

True or False

Follow the instructions to complete the activity.

NAME

DATE

Using the information in *Medical 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.

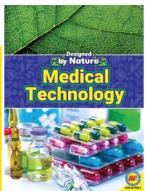
Statement 1 True False Page Number

Statement 2 True False Page Number

Statement 3 True False Page Number

Statement 4 True False Page Number

Statement 5 True False Page Number



Fill in the Blanks

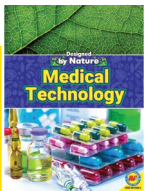
Follow the instructions to complete the activity.

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

1. is the science of copying nature to solve human problems.
2. The tardigrade-inspired sugar coating allows vaccines to last without for up to six months.
3. In the 1950s, people in Russia's Caucasus Mountains used flowers to help with head pains.
4. Bioengineer Jeffrey Karp was inspired by feet to make surgical tape while working at Brigham and Women's Hospital (BWH) in Boston, Massachusetts.
5. Ivy roots change to fit the wall the plant is growing on.
6. Jellyfish use their long tentacles to catch .



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

The tentacles of a large box jellyfish can reach up to this many feet in length.

1,000

There are more than this many species of porcupines.

0.04

There are more than this many species of geckos.

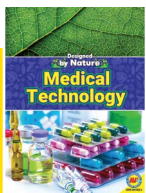
24

The largest geckos grow up to this many inches long.

10

Most tardigrades are less than this many inches long.

14



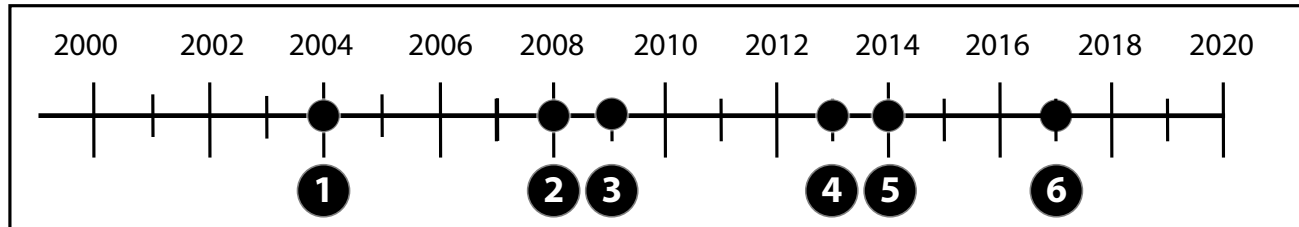
Timeline

Follow the instructions to complete the activity.

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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.



University of Texas researchers develop a new kind of hypersensitive hearing aid based on the ears of parasitic flies.

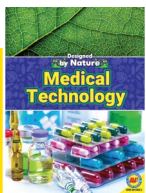
New surgical tape, based on gecko skin, is invented as a tool to help replace sutures and staples.

In the United States, the Food and Drug administration (FDA) declares that leeches used for therapy can be considered medical devices.

Researchers at Boston's Brigham and Women's Hospital develop new microneedles based on the parasitic *Pomphorhynchus laevis* worms.

Researchers examine the blood of animals such as Komodo dragons to determine if they have antibacterial properties that can be copied for medicine.

A biotech company in Florida develops a form of artificial shark skin. The pattern on the skin helps keep bacteria off its surface.



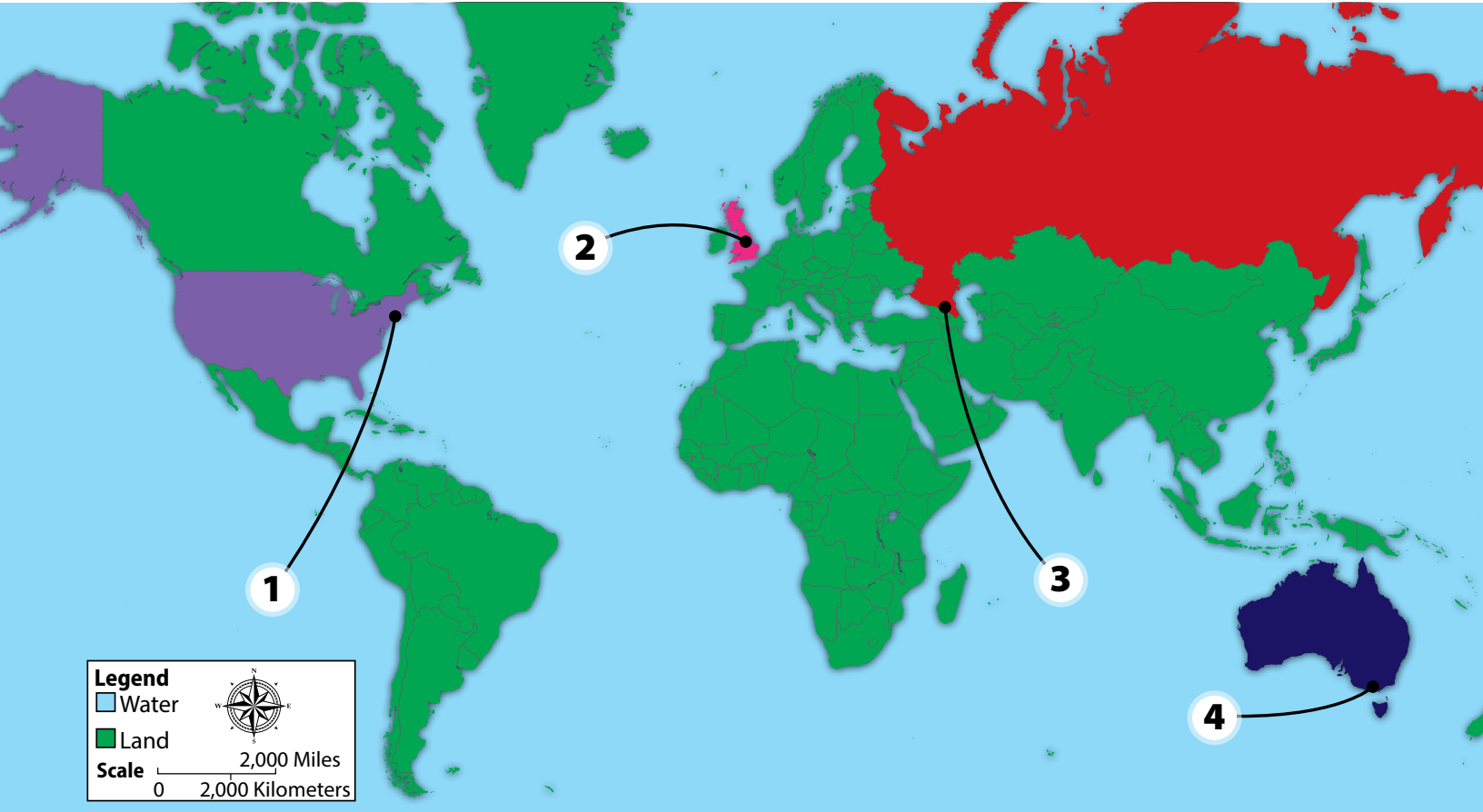
Map Activity

Follow the instructions to complete the activity.

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Using the information on pages 28–29 of the book, fill in the blanks with the development relating to medical 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.

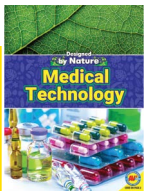


1

2

3

4



Designed by Nature

Medical Technology

Reference: Pages 28-29

Quiz

Test your knowledge by answering these quiz questions.

NAME

DATE

1

How many spikes are on the end of a North American porcupine quill?

2

Which bioengineer developed surgical tape based on gecko feet?

3

What is another name for a tardigrade?

4

How many hospitals in France tested sandcastle-worm-based glue in 2016?

5

When was the first surgical tape invented?

6

What do the tips of worm-based skin graft needles do?

7

What animals were declared to be medical devices by the FDA in 2004?

8

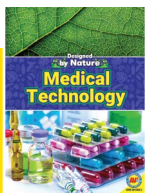
What happens to a tardigrade when it dries out?

9

What animals inspired scientists to make a type of microchip in 2012?

10

How many species of gecko are there?



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

compound
tissue
bacteria
extinct
cancer cells
vaccine

expire
artificial
DNA
microchip
dormant

Your Score is  %

1.
a small piece of hardware that has tiny electrical circuits

2.
the genetic material in the cells of living organisms

3.
abnormal cells that divide and grow in the body

4.
a substance that is made by combining two or more chemical elements

5.
single-celled living things. They can be useful or harmful.

6.
no longer living on Earth

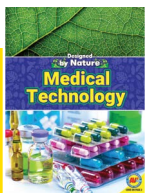
7.
a substance that prevents a person from getting a disease

8.
alive but not active, as if in a deep sleep

9.
made by humans instead of occurring naturally

10.
a group of similar cells that have a certain job or function

11.
to reach the end of the time when something is useful



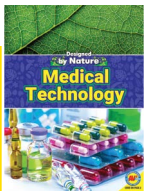
Quiz Answer Key

Compare your quiz answers with the answer key below.

NAME

DATE

- 1** 700 to 800
- 2** Jeffrey Karp
- 3** A water bear
- 4** Four
- 5** 1845
- 6** Inflate
- 7** Leeches
- 8** It becomes dormant
- 9** Jellyfish
- 10** More than 1,000



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Reference: All Pages

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1 of 8

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