

True or False

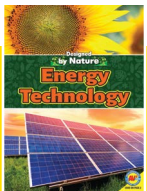
Follow the instructions to complete the activity.

NAME

DATE

Using the information in *Energy Technology*, verify whether the following information is true or false. Check your answers in the book. List the page number where you found your information beside your answer.

Statement 1	People first began studying photosynthesis in 1771.	<input type="checkbox"/> True <input type="checkbox"/> False	Page Number	<input type="text"/>
Statement 2	Alessandro Volta invented the first battery in about the year 1900.	<input type="checkbox"/> True <input type="checkbox"/> False	Page Number	<input type="text"/>
Statement 3	Scientists have improved solar panels by studying water lilies.	<input type="checkbox"/> True <input type="checkbox"/> False	Page Number	<input type="text"/>
Statement 4	To create light, chemicals react inside a firefly's body.	<input type="checkbox"/> True <input type="checkbox"/> False	Page Number	<input type="text"/>
Statement 5	Termite mounds inspired the design of the Eastgate Centre in Paris, France.	<input type="checkbox"/> True <input type="checkbox"/> False	Page Number	<input type="text"/>



Fill in the Blanks

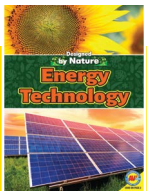
Follow the instructions to complete the activity.

NAME

DATE

Use the information found in *Energy Technology* to help you complete the following activity.

1. Some schools of fish swim in a shape.
2. As electricity travels, it loses energy in the form of .
3. In a beehive, each bee has a small .
4. As time passes, humans are becoming more reliant on energy sources.
5. mounds inspired the design of the Eastgate Centre in Harare, Zimbabwe.
6. Plants take in energy from the Sun and store it as .



Complete the statements by entering the correct number in the box.

In 1938, archaeologists discovered ancient battery-like objects that were more than this many years old.

2

The wind energy industry in the United States grew by this percentage in 2017.

15

Termite mounds can reach higher than this many feet.

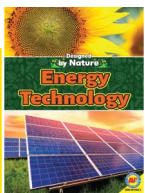
2,200

As of 2016, more than this many million battery-powered cars had been sold.

9

A humpback whale's front flippers are about this many feet long.

17



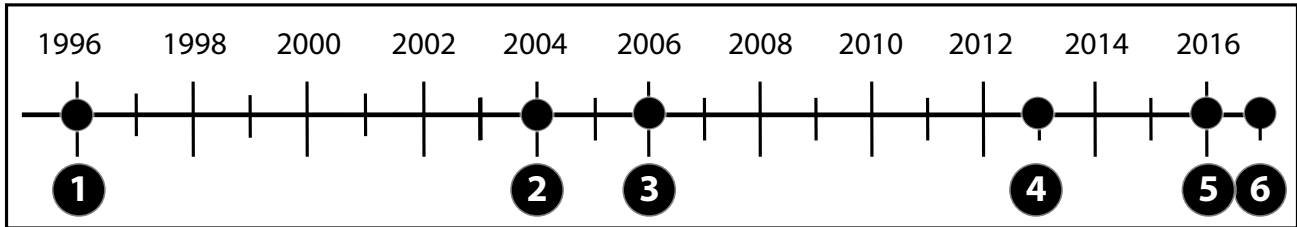
Timeline

Follow the instructions to complete the activity.

NAME

DATE

Number the events below in the order they should appear on the timeline. Write the number in the box beside each event. Check your answers with page 27 of the book.



BioPower Systems is founded in Australia. The company develops a wave energy generator using structures based on seaweed.

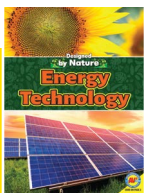
Scales on fireflies are used as inspiration for more effective LEDs. Scientists copy the scales by using lasers to etch "factory roof" patterns on the lights.

Researchers at Harvard University present a design for an "artificial leaf," that can be used to generate fuels.

Eastgate Centre opens in Harare, Zimbabwe. Based on a termite mound, it has 48 chimneys to allow hot air to escape.

A skyscraper in London, England opens. Called 30 St Mary Axe, or "the gherkin," its sea sponge based design helps air flow throughout the building.

Researchers publish a study detailing a new device, based on an electric eel, that could be used to power implanted or worn electronics.



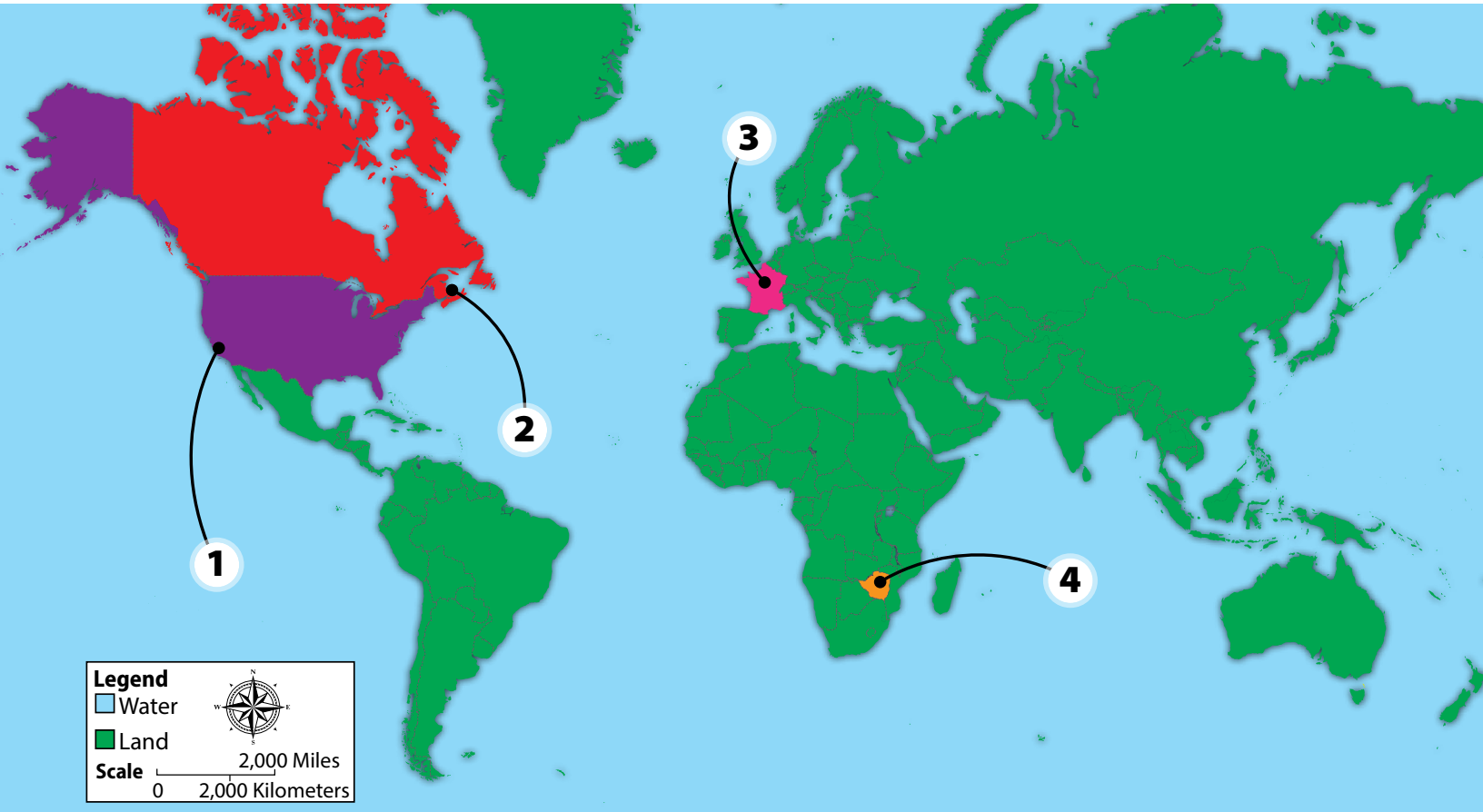
Map Activity

Follow the instructions to complete the activity.

NAME

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Using the information on pages 28–29 of the book, fill in the blanks with the development relating to energy technology in each location. Using information found in the book and research online, briefly explain why each location is important to the field of biomimetics.

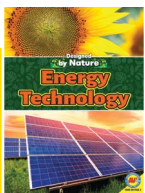


①

②

③

④



Designed by Nature

Energy Technology

Reference: Pages 28–29

Quiz

Test your knowledge by answering these quiz questions.

NAME

DATE

1 What city received “Wind Tree” windmills in 2016?

2 When did people begin studying photosynthesis?

3 What gives plant leaves a green color?

4 When were batteries first sold in the United States?

5 Where is a firefly’s light organ?

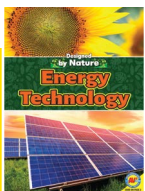
6 What is a tubercle?

7 When did the first photosynthetic bacteria form?

8 What shape do flocks of geese form when they fly?

9 How tall can a termite mound be?

10 What mineral makes up coral reefs?



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Reference: All Pages

Page
1 of 6

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Key Words Match-Up

Write the words from the list below in the box above the correct definition for each word.

NAME

DATE

KEY WORDS

solar
generator
power plant
calcium carbonate
ecosystem

renewable
photosynthesis
adapted
mimicking
tubercles

Your Score is  _____ %

1.
having to do with natural resources that never run out

2.
the collection of living things in a natural area

3.
a solid substance found in nature as chalk, limestone, and marble

4.
having to do with the Sun

5.
knobby lumps on living things

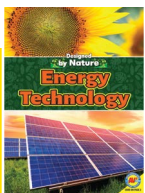
6.
the process in which plants turn sunlight, carbon dioxide, and water into oxygen and energy

7.
a place that generates electricity

8.
changed over time to deal with a certain situation

9.
a machine that produces electricity

10.
copying an appearance or behavior



Quiz Answer Key

Compare your quiz answers with the answer key below.

NAME

DATE

- 1** Paris, France
- 2** 1771
- 3** Chlorophyll
- 4** 1898
- 5** On its abdomen
- 6** A ridge on a humpback whale's fin
- 7** More than 3 billion years ago
- 8** A "V" shape
- 9** Higher than 17 feet (5.2 m)
- 10** Calcium carbonate

