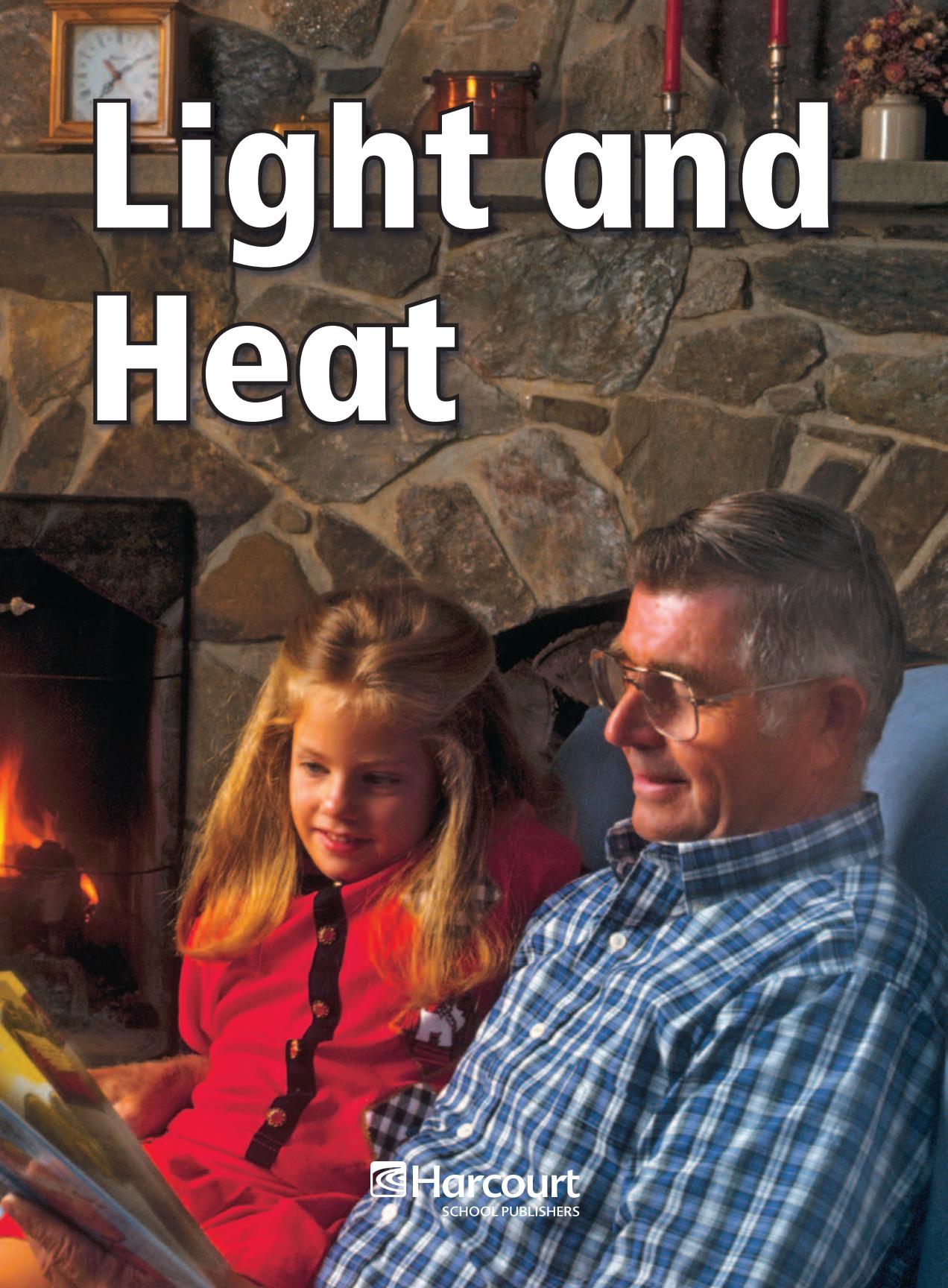


Light and Heat

A photograph of a man and a young girl sitting together in front of a stone fireplace. The man, wearing glasses and a blue plaid shirt, is looking at a book held by the girl. The girl, wearing a red sweater, is smiling and looking at the book. The fireplace has a lit fire and a clock is visible above it.

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Forms of Energy



Energy can cause matter to move or change.
Light is a form of energy.
Heat is also a form of energy.
Sound is a form of energy.

Where Energy Comes From



Most energy is solar energy.
Solar energy is energy from the sun.
Some energy comes from wind.
Energy also comes from moving water.
Energy comes from fuels like coal and oil.

Light



Light is a form of energy that lets you see.
Light travels in a straight line.
When light hits objects, it is reflected.
You see things because objects reflect light.

Shadows



Light can pass through some things.
It can not pass through other things.
An object that blocks light makes a shadow.

Heat



Heat is energy that makes things warmer.
Fuels give off heat as they burn.
Oil and wood are fuels. Natural gas is a fuel.
People use fuels to keep warm and to cook.

Friction



When objects rub together, they get warm.
The heat is caused by friction.
Friction slows down the objects.
Friction also causes the objects to get warm.

Heat and Electricity



Heat is used to make electricity.
First, heat changes water into steam.
The steam turns machines.
The machines make electricity.



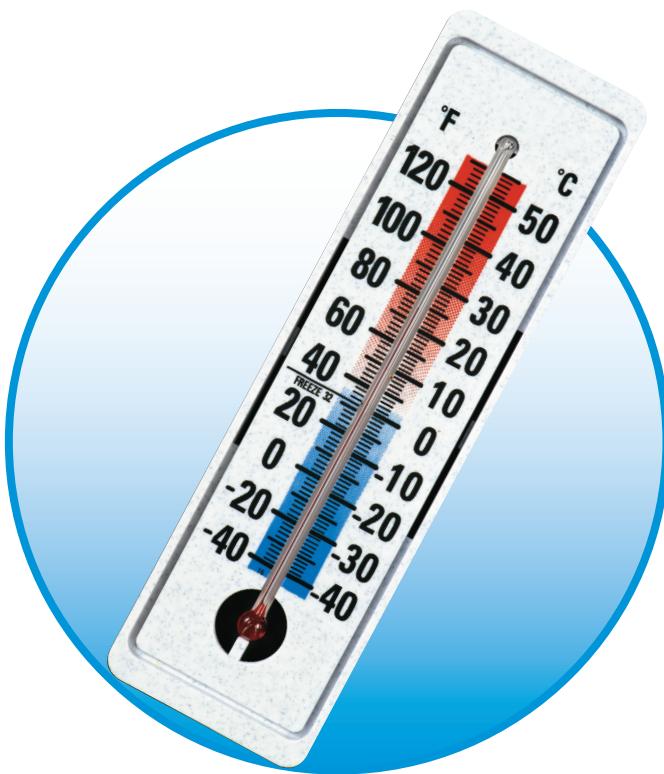
Power lines carry electricity to buildings.
Electric wires go to outlets in walls.
Some things change electricity to heat.
Other things may change it to light or sound.

Heat Travels



Heat moves from warmer to cooler things.
Heat travels easily through things like metal.
It does not travel easily through plastic.
It does not move easily through oven mitts.

Measuring Heat



Temperature tells how hot or cold a thing is.
A thermometer measures temperature.
It may measure in degrees Fahrenheit.
Or, it may measure in degrees Celsius.

Vocabulary

electricity, p. 8

energy, p. 2

friction, p. 7

heat, p. 2

light, p. 2

reflect, p. 4

solar energy, p. 3

temperature, p. 11

thermometer, p. 11

Think About the Reading

- 1.** What new information have you learned from reading this book?
- 2.** What more would you like to learn?

Hands-On Activity

- 1.** Use a flashlight and your hand to make a shadow on the wall.
- 2.** Move the flashlight. Describe what happens to the shadow.

School-Home Connection

Tell a family member what you have read about light and heat. Talk with the family member about different ways you use light and heat.