

ZAP!

IT'S ELECTRICITY!



Level: L Word Count: **337**

100th Word: **of (page 10)**

Teaching Focus:

Phonics: Word Study

Look at the words
electricity and energy.
How are the words
alike? How are they
different?



Tips on Reading This Book with Children:

1. Read the title.

Predictions – after reading the title have children make predictions about the book.

2. Take a book walk.

Talk about the pictures in the book. Use the content words from the book as you take the picture walk.

Have children find one or two words they know as they do a picture walk.

3. Have children find words they recognize in the text.

4. Have children read the remaining text aloud.

5. Strategy Talk – use to assist children while reading.

- Get your mouth ready
- Look at the picture
- Think...does it make sense
- Think...does it look right
- Think...does it sound right
- Chunk it – by looking for a part you know

6. Read it again.

7. Complete the activities at the end of the book.



Zap!

It's Electricity!

by Buffy Silverman

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www.rourkeclassroom.com

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A former high school teacher with a background in biochemistry and more than 10 years of experience in cytogenetic laboratories, Kristi Lew specializes in taking complex scientific information and making it fun and interesting for scientists and non-scientists alike. She is the author of more than 20 science books for children and teachers.

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Table of Contents

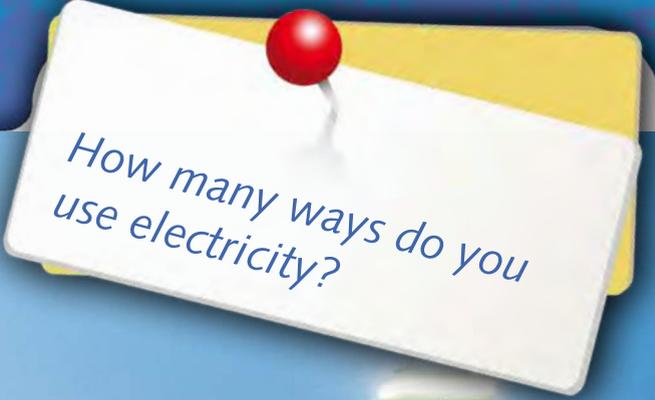
What Is Electricity?	4
Making Electricity	10
Battery Power	18
Show What You Know	22
Glossary	23
Index	24



What Is Electricity?

Every day, we use **electricity**. Electricity powers the lights in our homes and schools. Computers, music players, cell phones, and refrigerators run on electricity.





*How many ways do you
use electricity?*



Electricity helps keep our homes comfortable. In the summer, we use electricity to cool the air. We heat our homes with electricity in winter. Think of all the ways you use electricity at home.



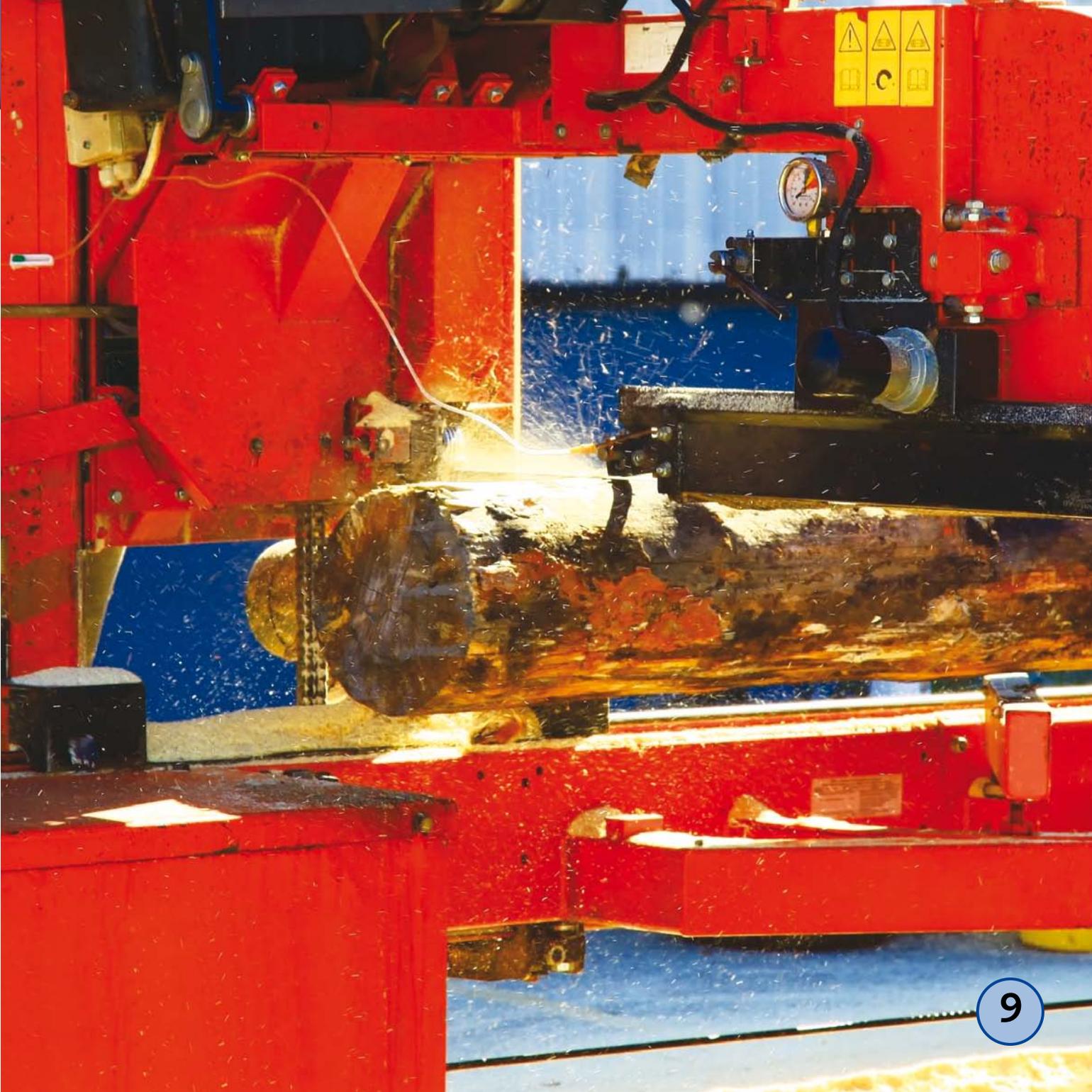
If your video game is plugged in, it's using electricity. Even if you're not playing it!



Electricity provides the **energy** that people use every day. Energy is the ability to do **work**. We need energy to move objects, and to make heat, light, and sound. Electricity helps people do work.



It takes energy to cut logs.
The first sawmills used
water power. Today
electricity powers a sawmill.



Making Electricity

Power plants make electricity from different kinds of energy sources. Some power plants use wind, water, or solar power to make electricity. Other plants burn fuels like coal and natural gas to make electricity.



Wind turbines use the energy from moving air to make electricity.



Electricity flows through **power lines** made of metal. Metal wires are called **conductors**. They carry electricity. They bring electricity from a power plant to homes and other buildings.





Electric wires run inside the walls of your home. The outside of each wire is covered with plastic. The plastic is called an **insulator**. Insulators do not conduct electricity. They keep electricity inside the wire.



Electricity comes into your house to the service panel. The service panel has many fuses.



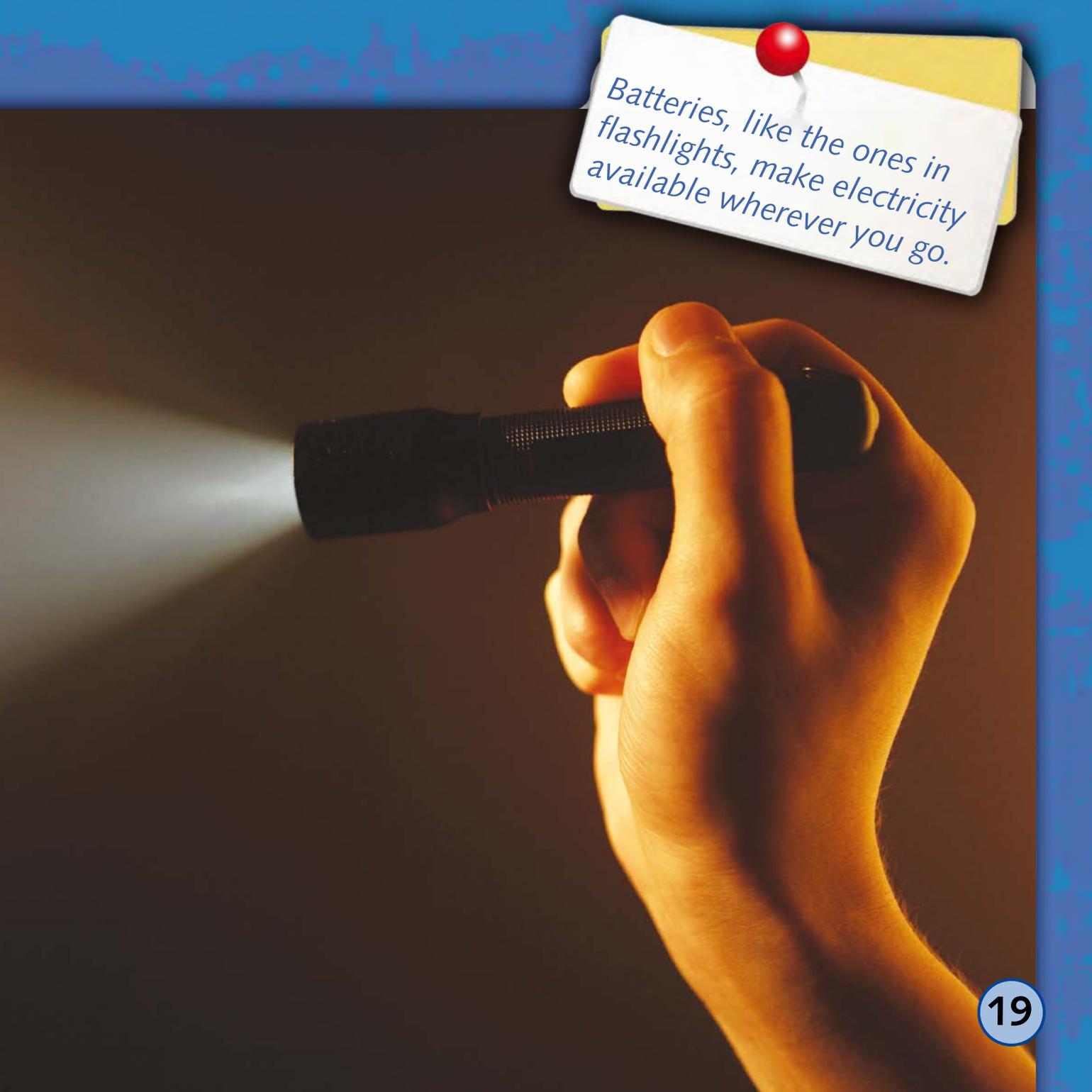
An electrical current flows in a loop, called a **circuit**. Plug a lamp into an outlet and switch it on. The current flows continuously through wires, plug, cord, and bulb. The bulb lights up.

The current keeps flowing until the lamp is switched off. When the switch is turned off, it breaks the circuit. Then the bulb does not light.



Battery Power

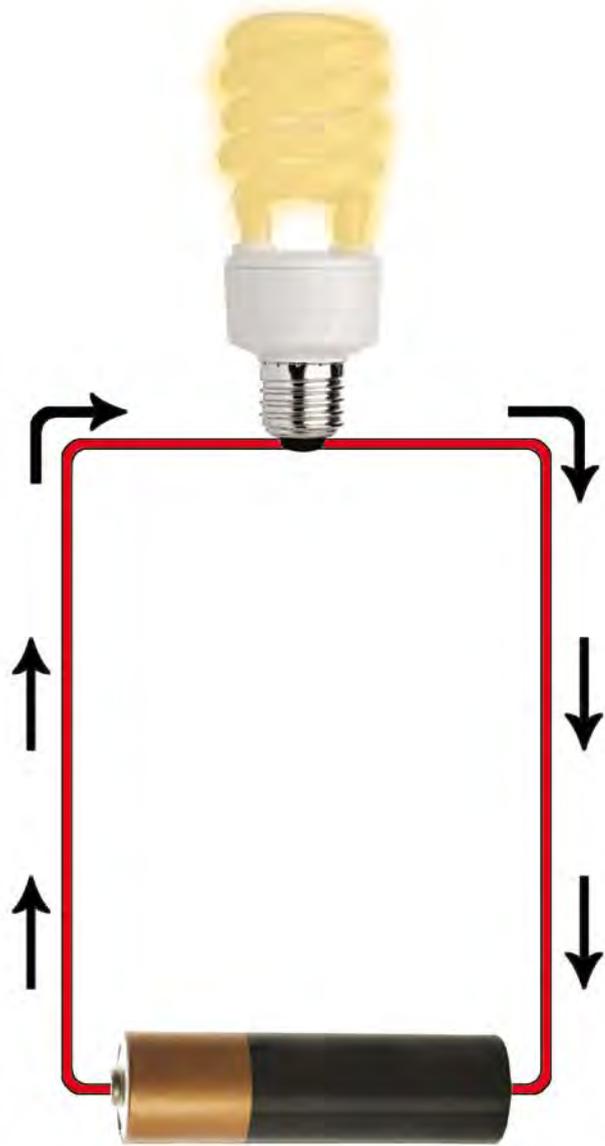
A **battery** stores energy. Inside the battery are chemicals. When you connect a battery to a circuit, it makes electricity. The energy from a battery can light a flashlight. It can power a handheld game or a music player.

A close-up photograph of a hand holding a black flashlight. The flashlight is pointed to the left, and a bright beam of light is visible. The background is dark, and the lighting is dramatic, highlighting the hand and the flashlight. In the top right corner, there is a yellow sticky note pinned with a red pushpin. The note contains text about batteries and flashlights. The page number '19' is in a blue circle in the bottom right corner.

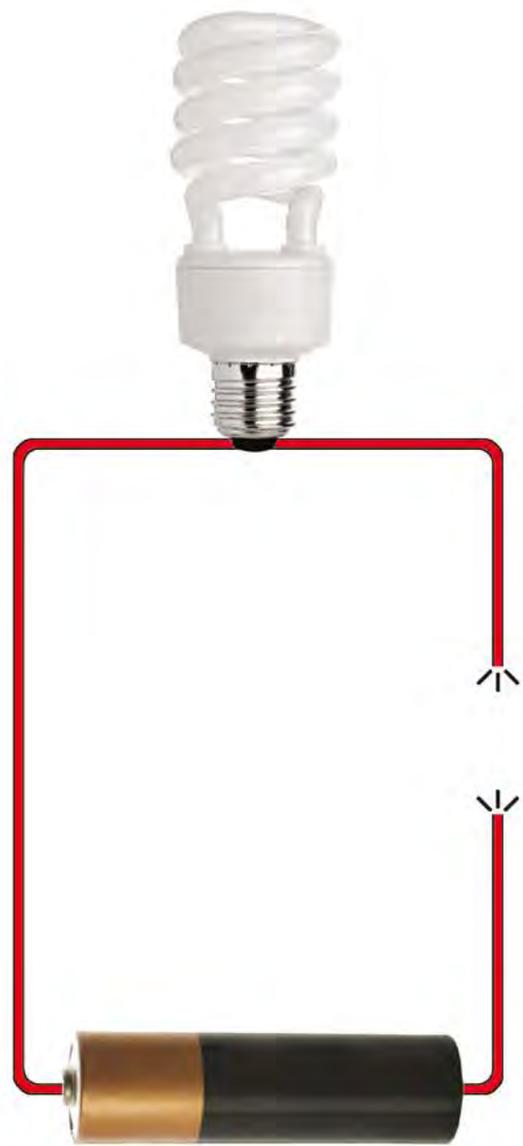
Batteries, like the ones in flashlights, make electricity available wherever you go.

Electricity from a battery is carried in a circuit. Wires connect a battery to a bulb. Electrical current flows from the battery, through the bulb, and back to the battery. It keeps flowing through the circuit.

When the circuit is broken, the electrical flow stops. The bulb does not light up.



complete circuit



broken circuit



What You Know

1. How does electricity travel from a power plant?
2. What are some of the ways that electricity helps people work?
3. Why will a bulb not light if a circuit is broken?

Glossary

battery (BAT-uh-ree): a container that stores chemical energy that can produce electricity

circuit (SUR-kit): a complete path that an electrical current can flow around

conductors (kuhn-DUHK-turz): materials which electricity can travel through easily

electricity (i-lek-TRISS-uh-tee): a flow of charged particles that can be made from wind, solar, water, and fuel energy

energy (EN-ur-jee): the ability to do work

insulator (IN-suh-late-er): material that stops the flow of electricity

power lines (POW-er linez): metal cables or wires that conduct electricity from a power plant

work (wurk): transfer of mechanical energy from one thing to another

Index

battery 18, 20
circuit 16, 18, 20
conductors 12
energy 8, 10, 18
insulator(s) 14

power plant(s) 10, 12
solar 10
water 8, 10
wind 10, 11

Websites

www.bbc.co.uk/schools/scienceclips/ages/6_7/electricity.shtml
www.colorado.edu/physics/2000/waves_particles/wavpart2.html
www.eia.doe.gov/kids
www.miamisci.org/af/sln/frankenstein/www.mos.org/sln/toe/toe
www.mos.org/sln/toe/kite.html

About the Author

Buffy Silverman gets a charge out of learning about science. She writes about nature and science from her home in Michigan.



Comprehension & Extension:

- Summarize:

*What are some uses for electricity?
Why is electricity important?*

- Text to Self Connection:

*How do you use electricity at home?
What would happen if you didn't have electricity?*

- Extension: *Very Important Points*

*Cut sticky notes into strips or use highlighter tape.
As you read, mark places in the book with
information you find interesting.
Meet and discuss your important points with a small
group or with the whole class.*

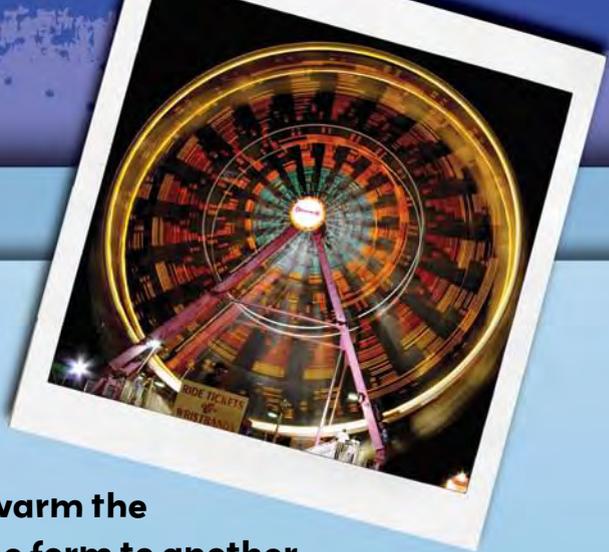
Sight Words I Used:

inside
make
they
we
use

Vocabulary Check:

Use glossary words in a sentence.

Forces, Energy, and Motion



Have you ever wondered about the science all around us? Plants grow and change, the Sun rises to warm the Earth, and matter changes from one form to another. Investigate Life, Physical, Earth, and Technology science topics with Rourke's *My Science Library*. This library explores NSTA science standards with engaging text and colorful images to support readers from kindergarten to third grade. Are you ready to investigate?

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Studying Weather and Climates

What Do Critters Do in the Winter?

What's on the Food Chain Menu?

Where Did the Water Go?

Zap! It's Electricity!

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