



The National Theatre for Children

CLASSROOM AND
FAMILY ACTIVITIES

ECO GUARDIANS



Brought to you by



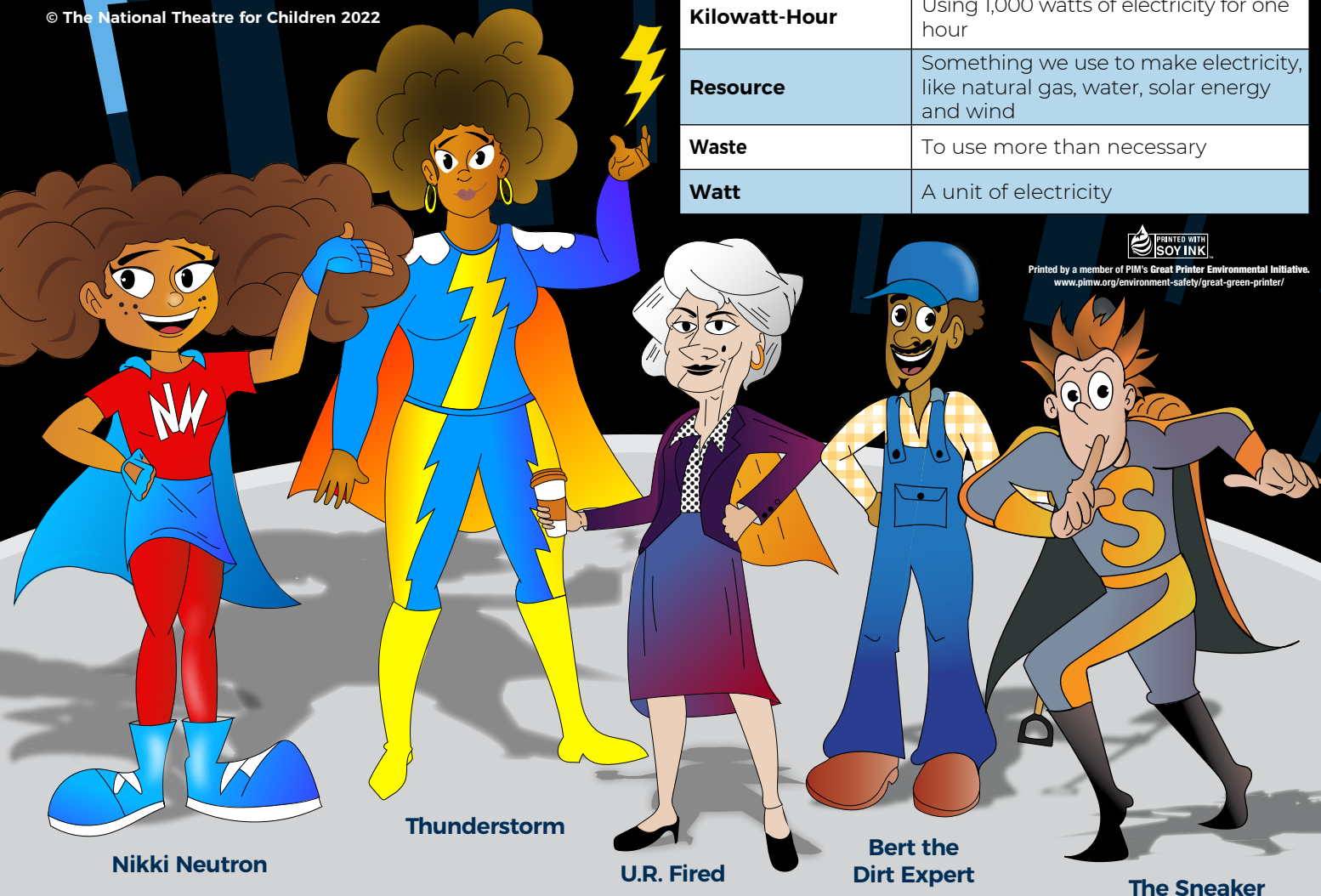
ECO GUARDIANS

Nikki Neutron has been called to save the day! Nikki is asked by their boss, U.R. Fired, to defeat The Sneaker, who has been wasting energy and even some water. It's up to Nikki to find The Sneaker and stop them.

Not knowing much about energy, Nikki enlists the help of her friends Thunderstorm and Bert the Dirt Expert. They teach Nikki what energy and electricity are, what renewable resources are and ways to save energy and water.

Finally, it's time to face The Sneaker. Has Nikki learned enough to keep the world safe from The Sneaker? *Have you?*

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EDUCATIONAL CONCEPTS

- How to measure energy use
- How energy is wasted
- How we conserve energy
- What renewable resources are

WORDS TO KNOW

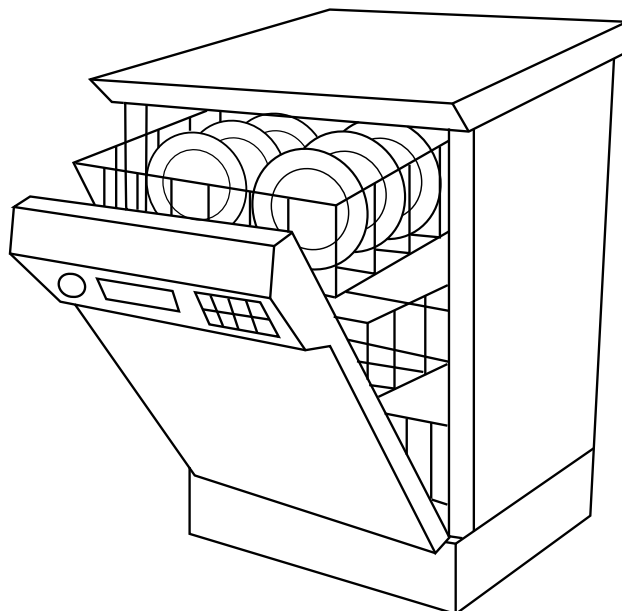
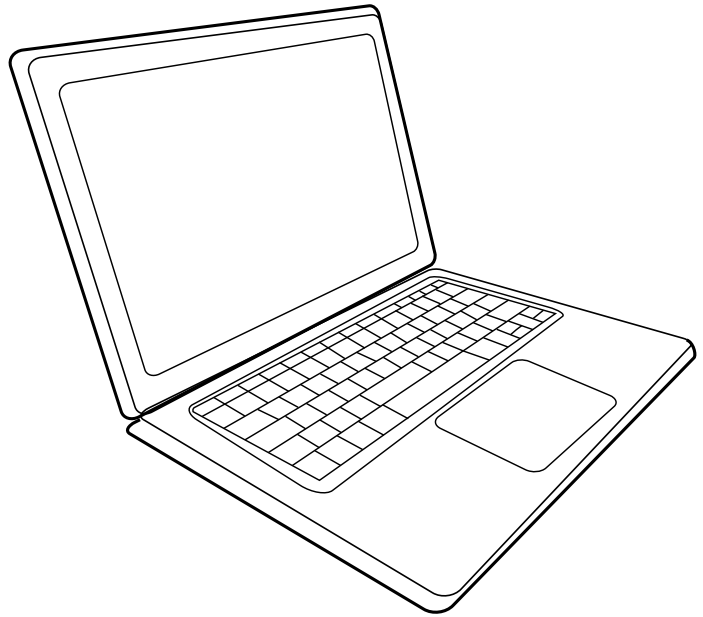
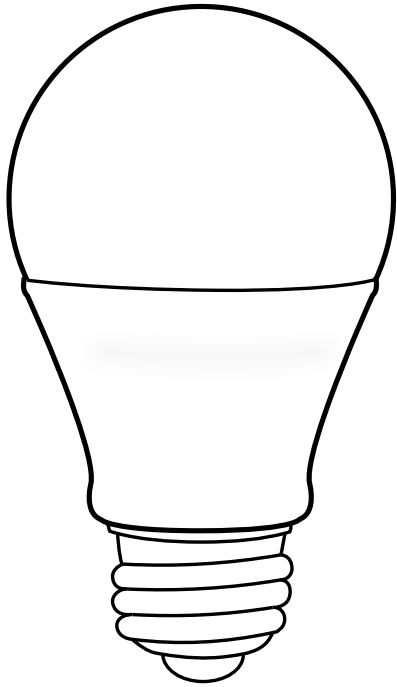
Aerator	A small attachment on a faucet to save water in kitchens and bathrooms
Conserve	To save or use wisely
Efficient	Producing very little waste
Electricity	A useful source of energy used in many ways
Energy	The ability to do work and the force that makes things change
Energy-Efficient Lightbulb	A lightbulb that uses less energy than an incandescent bulb
Energy-Efficient Showerhead	A showerhead that saves water and energy
Hot Water Temperature Gauge	A card that shows the temperature of your water to help you save energy
Kilowatt	One thousand watts of electricity
Kilowatt-Hour	Using 1,000 watts of electricity for one hour
Resource	Something we use to make electricity, like natural gas, water, solar energy and wind
Waste	To use more than necessary
Watt	A unit of electricity



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www.pimw.org/environment-safety/great-green-printer/

COLOR AND SHARE

We use energy in many ways.
Color the pictures and hang your work where friends and family will see it.



MATCH 'EM UP

Find and circle the two characters that are exactly the same.
Their captions also have to match. Talk to your friends and find out who else made the match.

WE USE ENERGY EVERY DAY!

WATER IS A RENEWABLE RESOURCE.

A KILOWATT IS ONE THOUSAND WATTS OF ELECTRICITY.

ELECTRICITY IS MADE AT A POWER PLANT.

TURN OFF LIGHTS TO SAVE ENERGY.

WE USE ENERGY EVERY DAY!

THUNDERSTORM'S

ENERGY MESSAGE

Go down the line writing down every other letter to find the hidden energy message. When you get to the end of the line, start over with the second letter. The first three letters are already done for you. Share the message with your friends.



RAEBNLEEW

① ② ③

Go back to the second letter.

The sun, wind and water are all

REN

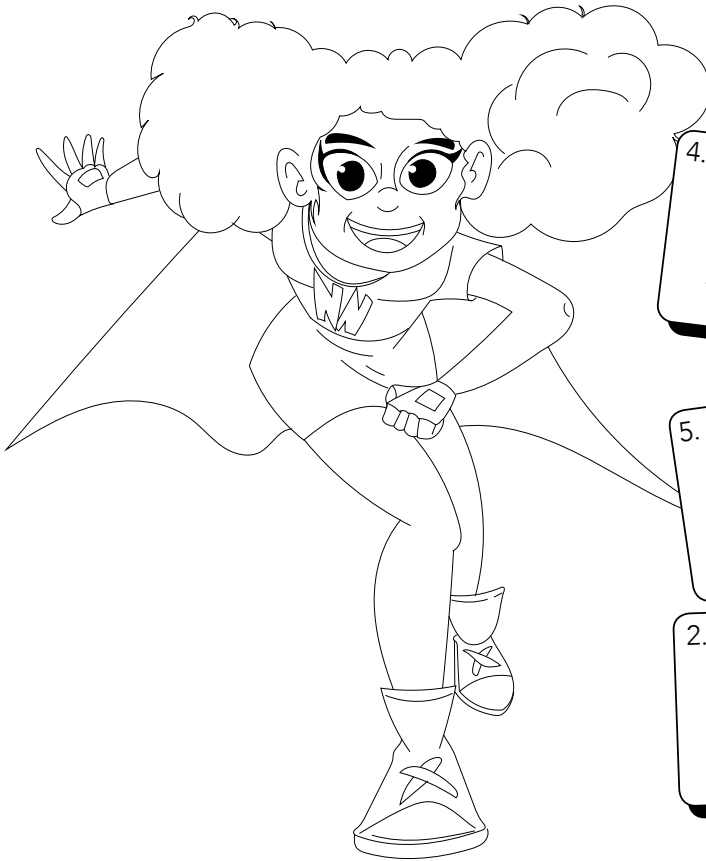
1 2 3

resources.

NIKKI'S

MIXED MESSAGES

Unscramble the message by writing the words in the boxes below. Use the numbers at the top of each box if you need help.



3.

WISELY

4.

EVERY

1.

USE

5.

DAY

2.

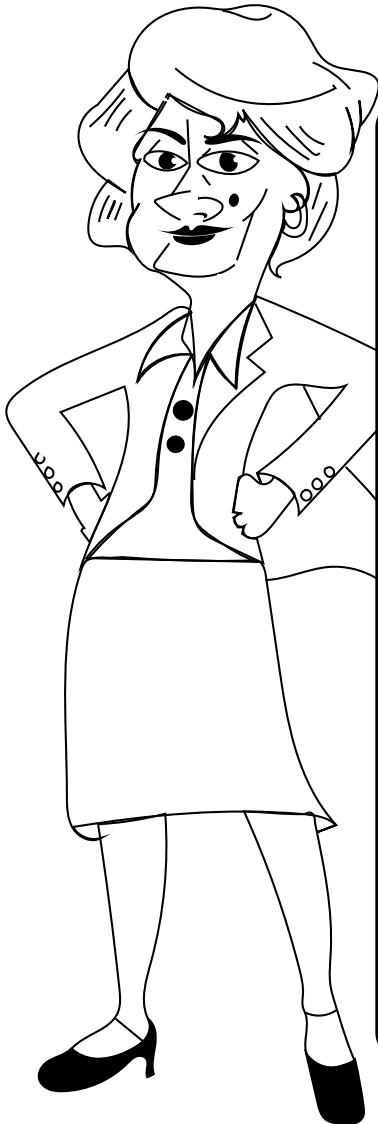
ENERGY

1	
_____	_____
2	3
_____	_____
4	5

U.R. FIRED'S

WORD FIND

You and your friends can find and circle all of the words from the list below.
Do you remember what the words mean? Review their meanings on the inside front cover.



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

CONSERVE

RESOURCE

EFFICIENT

WASTE

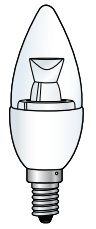
ELECTRICITY

WATT

ENERGY

Home Energy Adventure

START



1. Count how many LED bulbs you have installed in your home. Install the LED bulbs from your energy efficiency kit.

ENERGY SAVING TIP
Energy-efficient bulbs use at least 75% less energy than incandescent bulbs.

Don't forget to go to



to sign up for your family's **FREE** Energy Kit!

ENERGY SAVING TIP
Unplug cellphone chargers from the wall when they are not in use.



FINISH
Congratulations!
You've done your part at home to save energy.

KILOWATT KRUSH

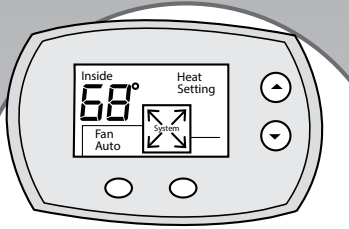
Kilowatt Krush is a fun-filled educational gaming app created by Duke Energy containing a variety of energy-related mini games.

Look for Kilowatt Krush at the App Store or Google Play!




2. Where are most of the heating and cooling vents located in your home? On the floor? On the wall? On the ceiling?

ENERGY SAVING TIP
Fix leaks in your air ducts to save energy and money.



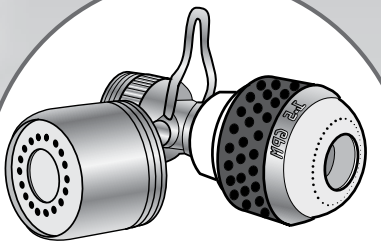
3. At what temperature is your thermostat set?
 _____ In the winter?
 _____ In the summer?

ENERGY SAVING TIP
Stay cool and save energy by running ceiling fans only when people are in the room.




4. Turn off any lights in unoccupied rooms.

ENERGY SAVING TIP
Kitchen and bathroom faucet aerators save a lot of water. They're easy to install and help save water and energy.




5. Do you have aerators on the faucets in your kitchen and bathroom?



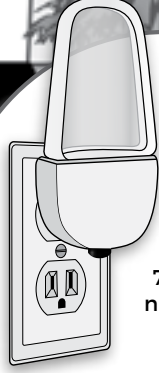
6. Do you notice uneven temperatures between the different rooms in your house?

ENERGY SAVING TIP
Properly installed insulation can help keep room temperatures even.



8. What type of fuel is used to heat your home?
 _____ Electricity
 _____ Propane
 _____ Natural Gas
 _____ Other

ENERGY SAVING TIP
Save on your heating bills by lowering the temperature to 68°F on your thermostat and wearing an extra layer of clothing in the winter.



7. Use the LED night light from your energy efficiency kit.

ENERGY SAVING TIP
LED night lights use less energy than regular night lights.



9. In the winter, do you experience drafts of cold air in your home?

ENERGY SAVING TIP
Use weatherstripping tape to seal off air leaks around windows and doors.





WRITE A STORY ABOUT

NATURAL RESOURCES

Write a story about natural resources. Include what you learned about electricity, resources and saving energy. Use another piece of paper if you need it. Share what you know by reading your story to your family.

We use natural resources to . . . _____



MESSAGE MATH

Do the math and fill in the spaces below to discover a way to save energy.
Read the message out loud once you've completed it.

$97 - 5 = \square \quad S$

$40 + 5 = \square \quad L$

$3 \times 17 = \square \quad T$

$15 \div 5 = \square \quad H$

$10 \times 8 = \square \quad I$

$18 + 7 = \square \quad G$



$99 + 15 = \square \quad P$

$36 \div 6 = \square \quad N$

$13 + 7 = \square \quad D$

$12 - 12 = \square \quad A$

$33 \times 3 = \square \quad E$

$65 - 9 = \square \quad C$

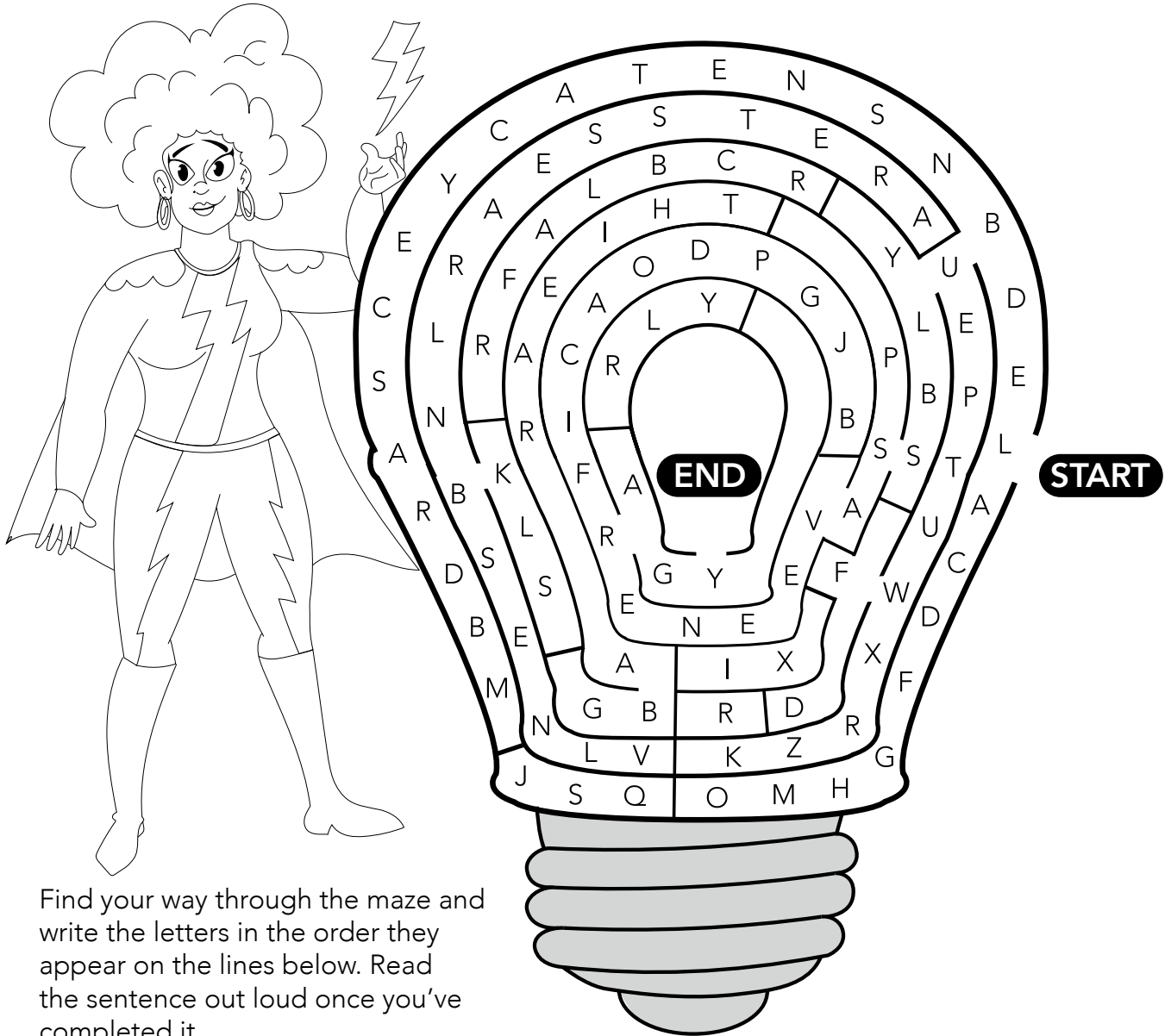
To save energy, turn off

45 80 25 3 51 92 0 6 20

0 114 114 45 80 0 6 56 99 92

THUNDERSTORM'S

MAZE MAYHEM



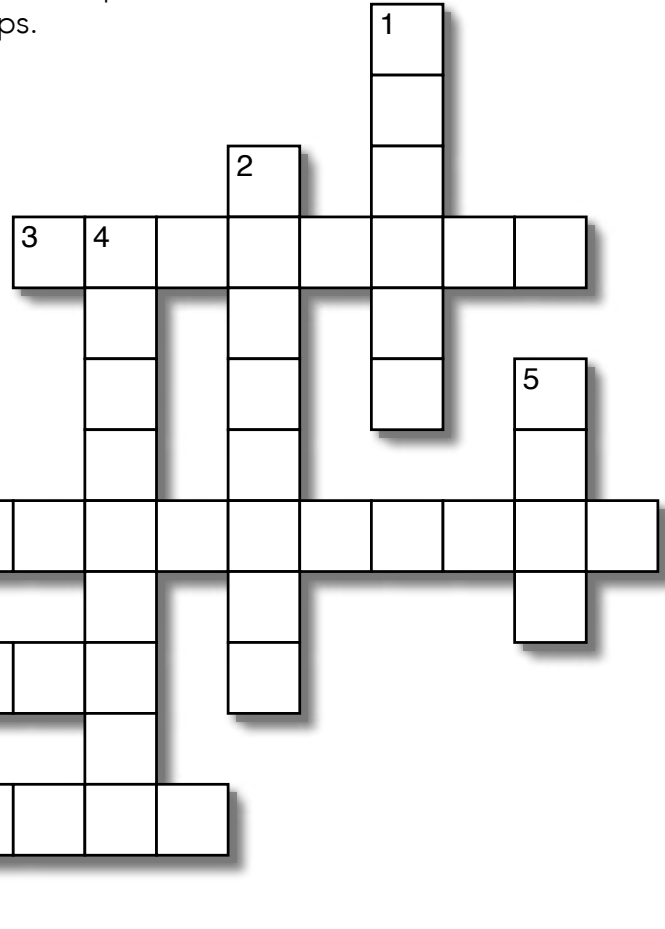
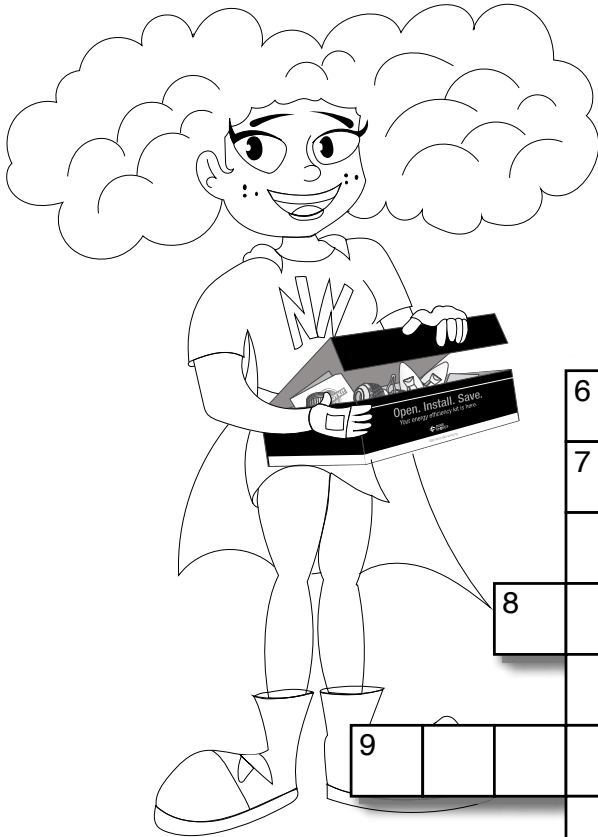
_ _ _

_ _ _ _ .

NIKKI'S

CROSSWORD

Find the answer for each clue and write it in the correct space.
Look at the inside front cover if you need some tips.



ACROSS

3. Something we use to make electricity, like natural gas, water, solar energy and wind
7. A useful source of energy used in many ways
8. To use more than necessary
9. One thousand watts of electricity

DOWN

1. The ability to do work and the force that makes things change
2. To save or use wisely
4. Producing very little waste
5. A unit of electricity
6. A small attachment on a faucet to save water in kitchens and bathrooms

AERATOR
CONSERVE
EFFICIENT
ELECTRICITY
ENERGY
KILOWATT
RESOURCE
WASTE
WATT

READ WITH

BERT



Gather your friends, then read the paragraphs and answer the True/False questions.

EXTRA CREDIT Read the article to someone else. Quiz them by asking the True/ False questions.

A resource is something we use. Natural gas is an example of a natural resource we use to make electricity at power plants.

To make electricity, the power plant uses natural gas to heat up water. When it starts boiling, the water creates steam. The steam then spins a turbine, which is like a giant rotating fan. The turbine has a magnet surrounded by copper wires attached to it. When the magnet spins inside the copper wires, electricity is created.

We use electricity to light our homes, charge our cellphones, and run our TVs, computers, refrigerators and many other things. If we waste natural resources we may not have enough electricity to power all of the things we need.

We save natural resources each time we turn off lights when we aren't using them and by switching to LED lightbulbs.

Water is a natural resource, too. It's also very important to conserve water. We all can save water and energy by using energy-efficient showerheads and by installing aerators on our kitchen and bathroom faucets.

T / F 1. We make electricity at power plants.

T / F 2. We should not turn off lights when we aren't using them.

T / F 3. Water is a natural resource.

T / F 4. Energy-efficient showerheads save energy.

T / F 5. It's very important to conserve water.



TAKE-HOME FAMILY ACTIVITY

THINGS TO KNOW & DO



We use energy in our homes every day!
Below is a list of ways your family can help
conserve energy. Work together as a family and
make a check when you complete each task.

IMPORTANT:
SHARE THIS INFORMATION
WITH YOUR FAMILY

I HAVE SHARED THIS
INFORMATION WITH
MY FAMILY

COMPLETED

CONSERVATION CHECKLIST

1. Turn off lights and appliances.	COMPLETED
2. Install LED lightbulbs. How many LED lightbulbs did your family install?	TOTAL
3. Have an adult install a programmable thermostat.	COMPLETED
4. Have an adult install an energy-efficient showerhead.	COMPLETED

Suggested Grades: K-5 • **Purpose of Activity:** Review

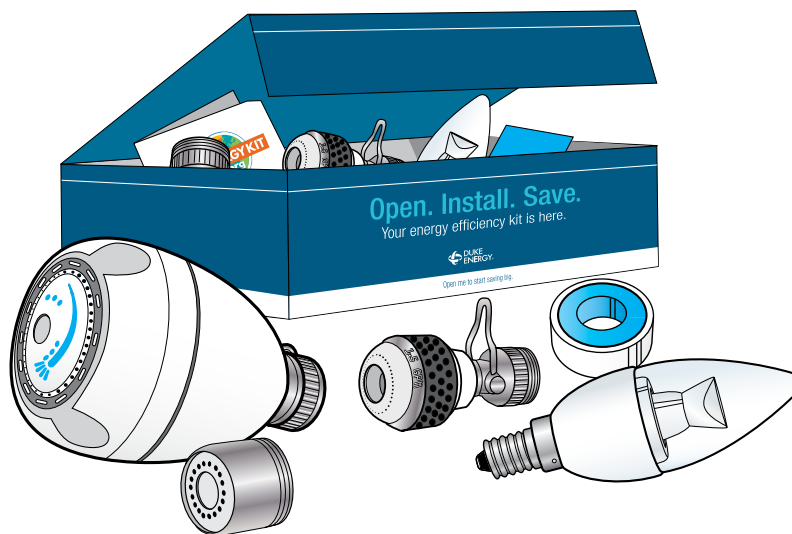
Four Cs: Communication, Collaboration, Critical Thinking • **Cognitive Level:** Extended Thinking



STUDENTS & FAMILIES

Participate in the My Energy Kit program and have the opportunity to earn rewards for you, your teachers, and your school! You and your family can request a **FREE** kit and access more resources and activities by visiting

MyEnergyKit.org



Kilowatt Krush is an educational gaming app brought to you by Duke Energy containing a variety of energy-related mini games.

Kilowatt Krush is available at the App Store or Google Play!

