

Science

Science

Physical Science

Energy

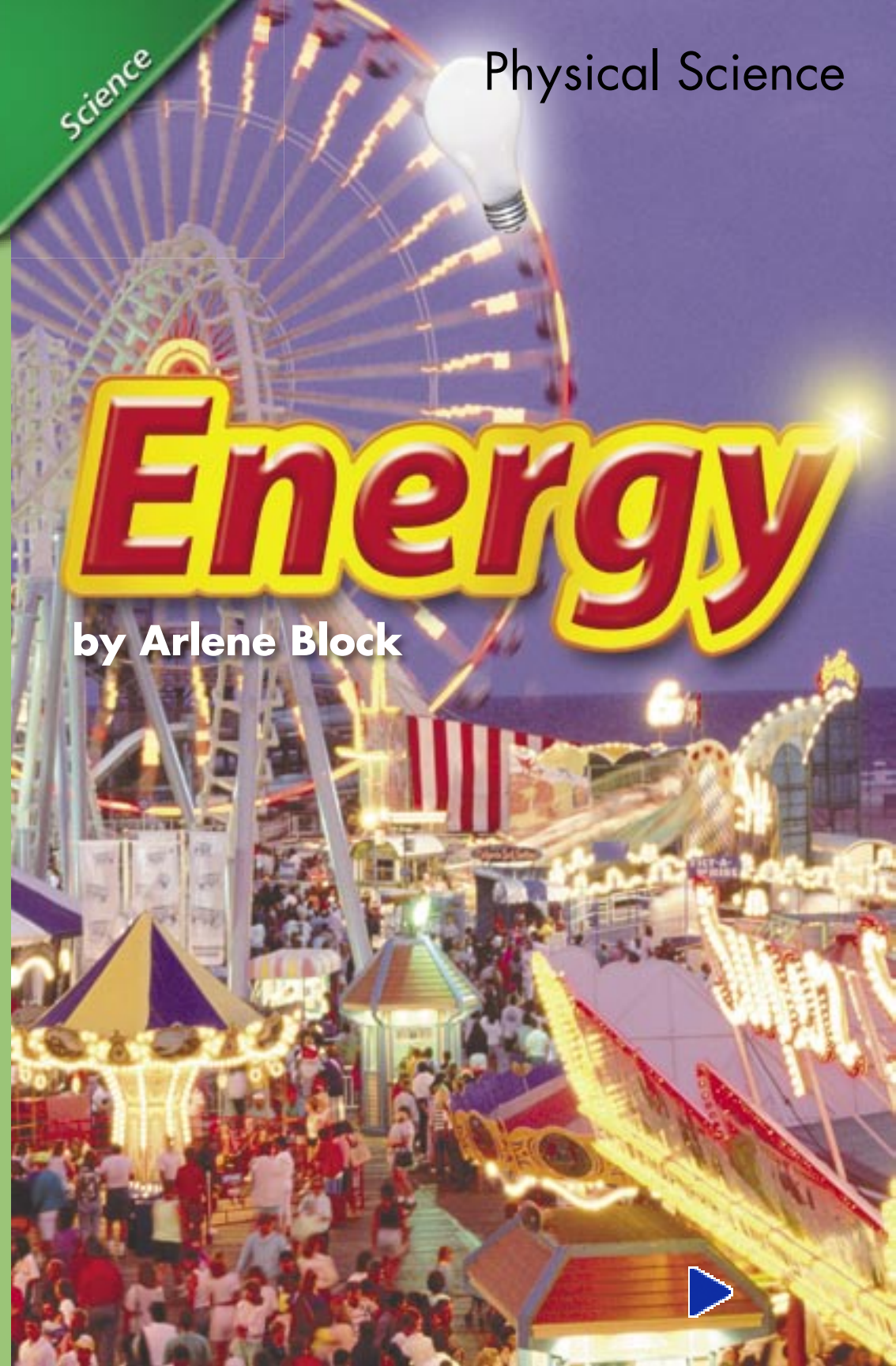
by Arlene Block

Genre	Comprehension Skill	Text Features	Science Content
Nonfiction	Infer	• Captions • Call Outs • Labels • Glossary	Energy

Scott Foresman Science 2.9



scottforesman.com



Vocabulary

conductor

energy

fuel

reflect

shadow

solar energy

source



Energy

by Arlene Block



Photographs: Every effort has been made to secure permission and provide appropriate credit for photographic material. The publisher deeply regrets any omission and pledges to correct errors called to its attention in subsequent editions. Unless otherwise acknowledged, all photographs are the property of Scott Foresman, a division of Pearson Education. Photo locators denoted as follows: Top (T), Center (C), Bottom (B), Left (L), Right (R) Background (Bkgd)

Opener: ©Kelly-Mooney Photography/Corbis; 1 ©Steven Gorton and Gary Ombler/©DK Images; 2 ©Jim Cummins/Corbis; 3 Getty Images; 4 ©Roger Ressmeyer/Skylab/NRL/NASA/Corbis; 5 ©Photodisc Green/Getty Images; 6 Corbis; 7 ©John Conrad/Corbis; 8 ©Laureen March/Corbis; 9 ©Jon Feingersh/Corbis; 13 ©Tom Stewart/Corbis; 16 Hemera Technologies; 17 ©Royalty-Free/Corbis; 18 ©Craig Tuttle/Corbis; ©Lonny Kalfus/Getty Images; 19 ©DK Images; 21 ©Randy Lincks/Corbis; ©Tony Freeman/PhotoEdit; 22©Steven Gorton and Gary Ombler/©DK Images; 23 ©Jon Feingersh/Corbis

ISBN: 0-328-13793-6

Copyright © Pearson Education, Inc.

All Rights Reserved. Printed in the United States of America. This publication is protected by Copyright and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form by any means, electronic, mechanical, photocopying, recording, or likewise. For information regarding permissions, write to: Permissions Department, Scott Foresman, 1900 East Lake Avenue, Glenview, Illinois 60025.

3 4 5 6 7 8 9 10 V010 13 12 11 10 09 08 07 06 05





What is energy?

You use energy all the time.
Things that can do work and cause change
have **energy**.

You use energy when you walk.
You use energy when you breathe.
You use energy while you sleep.



What has energy?
Can it do work?
Can it make something change?
Then it has energy.



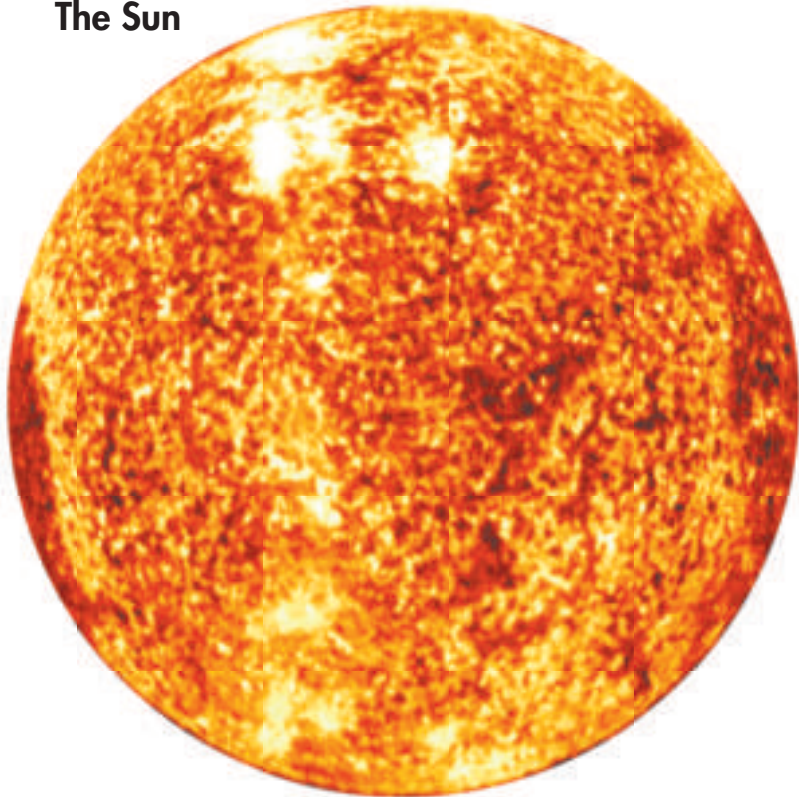


Energy from the Sun

Earth gets energy from the Sun.
The Sun gives Earth heat.
Heat and light from the Sun are
solar energy.

Light from the Sun helps people and
animals see.
Earth would be dark without the Sun.

The Sun



People can use solar energy.
Solar energy heats this home.





How do living things use energy?

Most living things need energy from the Sun.

Plants use green leaves to make food.

Plants use sunlight to make food.

Plants use water and air too.

Plants need food to live and grow.



Animals use energy to move.

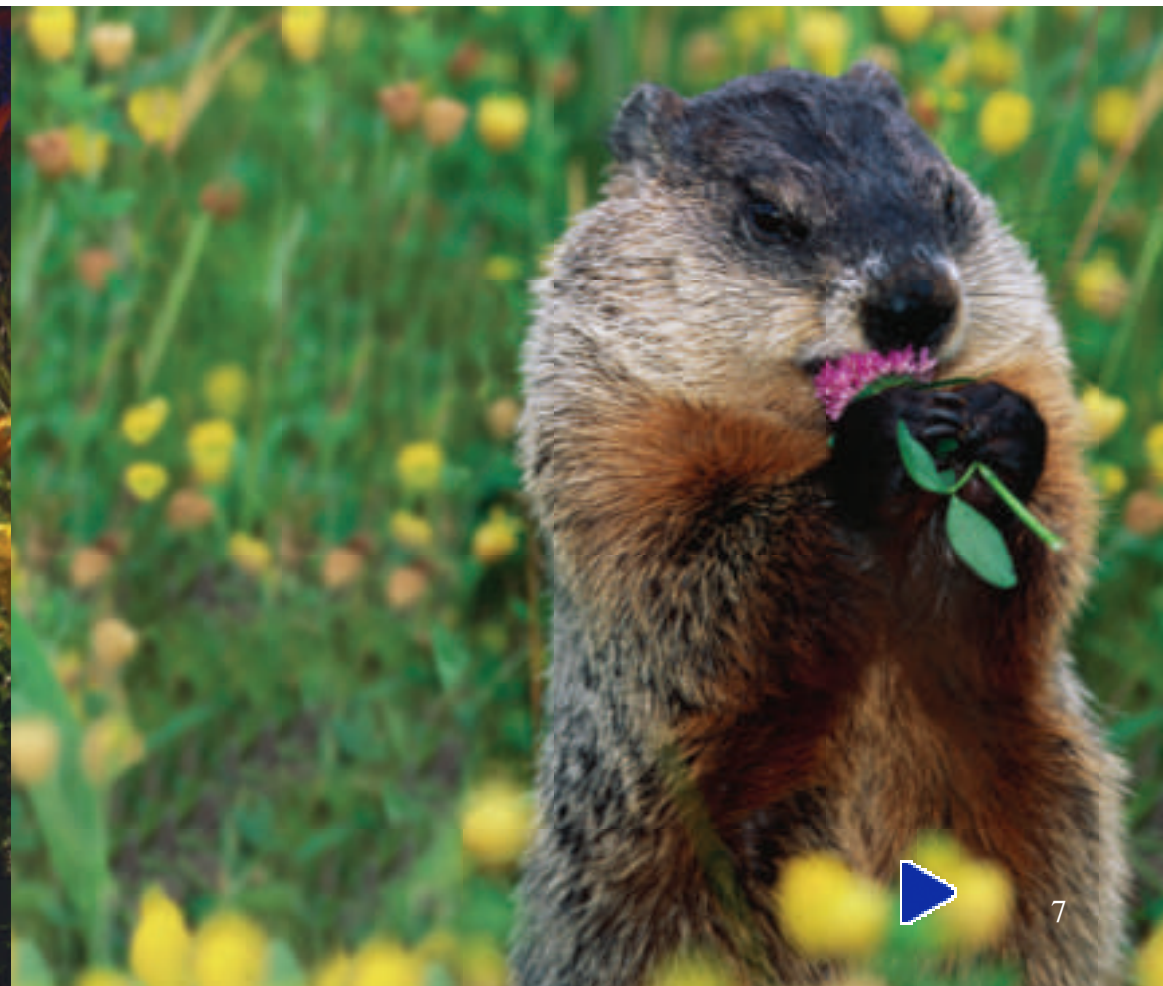
Animals get energy from food.

Animals use energy to live and grow.

Some animals eat plants.

Some animals eat animals that eat plants.

The plants get energy from the Sun.





How People Get Energy

People get energy from food.

Food gives people energy to grow.

Food gives people energy to move.



Food gives you energy to play.

Food gives you energy to work.





Here are five food groups.
Eat foods from each group every day.
These foods can help you grow.
They can help you stay healthy.



Milk, yogurt, cheese



Vegetables



**Bread, rice,
cereal, pasta**



Fruit



**Meat, fish, eggs,
dry beans**





What are some sources of heat?

Sunlight is a source of heat.

A **source** is where something comes from.

Heat comes from sunlight.

Heat can come from other sources too.

Rub your hands together.

Can you feel them get warm?



Fire is a source of heat.

Wood burns to make fire.

Wood is a fuel.

Fuel is burned to make heat.

Coal is another kind of fuel.

Gas and oil are fuels too.





How Heat Moves

Heat starts at a warm place.
It moves to a cooler place.
The burner is hot.
The pan and food are cold.
Heat moves from the burner to the pan.
Then heat moves from the pan to the food.

People use
heat to cook.



The pan is made of metal.
Metal is a conductor.
A **conductor** lets heat move through it.

Cloth is not a good conductor.
The mitt is made of cloth.
It keeps heat from moving to your hand.

Heat does not go
through the mitt
to your hand.





How does light move?

Light is a kind of energy.

The Sun is one source of light.

Fire and flashlights are other sources of light.

Most light sources give off heat too.

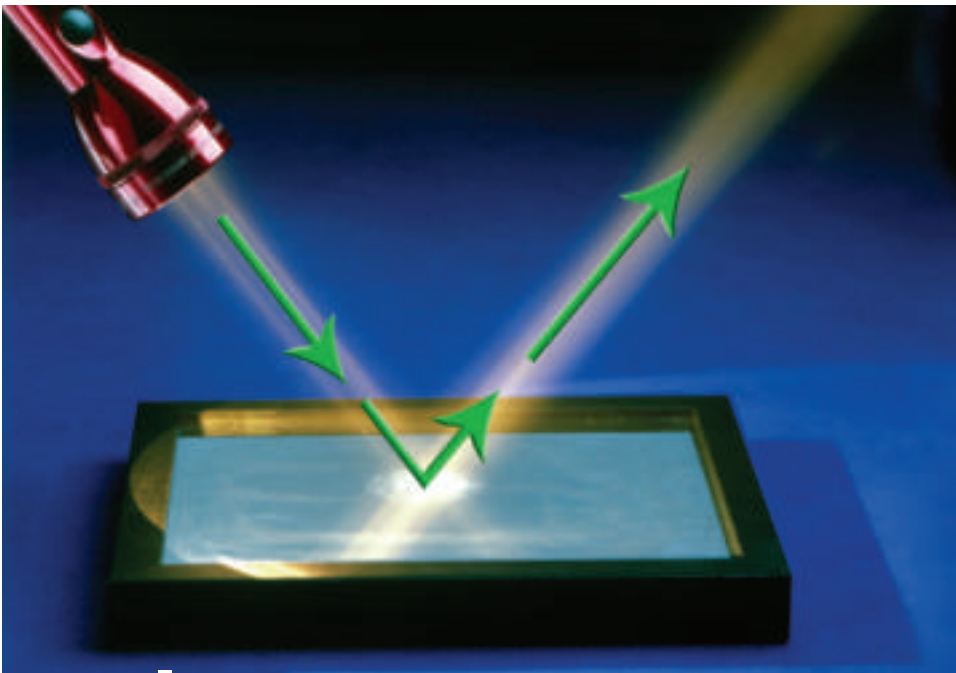
Light moves in a straight line.

Light can move through some things.

Light **reflects** when it hits something.

It reflects when it bounces back.

This shows how light reflects.



We see mostly white light.

Many colors make up white light.

You can see the colors in a rainbow.

Dark colors take in light.

Light colors reflect light.

Wear light colors to stay cool.





Shadows

A **shadow** is made when light is blocked.
Go out in the sunlight.
Your body blocks the light.
You make a shadow.

Shadows change during the day.
Shadows change when the Sun looks high
and low in the sky.



Use a flashlight to make a shadow.
Cut a shape from paper.
Use it to block the light.

Move the shape close to the light.
Move the shape far from the light.
How does the shadow change?





What are other kinds of energy?

You use different kinds of energy.
How can you make this grocery cart move?
You can push it.
Then it will have energy of motion.



Wind is a kind of energy.
Wind energy can move the boat.
Sound is a kind of energy too.



Wind energy



Sound energy





Using Electricity Safely

Turn on a light.

Electricity makes the light work.

Electricity makes this clock work.

Do not use electricity near water.

Do not pull on cords.

Do not touch wires.

How else can you use electricity in a safe way?



Electricity can be stored in batteries.



There are many kinds of energy.

How do you know what has or uses energy?

Is it doing work?

Can it change something?

Then it has energy!



Glossary

conductor	something that lets heat easily move through it
energy	anything that can do work or make a change
fuel	something that is burned to make heat
reflect	light hits something and bounces back
shadow	something made when light is blocked
solar energy	light and heat from the Sun
source	a place from which something comes

What did you learn?

1. Where does Earth get energy?
2. What are some ways people use energy?
3. **Writing in Science** There are different types of energy. Write to tell about two types you read about. Use words from the book as you write.
4.  **Infer** It is a hot and sunny day. One person wears a light shirt. One person wears a dark shirt. Which person will stay cooler? Why?

