



★ Think About It!

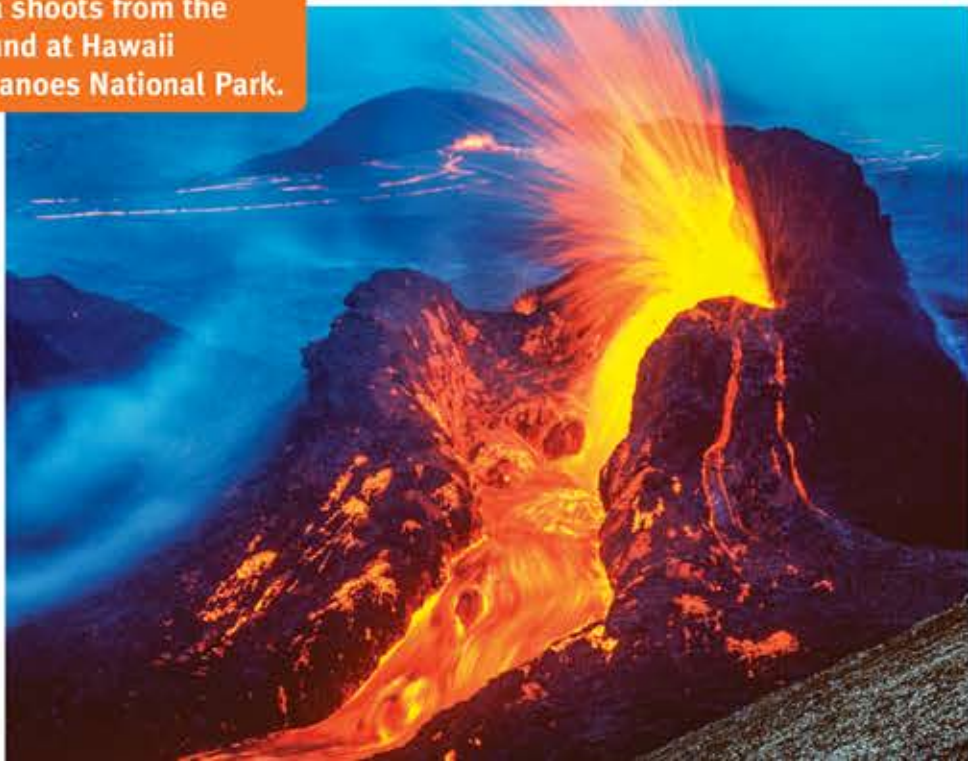
Look closely at the photo on these pages. What do you notice about the image? What do you think is going on? Once you have some predictions about *what* is happening, think about *how* it is happening. What might cause what you see in the photo to occur? What evidence in the photo supports your explanation?

Stumped?

Want to know more? Turn the page!

If you guessed that the photo shows a volcano erupting, you are right! Sakurajima volcano, on page 6, is an active volcano in Kyushu, Japan. Eruptions like that occur when pressure builds deep underground. When that pressure becomes great enough, the top of the volcano explodes. The glowing red lines at the bottom of the photo are streams of molten lava. The large, black cloud contains tiny particles of ash and gases.

Lava shoots from the ground at Hawaii Volcanoes National Park.



Lightning is an example of electricity in nature.

Sometimes, these particles of ash rub together and create an electric charge. If that charge becomes strong enough, lightning forms! This phenomenon is called a dirty thunderstorm.

You might be wondering why a volcanic eruption is in a book about energy. That's because an eruption displays almost all the forms of energy you'll learn about in this book. You'll find that energy is everywhere.

THE BIG TRUTH!

Alternative Energy

We use different kinds of energy to power the world around us. The type of energy most widely used comes from burning fossil fuels (coal, oil, and natural gas). This comes at a cost. When burned for energy, fossil fuels give off pollution. Also, supplies are limited.

Luckily, there's an infinite supply of cleaner, alternative energy sources. We can use renewable energy from wind, water, Earth's heat, and the sun to power our lives. These sources produce much less pollution.



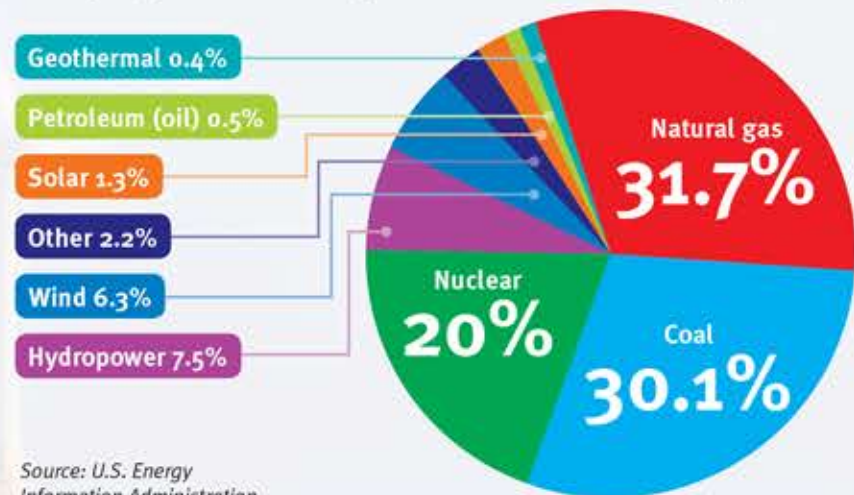
Geothermal plants use heat from the earth to create steam. The steam turns large fans called turbines that create electricity.



Solar cells convert sunlight into electricity.

Types of Energy Used to Produce Electricity in the United States in 2017

Only 15.5 percent of the electricity produced in 2017 came from renewable sources such as geothermal, solar, wind, and hydropower. Fortunately, this number increases every year.



Source: U.S. Energy Information Administration



Wind farms harness energy from the wind to produce electricity without polluting the air.

Hydroelectric plants turn the power of flowing water into electricity.