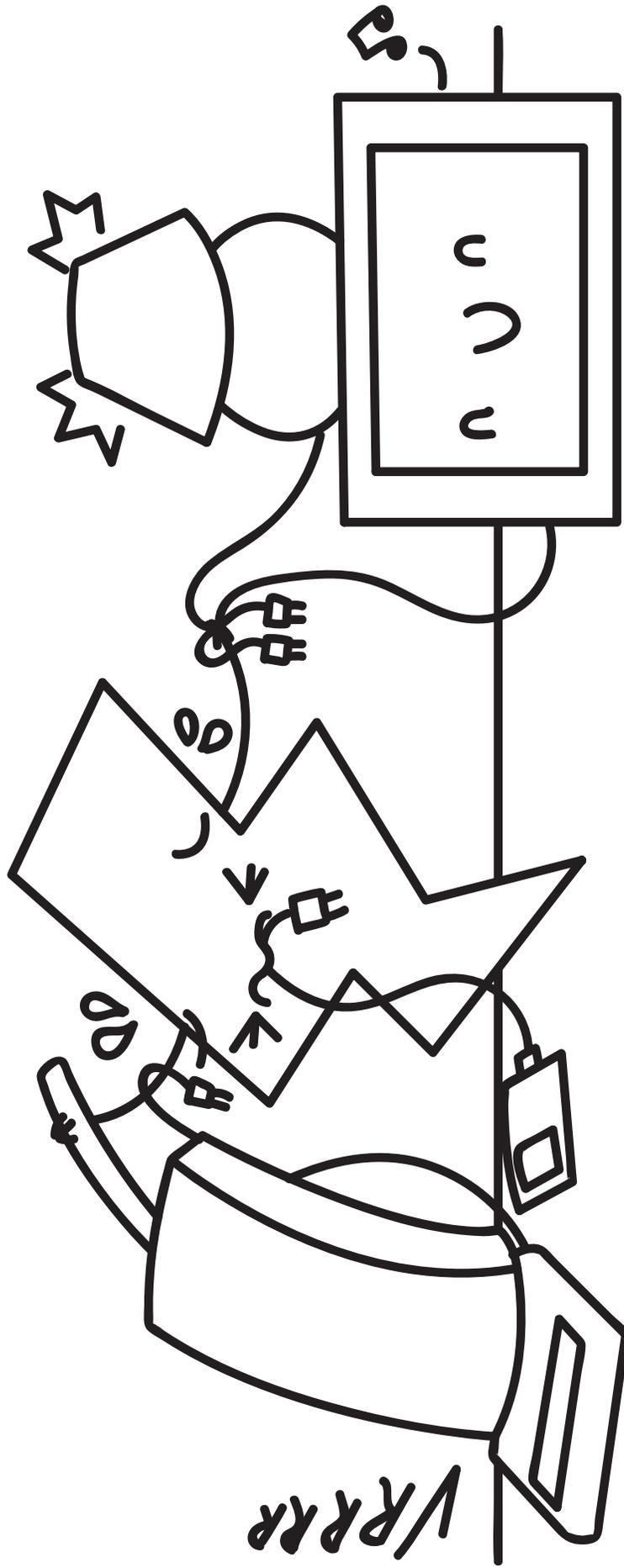
WE USE PETROLEUM EVERY DAY

What would we do without petroleum?

Our country would come to a stop. Most of our cars, trucks, and planes are powered by fuel made from oil.

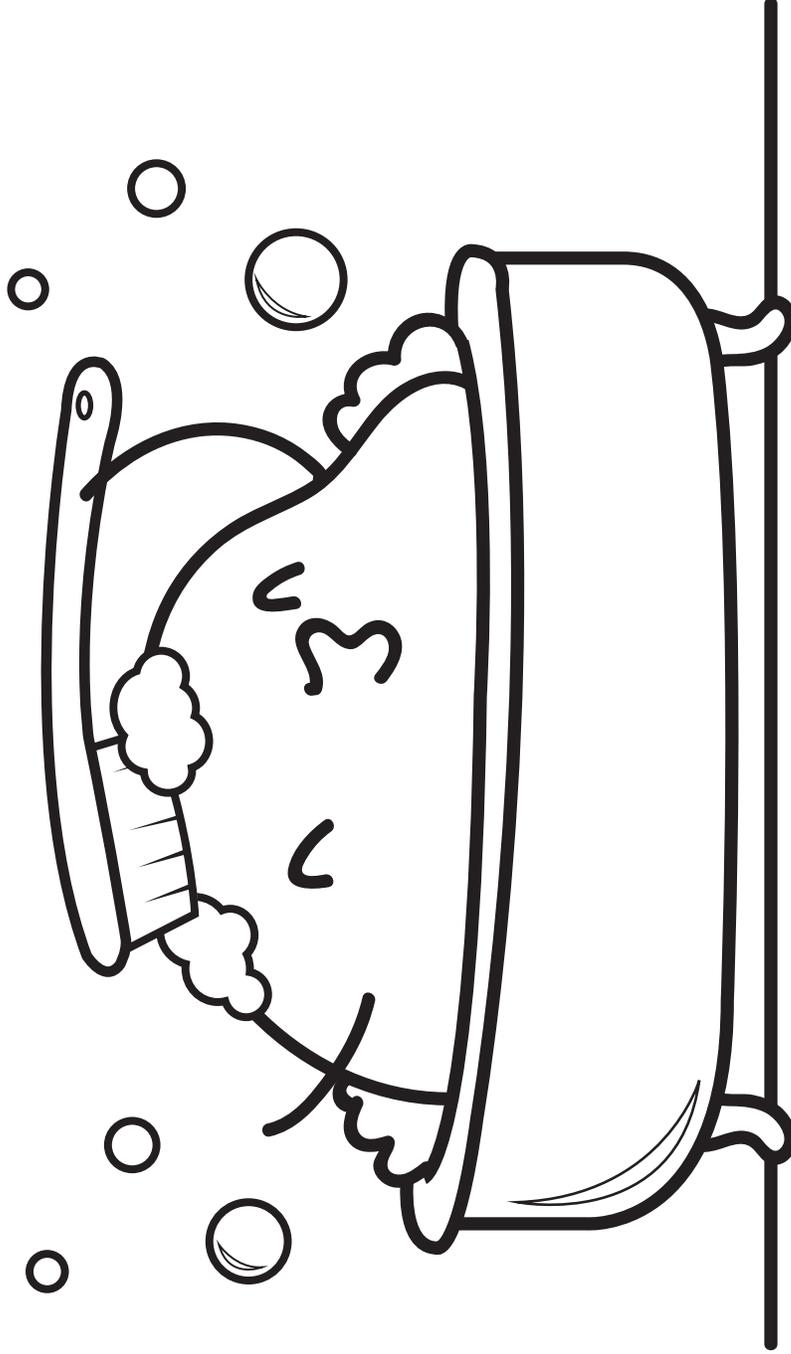
Our factories use oil to make plastics, paints, medicine, and soaps.

We even burn oil to make electricity. We use petroleum more than any other energy source.



WE USE ELECTRICITY EVERY DAY

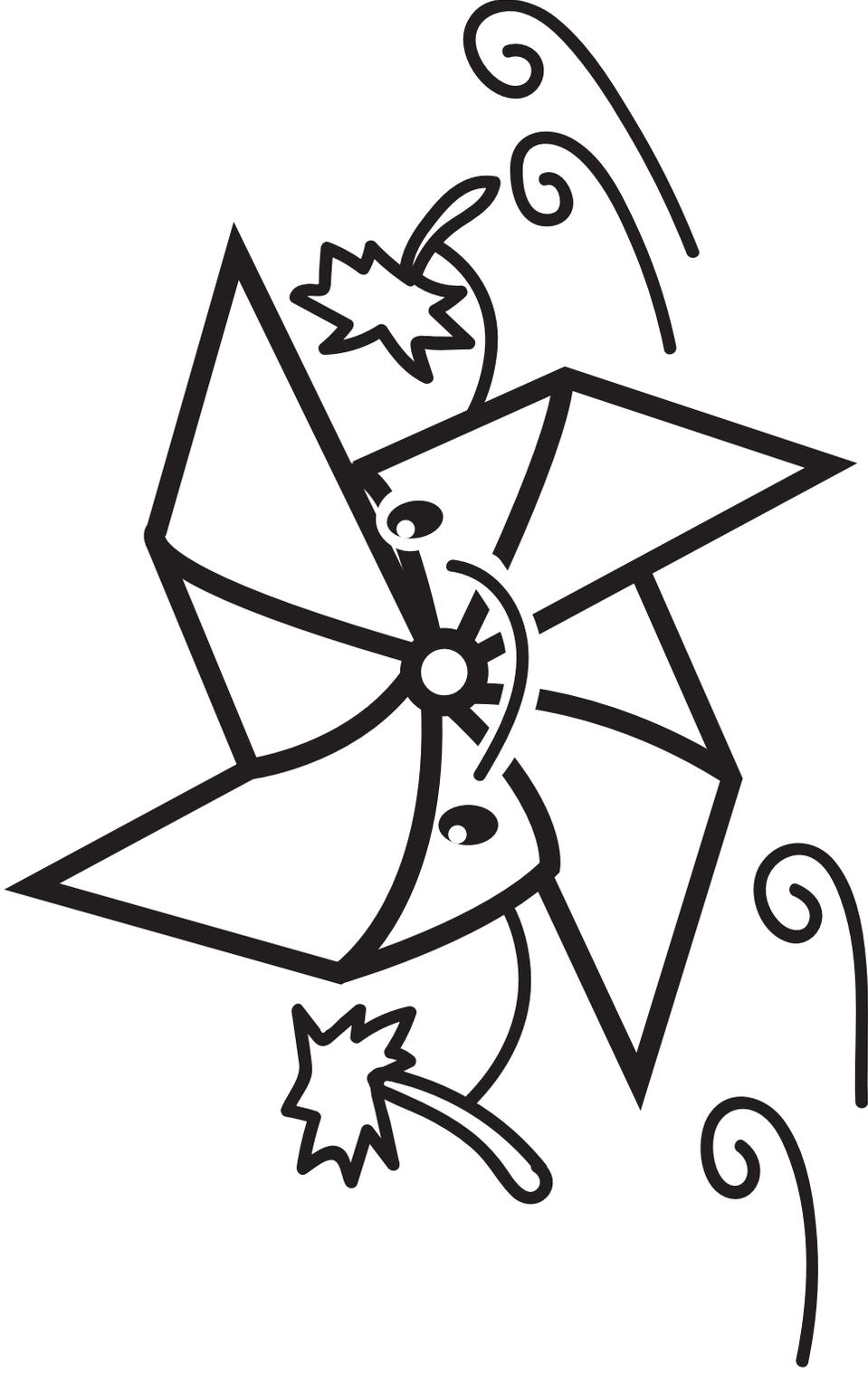
Electricity does a lot of work for us. We use it many times each day.
 It lights our homes, warms and cools our rooms, and helps us keep them clean.
 It runs our TVs, video games, and computers. It cooks our food and washes the dishes.
 It can power our lawn mowers and leaf blowers.
 It can even run our cars.



COAL CAN POLLUTE THE AIR

When coal is burned, it can pollute the air.

Power plants and factories work hard to keep the pollution from getting into the air. They clean the coal before they burn it. They use scrubbers to clean the smoke before it goes into the air.



PLANTS AND THE WIND

Some small plant seeds are very light. They are carried by the wind to new places. This is an important part of nature. The plant seeds are carried away from their parents. They spread out across the land.

As they grow in new places, they don't have to compete with other plants for nutrients, water, and sunlight. Many plant seeds, spores, and fruits use the wind to survive.

