



Name: \_\_\_\_\_ Date: \_\_\_\_\_

# READING SCIENCE

## Powering Up Your Day

*Lexile 650L*

1 What was the first thing you did when you woke up today? Maybe you looked at the clock. Maybe you turned on a light. Or maybe you got up and turned on the radio. If you did any of these things, then you used electricity. Electricity plays a huge role in our lives. Our overhead lights and household appliances use it. Our TVs, computers, cell phones, and iPods use it. We have large power stations that bring electricity to our homes. And we have batteries that give it to us on the go. Electricity is truly everywhere.



2 What was the first way you used electricity this morning? Maybe it was when you flipped the switch to turn on the lights. This is easy to do today. But if you had lived 150 years ago, you could not have done this. You would have had to use a candle or a lamp for light. We can thank Thomas Edison for the electric light. In 1880, he perfected the light bulb. He also invented a way to bring electricity into people's homes. To make the light bulb, Edison put a filament inside a glass bulb. A filament is a thin strand that **resists**, or fights against, the flow of energy. The resistance causes the filament to heat and produce light.

3 What about breakfast? Did you have toast? In the old days, if you wanted toast, you had to hold it over an open flame ... Not anymore! Now we have electric toasters. We have Albert Marsh to thank for this. In 1905, March invented a special metal used for making wire. This wire quickly heats to red-hot temperatures, over and over, without breaking. The heat cooks, or toasts, the bread inside the toaster.

4 Did you use an electric fan to keep yourself cool? That device uses a motor to turn the fan blades. The blades make the breeze that keeps us cool. We can thank Michael Faraday for inventing the electric motor in 1821. He showed how electricity and magnetism are related. An electric current flowing through a circuit creates a magnetic field. A motor uses electricity and magnets to create motion. The magnetic fields from the current and magnets push and pull on each other. This turns the motor, much like when you push the pedals on your bicycle.

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- 5 Did you listen to music on the way to school? Did the sound come from a radio? Or from an MP3 player or an iPod? All these use electricity, and they all make music in the same way. First, a microphone captures a musical sound. Next, a recorder stores the signal as an electric code. Then, a player reads the code and changes the electrical signal back into sound. And last, an amplifier boosts the signal to a speaker. Who do we thank for the sound of music in our lives? Once again, it is Thomas Edison! He invented the phonograph in 1877. It was a machine for recording and replaying sound. Other inventors then improved on his invention. In 1909, Lee de Forest found a way to make this sound louder. And in 2001, a company called Apple invented the iPod. It is a device that can store thousands of songs, as well as videos and images.
- 6 All of these devices use electricity. Indeed, electricity is essential to our modern lives. How else do you use electricity during the day?

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- 1 This passage is mostly about:
- A Thomas Edison
  - B the electrical inventions we use every day
  - C the power plants that generate electricity
  - D the things you do to get ready for school
- 2 The author organized this passage by:
- A explaining how electricity causes a variety of effects
  - B sequencing the creation of the electrical inventions that have impacted our lives
  - C describing how the inventions we use each day use electricity and magnets
  - D comparing and contrasting the time before electricity to the time after
- 3 The word **resists** (second paragraph) is closest in meaning to:
- A makes easier
  - B heats
  - C struggles against
  - D lights

- 4 What can you tell about Thomas Edison from this passage?
- A He was a kind man.
  - B He made lots of money from his inventions.
  - C He was lucky.
  - D He invented several devices that used electricity.
- 5 The motor that turns a fan is most like:
- A pouring sand out of a bucket
  - B pedaling a bicycle
  - C reading a book
  - D a ball rolling down a hill