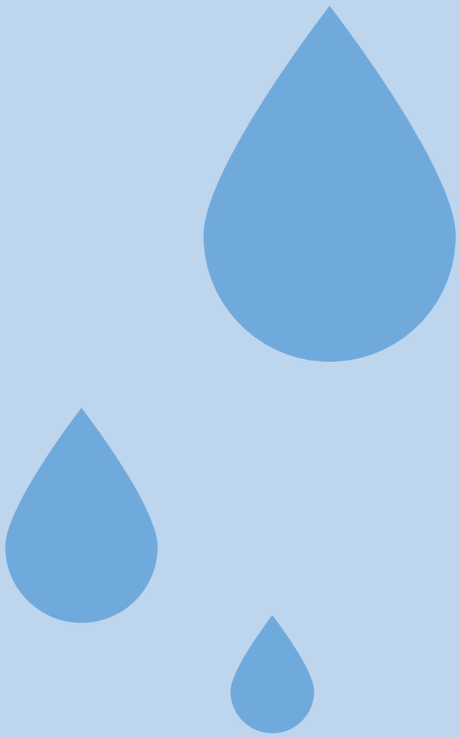
GENERATION E

LET'S EXPLORE ENERGY EFFICIENCY!





THIS BOOK BELONGS TO:

Materials in this activity book align with
the Manitoba Grade 3-4 curriculum.

WHAT IS ENERGY EFFICIENCY?

Everything around us needs **energy** to move and work. Appliances in our homes, like toasters, refrigerators, and stoves, need energy to work. Electronics in your classroom need energy to charge, and lights need energy to turn on. We need energy to heat our homes and schools. It's important we use this energy carefully so that we don't waste it or use more than we need.

Using less energy to do the same tasks is called **energy efficiency**. Being energy efficient helps the environment by using less of the world's resources. Every one of us can make changes in our lives to be more energy efficient. Join our friends Energy Ed and Jenny Jay on an adventure to learn how!



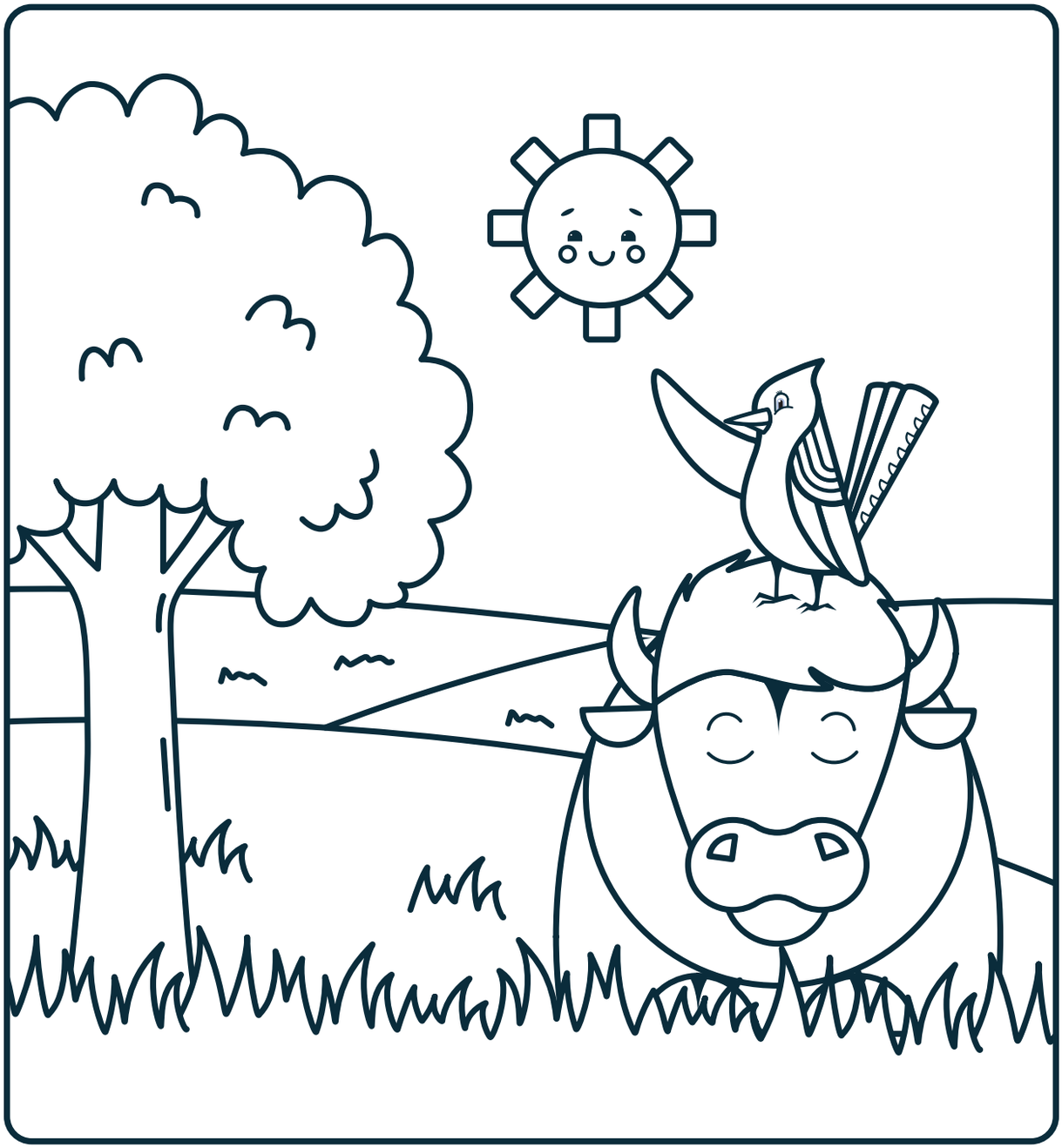
MEET ENERGY ED AND JENNY JAY!

Energy Ed is a kind and curious Manitoba Plains bison from Riding Mountain National Park. Ed grew up hearing stories about humans and their energy habits. Fascinated by how people are learning to use energy more wisely, he teamed up with his best friend, Jenny Jay, to explore and share fun ways to save energy every day.

Jenny Jay is a clever blue jay from Birds Hill Provincial Park. Jenny loves spotting ways to save energy in everyday life. Inspired by families who use energy wisely, she shares her tips and tricks with her best friend, Energy Ed, helping everyone learn that using energy thoughtfully is both smart and fun.



COLOUR JENNY JAY AND ENERGY ED



DID YOU KNOW/ FUN FACTS

1. Hydroelectricity produces renewable energy.
2. Turning the heat down when no one is home or when people are sleeping can save energy.
3. Many schools in Manitoba are using less energy than they used to.
4. ENERGY STAR® is a symbol that shows which products use less energy.
5. Phantom power is the energy devices use even when they look like they are turned off.
6. Older schools often cool rooms by opening windows or using fans instead of using air conditioning.
7. LED lights last a long time and use much less energy than old light bulbs.
8. Some places in a school need brighter lights than others to be safe and comfortable.
9. Triple-pane windows are more efficient than single-pane windows.
10. Solar energy comes from the sun and gives us light and heat.

ACTIVITY 2

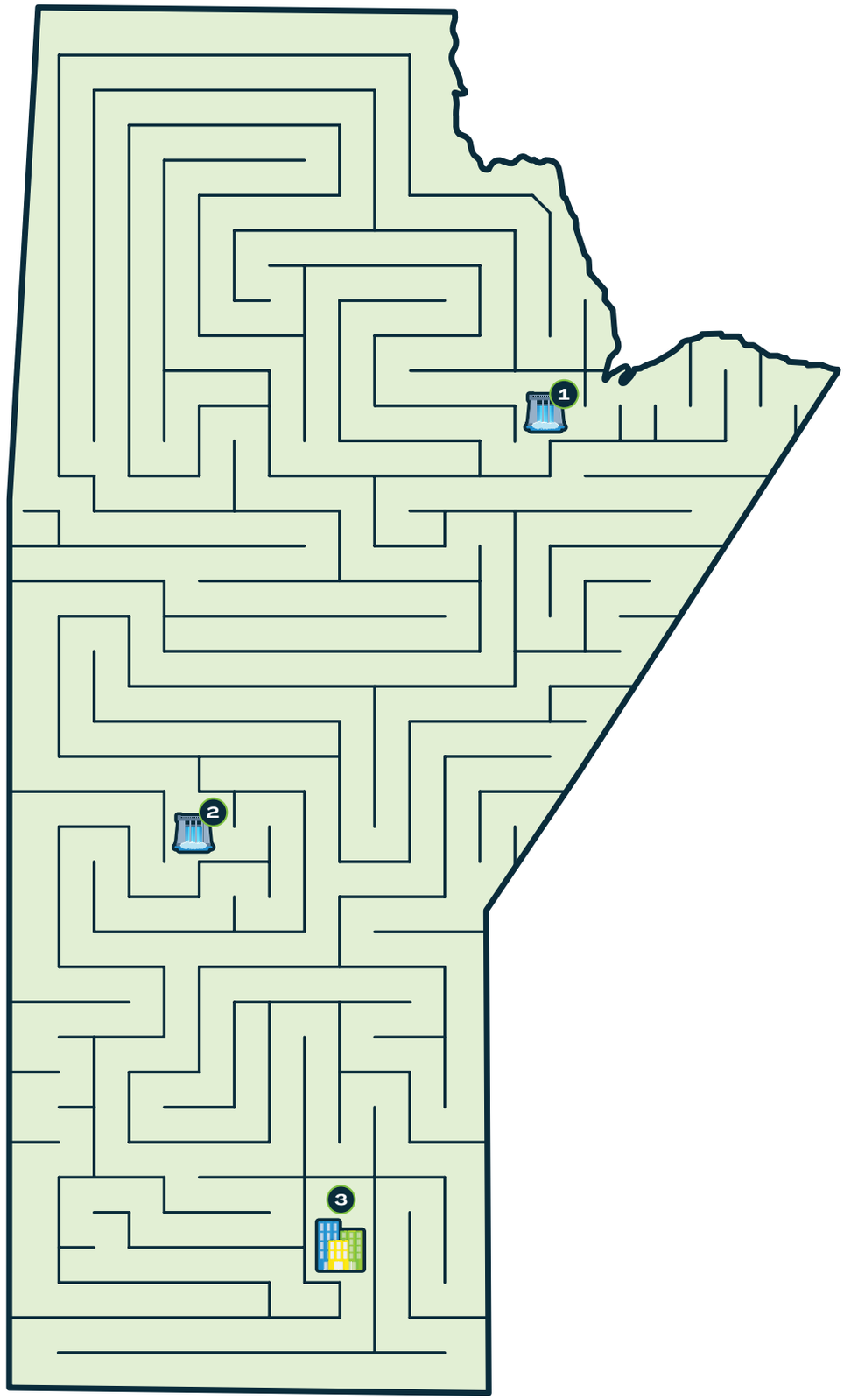
MANITOBA MAZE

Help Jenny Jay and Energy Ed visit generating stations before heading back to Winnipeg. Starting at the Limestone Generating Station (#1), draw a path to Grand Rapids (#2), and finish in Winnipeg (#3)!

Maze points

1. Limestone
2. Grand Rapids
3. Winnipeg




1
2
3

ACTIVITY 3

WORD SEARCH

Can you find the words related to energy efficiency hidden in the puzzle? Words may go across, up, down, or diagonally, so look closely to find them all!

Word list

SWITCH
POWER
THERMOSTAT
HEAT
WATER
SUN
DIMMER
LIGHT
ENERGY
EFFICIENCY
EDUCATION
ENVIRONMENT
PHANTOM
SENSOR
SOLAR

Bonus find:
SAVE ENERGY





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

ACTIVITY 4

SPOT THE DIFFERENCES

Jenny Jay and Energy Ed are visiting a friend's house, and they noticed some things have changed since the last time they were here. Can you spot all 16 differences between the pictures? Circle the differences between the two images in image 2.




IMAGE 1
RING RING
IMAGE 2
BUZZ
BUZZ

ACTIVITY 5

CROSSWORD

Jenny Jay and Energy Ed have learned lots about energy efficiency, and they want to see what you know! Use the clues to finish the crossword puzzle.

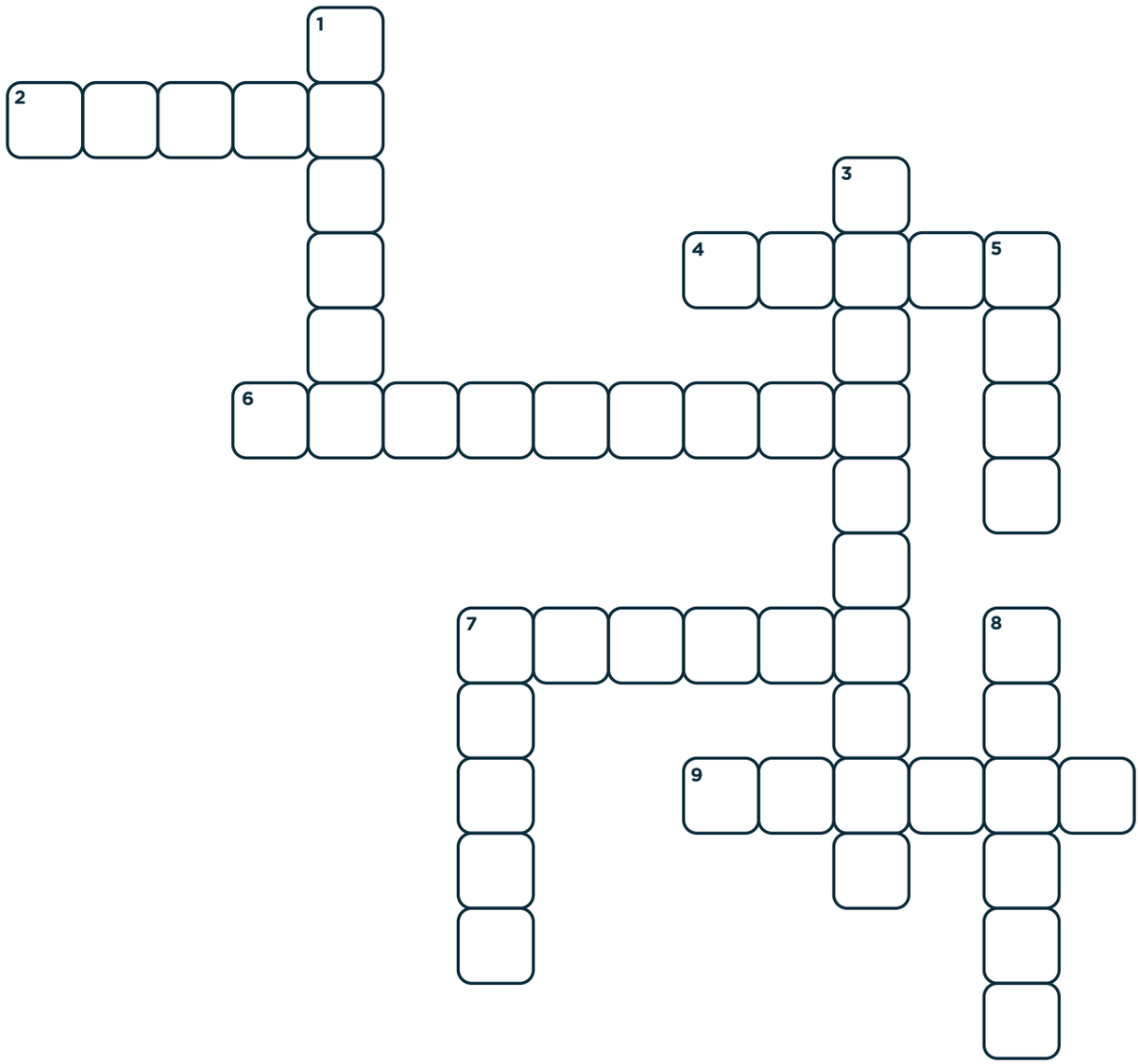
Across

2. When a device uses energy when it's not in use, we call this phantom _____.
4. Turn off the tap while brushing your_____.
6. Hydropower is a _____ source of energy.
7. Turn off the_____when leaving a room.
9. Take a quick_____instead of filling a bathtub to save water.

Down

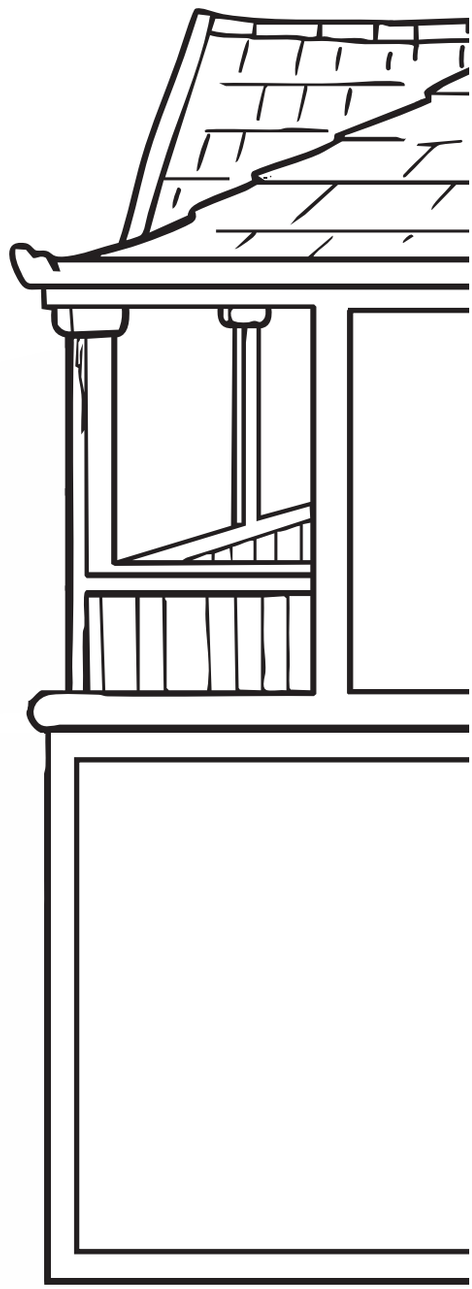
1. Decide what you want before opening the_____door.
3. Turn off the_____when you're finished watching a show.
5. Let your_____ air dry instead of using a blow-dryer.
7. Turn down the heat when you_____the house.
8. Saving_____saves money, and it's good for the environment.




1
2
3
4
5
6
7
8
9

MY ENERGY-EFFICIENT DREAM HOME:

Energy Ed and Jenny Jay invite you to design an ultimate dream home with energy-saving features that use less energy to heat, cool, and power daily life in Manitoba's climate! There are many items you can choose to make your home more energy-efficient.



Some examples include:

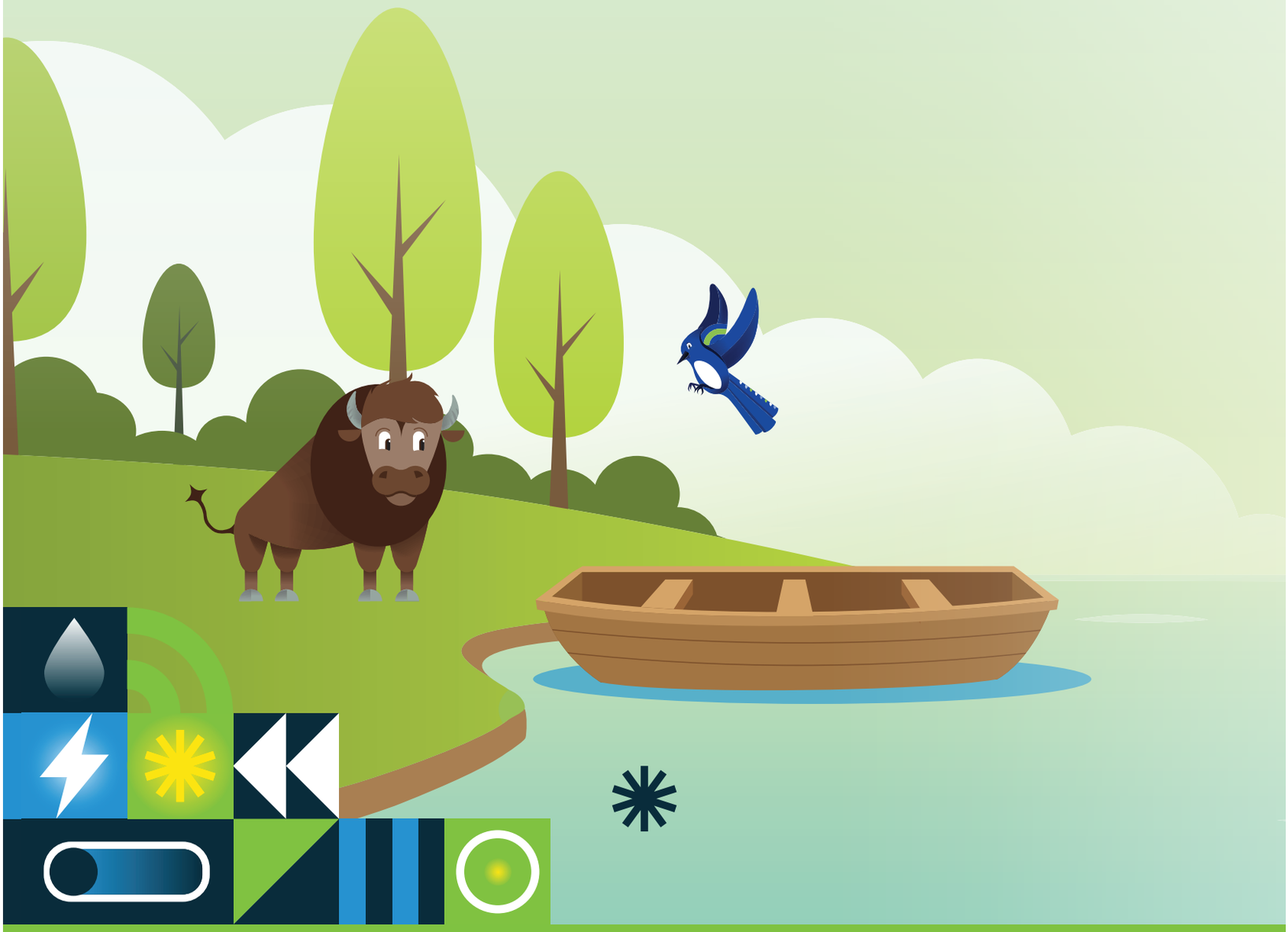
- ENERGY STAR® certified appliances and electronics use less energy and often use less water.
- Natural sunlight warms a room and helps keep it warm, so fewer artificial lights are needed.
- Heating systems: If we use less hot water or heat our home more efficiently, we save energy.
- The more panes of glass an interior window has, the better its insulating properties.
- Weatherstripping seals gaps to stop air leaks.
- Low-flow faucets and showerheads use less water.
- Trees give shade in the summer and block wind in the winter.

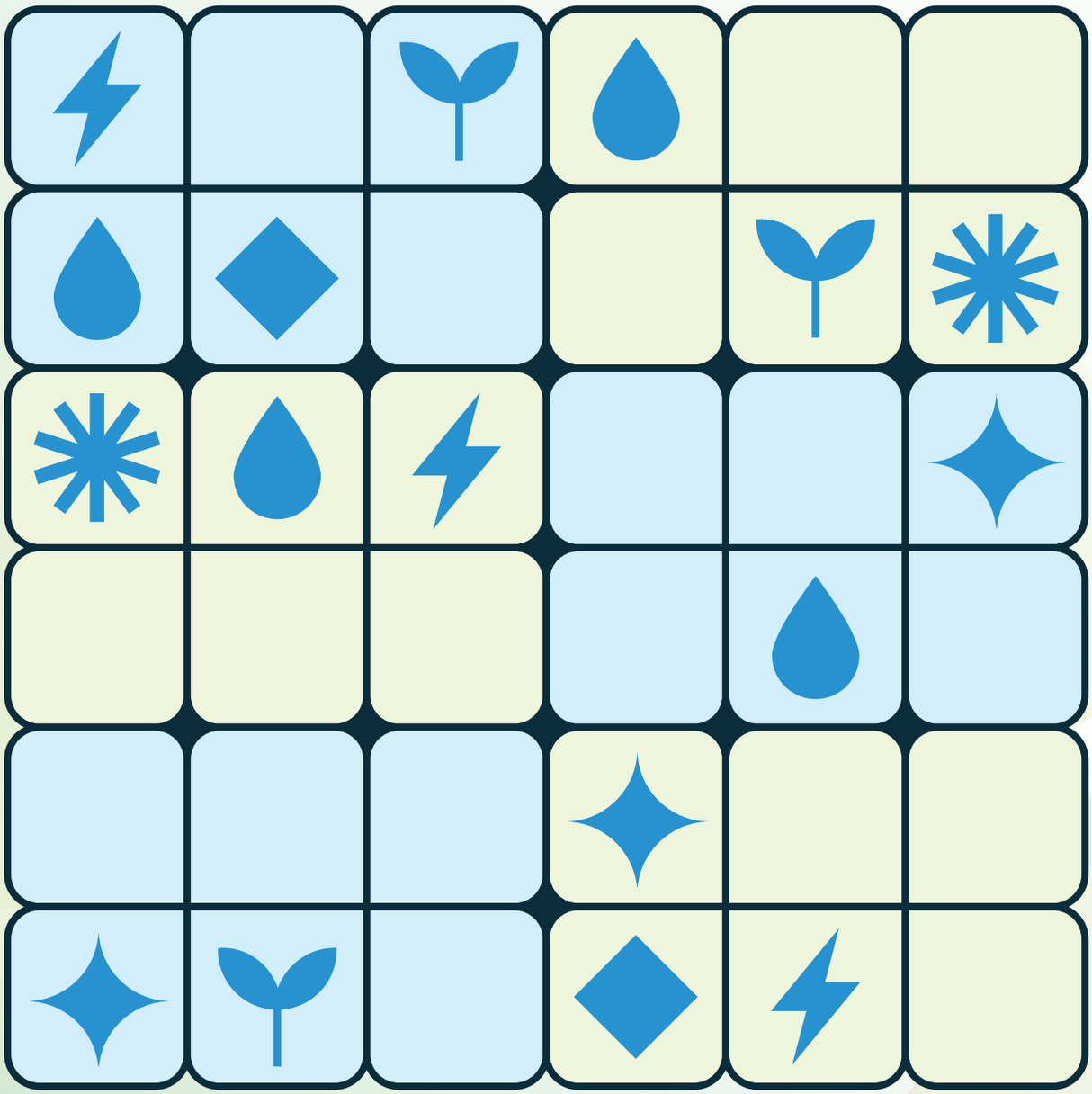


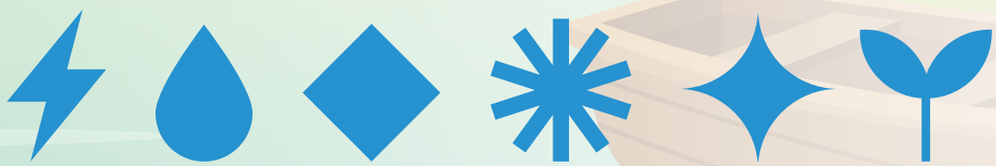
ACTIVITY 7

SUDOKU PUZZLE

Jenny Jay and Energy Ed love puzzles. Can you solve this sudoku puzzle? Fill in the empty spaces so each symbol appears only once in every row, column, and rectangle.







MAKE YOUR OWN RECYCLED PAPER

Recycling paper helps save trees, water, and energy!

What you need:

- Old paper (scrap paper, homework, newspapers — no shiny paper)
- A bowl or bucket
- Warm water
- A blender
- A screen or mesh (a window screen works great)
- A sponge or towel
- A rolling pin or book
- Wax paper or cardboard

Note for adults: *Help with blending.*





Instructions:

1. Tear the old paper into small pieces (about the size of a coin) and put them into a bowl.
   Tip: *Smaller pieces make smoother paper!*

2. Pour warm water over the pieces in the bowl until they're covered and let them soak for at least 30 minutes.
   Tip: *The longer they soak, the better!*

3. Put the soaked paper pieces and some water into a blender and blend until it looks like thick oatmeal. This mushy mix is called pulp!
   Stop: *Adult help needed!* ⚠

4. Pour the pulp into a shallow tray or pan and dip the screen into the pulp. Slowly lift out the pulp so it spreads evenly on the screen. Gently shake to spread it out.

5. Place the screen on a towel and press down gently using a sponge or a book.

6. Carefully flip the paper onto wax paper or cardboard and let it dry overnight. Before it dries, you can decorate the paper by adding flower petals, leaves, or glitter by gently pressing them into the wet paper.
   Tip: *The longer you let it dry, the better!*

7. Once it's dry, your recycled paper is ready! You can use it to draw, colour, write, decorate or make cards!



SOLAR OVEN SNACK

Use the sun to warm a snack!

What you need:

- Shoebox or pizza box
- Aluminum foil
- Plastic wrap
- Black construction paper
- Snack (s'mores or other small snack)
- Sunny spot

Note for adults: *Help with setting up, food handling, and checking the snack.*

Optional: Compare sun vs. shade or measure temperature with a thermometer. Discuss why black paper absorbs heat and foil reflects sunlight.



Instructions:

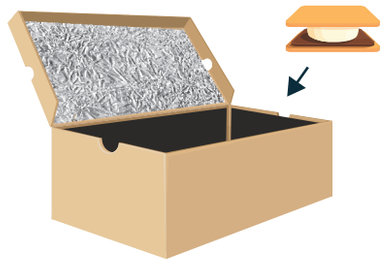
1. Line the box with black construction paper.



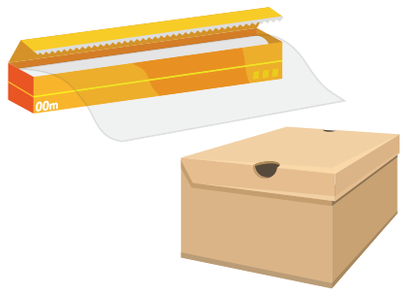
2. Cover the inside of the lid with foil.



3. Place your snack inside the box, close the lid, and cover with plastic wrap.



4. Put the box in the sun and wait 30 to 60 minutes.







5. Watch the snack melt!

SELF-ASSESSMENT QUIZ

1. Do I turn off the lights when I leave the room?

   Yes | Sometimes | No

2. Do I ask if we can keep the lights off when the room is bright?

   Yes | Sometimes | No

3. Do I turn off screens when I'm done using them?

   Yes | Sometimes | No

4. Do I unplug chargers when nothing is charging?

   Yes | Sometimes | No

5. Do I turn off the tap while I soap my hands or brush my teeth?

   Yes | Sometimes | No

6. Do I tell an adult if a tap keeps dripping?

   Yes | Sometimes | No

7. Do I close doors behind me to keep heat or cool air inside?

   Yes | Sometimes | No

8. Do I keep windows closed when the heat or air conditioning is on?

   Yes | Sometimes | No

9. Do I try one energy-saving action each day at school?

   Yes | Sometimes | No

10. Do I shut down computers and tablets at the end of the day?

    Yes | Sometimes | No

11. What's one energy-efficient habit I want to practice this week?
    Write your answer in the space below.

ED AND JENNY'S TOP TIPS FOR SAVING ENERGY

If you're chilly in the winter, open up your curtains or blinds! The sunshine helps to keep you toasty.



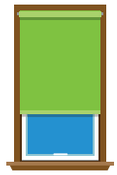
Ask your grown-up to unplug any electronics that aren't being used, even if they're turned off!



Turn off the lights if you're the last one leaving the room.

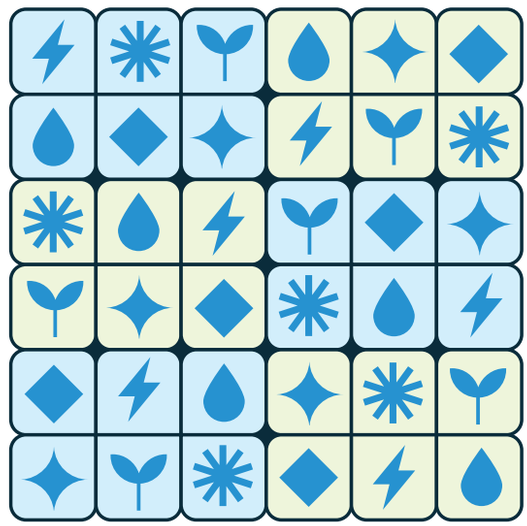


In the summer, close your curtains or blinds to keep the heat out and the inside cooler.



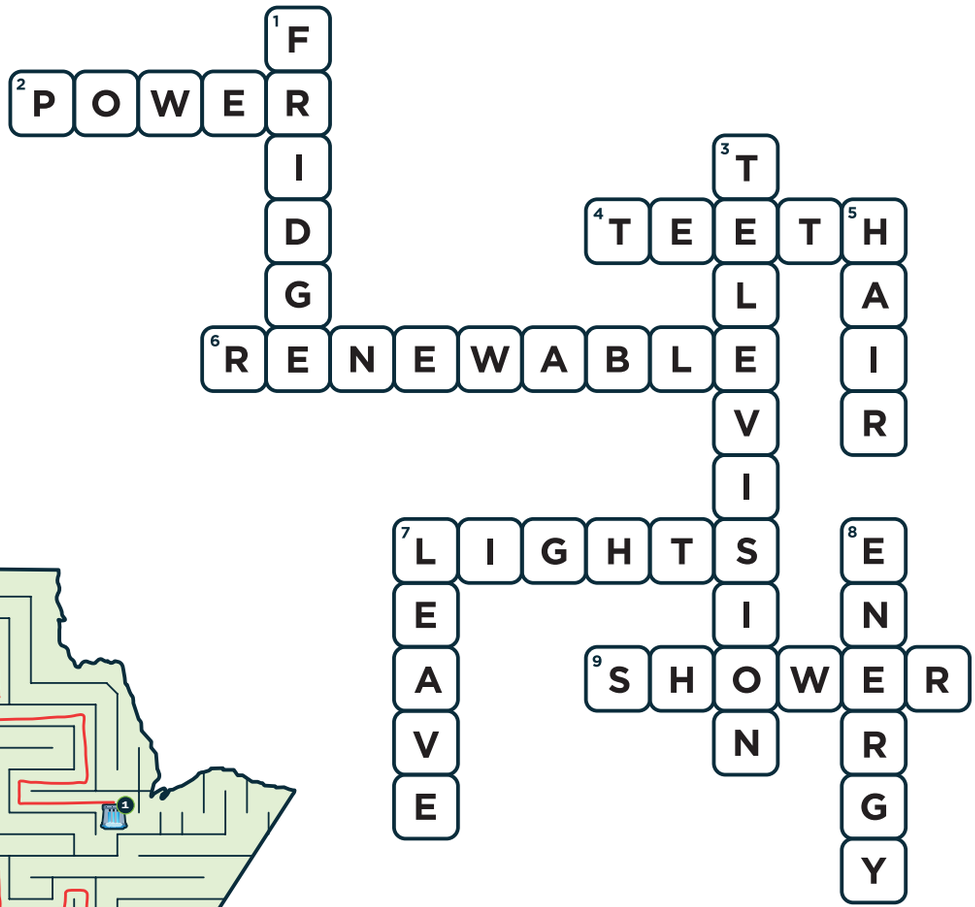
ANSWER KEY

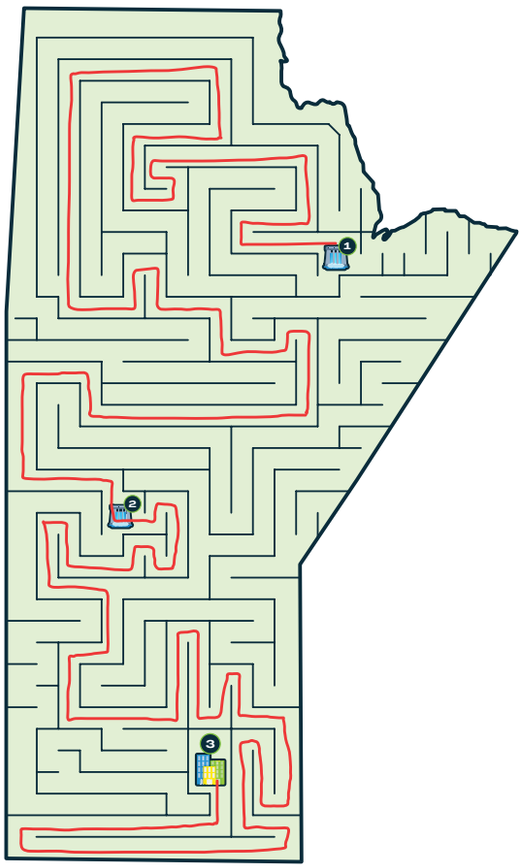
N	H	S	U	H	B	W	D	U	E	N	E	R	G	Y
R	I	S	E	F	F	I	C	I	E	N	C	Y	I	T
M	S	O	P	N	R	D	L	B	M	F	F	E	Y	J
L	M	M	M	G	S	X	G	S	L	M	T	U	S	S
C	M	P	J	X	E	O	O	E	I	S	E	T	O	O
G	B	P	O	W	E	R	R	D	G	M	N	R	C	L
P	L	Q	T	C	K	L	I	U	H	X	V	K	N	A
V	W	N	A	D	V	D	P	C	T	Z	I	Q	Z	R
B	U	Y	T	P	T	M	C	A	L	Y	R	N	H	Z
I	X	C	S	R	F	B	I	T	Y	K	O	I	Y	B
K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





ANSWER KEY


1 F
2 P O W E R
I
D
G
3 T
4 T E E T 5 H
L A
6 R E N E W A B L E I
V R
I
7 L I G H T S 8 E
E I N
A 9 S H O W E R
V N R
E G
Y


1
2
3

ENERGY CATCHER

Cut out the square energy catcher on the next page and follow the steps below on how to fold and use it.

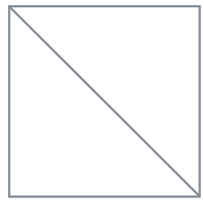
1. Cut



2. Fold



3. Unfold



4. Fold



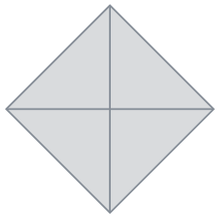
5. Unfold



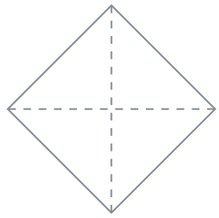
6. Fold corners



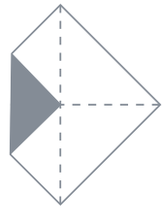
7.



8. Flip over



9. Fold corners



10.



11. Flip over



12. Fold in half



13. Unfold



14. Fold in half and slip fingers into flaps



15.



1. Ask a friend to pick one of the four top squares. Spell the word out loud, like E-N-E-R-G-Y, while moving the Energy Catcher up and down and side to side.

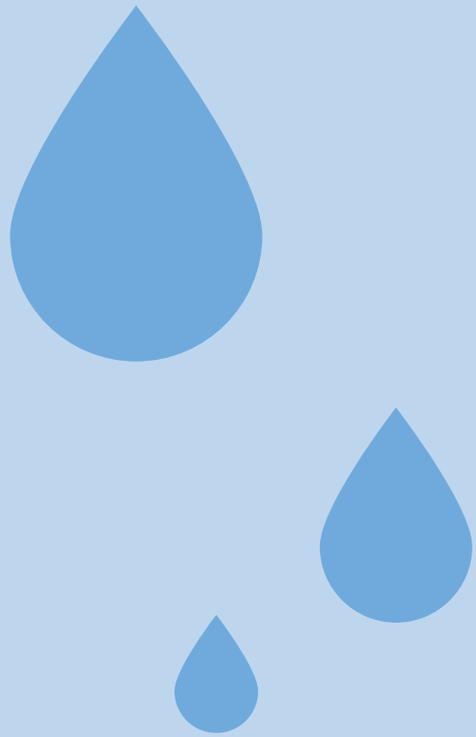
2. Stop and ask your friend to pick a number. Move the Energy Catcher again while counting to that number.

3. Stop and ask your friend to pick one more number. Open the flap to reveal an energy-saving question or activity!



FIND THE ENERGY

Draw pictures of all the things
in the classroom that use energy!



EFFICIENCY MANITOBA

Find our other educational resources at generation-e.ca.

GENERATION E

A program of Efficiency Manitoba

GENERATION E

A program of Efficiency Manitoba

