

# ENERGY IS EVERYWHERE!

A Science A-Z Physical Series

Word Count: 568



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Written by Patricia Walsh

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## KEY ELEMENTS USED IN THIS BOOK

**The Big Idea:** Energy is crucial to almost everything we do and everything we experience, so it is important to understand where energy comes from, how it behaves, and why it is valuable to us. By becoming familiar with different types of energy, we can better appreciate having the energy sources we rely upon in our daily lives. We can then take steps to ensure we continue to get the energy we need, and use it in a responsible way.

**Key words:** batteries, change, electrical energy, electricity, energy, everywhere, heat, light, mirror, motion, noise, power, reflect, sound, stored energy, vibrate, work

**Key comprehension skill:** Classify information  
*Other suitable comprehension skills:* Cause and effect; compare and contrast; elements of a genre; identify facts; main idea and details

**Key reading strategy:** Connect to prior knowledge  
*Other suitable reading strategies:* Ask and answer questions; summarize; visualize; using a table of contents and headings; using a glossary and bold terms

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## Introduction

You skip and hop. You turn on lights and listen to a radio. You watch TV and eat food cooked on a stove.

All of these things use **energy**.  
Energy is everywhere.

## What Is Energy?

Energy is the ability to do **work** or to make a **change**. There are many kinds of energy. For example, energy gives you light, and it carries sound to your ears. Energy gives power to things that move. It keeps you warm and runs your computer. Let's think about the many ways you use energy in your everyday life.



## Light Energy

When light comes in through your window, your room becomes bright. You may turn on a light in the bathroom. These things use **light** energy.

Light makes dark places bright. It can come from the Sun or from a lamp.

**WOWSER!**

The light from the Sun has to travel for about 8 minutes before it reaches us on Earth.

Light travels in a straight path. It travels through air, and it can go through clear glass. It reflects off mirrors. But it stops when it hits your hand. That's why you can make shadows with your hands.



## Sound Energy

When you leave for school, you might hear the noise of cars and trucks. You may hear birds singing, music playing, or a friendly voice saying, "Good morning."

All of these things are kinds of **sound** energy. Sounds happen when air vibrates, or moves back and forth.

## Do You Know?

Sound travels through air, wood, steel, and water. But outer space is silent. Sound cannot travel where there is nothing to travel through.

Look at the drummer. When he hits his drum, the top of it moves up and down quickly. This makes the air around it move quickly, too. The vibrating air moves like tiny waves in a pond. When the moving air reaches your ears, you hear the sound.

There is lots of sound energy all around you. What can you hear right now?



## Motion Energy

Do you like to play sports? Maybe you go outside to play during the school day.

Your body needs energy to play. But it takes another kind of energy, too. You need **motion** energy to play.

## Try This

Eat lots of healthy foods. They will give you energy. Then you can use motion energy to play with your friends.



Things that move have energy to do work. Imagine rolling a bowling ball. When you roll the ball, you give the ball energy. The moving ball takes the energy to the pins. The energy knocks the pins down. Can you think of other games that use motion energy?



## Heat Energy

You get hungry every day. Sometimes, you eat cooked food.

**Heat** energy is used when food is cooked.

Heat energy moves from warmer parts to cooler parts. The heat moves from the stove to the pot. Then the heat moves from the pot to your food. Careful! The handle gets hot, too.



## WOWSER!

Heat energy can make things change. It melts cheese and ice cubes.



## Electrical Energy

After school, you go home. It will get dark soon. Streetlights come on. Traffic lights tell cars to stop and go. Lights also tell people when it's safe to cross a street.



What form of energy makes these things work? It's **electrical energy**. Can you think of any other things that use electrical energy?

### Do You Know?

Batteries in a handheld game store energy. Turn on the game. The stored energy becomes electrical energy. You are ready to play!



## Many Uses of Energy

At home, you may turn on lights and listen to music. You might play with your dog or help cook dinner. Then you may do your homework on a computer or watch TV. All of these things use energy.



Even while you sleep, you use energy. Energy turns on your night light and keeps your home warm or cool.





What forms of energy are these people using?

## Conclusion

You use energy all the time. Just look around. Think about all the forms of energy you can see, hear, and feel right now.

If someone tells you that you are full of energy, they are correct. Energy is everywhere!



## Glossary

<b>change</b>	to make something different or to become different (p. 5)
<b>electrical energy</b>	energy that gives power to things that run on electricity (p. 13)
<b>energy</b>	the ability to do work or make a change (p. 4)
<b>heat</b>	energy that brings warmth you can feel (p. 12)
<b>light</b>	energy that lets you see (p. 6)
<b>motion</b>	energy that moves something from one place to another (p. 10)
<b>sound</b>	energy that lets you hear (p. 8)
<b>work</b>	an activity that makes something happen (p. 5)