

## True or False

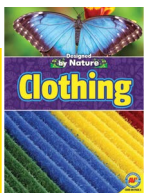
Follow the instructions to complete the activity.

NAME

DATE

Using the information in *Clothing*, 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 | Morphotex is a cloth inspired by the morpho silkworm                    | <input type="checkbox"/> True<br><input type="checkbox"/> False | Page Number | <input type="text"/> |
| Statement 2 | Sharkskin is made up of flexible layers of small, toothlike structures. | <input type="checkbox"/> True<br><input type="checkbox"/> False | Page Number | <input type="text"/> |
| Statement 3 | Spider silk is one of the strongest fibers in nature.                   | <input type="checkbox"/> True<br><input type="checkbox"/> False | Page Number | <input type="text"/> |
| Statement 4 | Humboldt squid flash red and white to communicate with each other.      | <input type="checkbox"/> True<br><input type="checkbox"/> False | Page Number | <input type="text"/> |
| Statement 5 | Lotus leaves are covered with tiny bumps and a greasy material.         | <input type="checkbox"/> True<br><input type="checkbox"/> False | Page Number | <input type="text"/> |



Designed by Nature

Clothing

Reference: All Pages

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## Fill in the Blanks

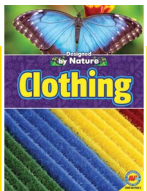
Follow the instructions to complete the activity.

NAME

DATE

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

1. Most dyes are made using .
2. Hornbeam  have closed folds.
3. At the bottom of each penguin feather is a .
4. Bees spread  when they land on flowers.
5. Squids have color-changing  just below their skin.
6. By studying lotus plants, researchers found a new way of making  clothing.



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

In Antarctica, penguins swim in waters as cold as this many degrees Fahrenheit.

**1**

In 2009, athletes wearing Fastskin broke more than this many world swimming records at a world championship in Rome, Italy.

**7**

Some spiders can create this many different kinds of silk.

**8**

The production of this many cotton shirts uses 700 gallons of water.

**43**

Morpho butterflies can have wingspans of up to this many inches.

**29**



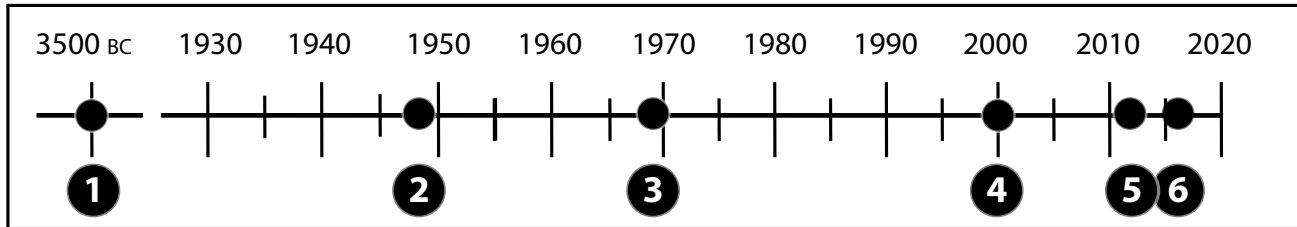
# Timeline

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.



Olympic swimmers wearing Fastskin swimwear set 13 world records.

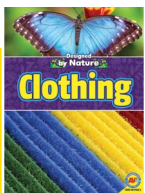
Inspired by burrs, Swiss inventor George de Mestral creates Velcro.

The term biomimetics is first used by biophysicist and inventor Otto Schmitt.

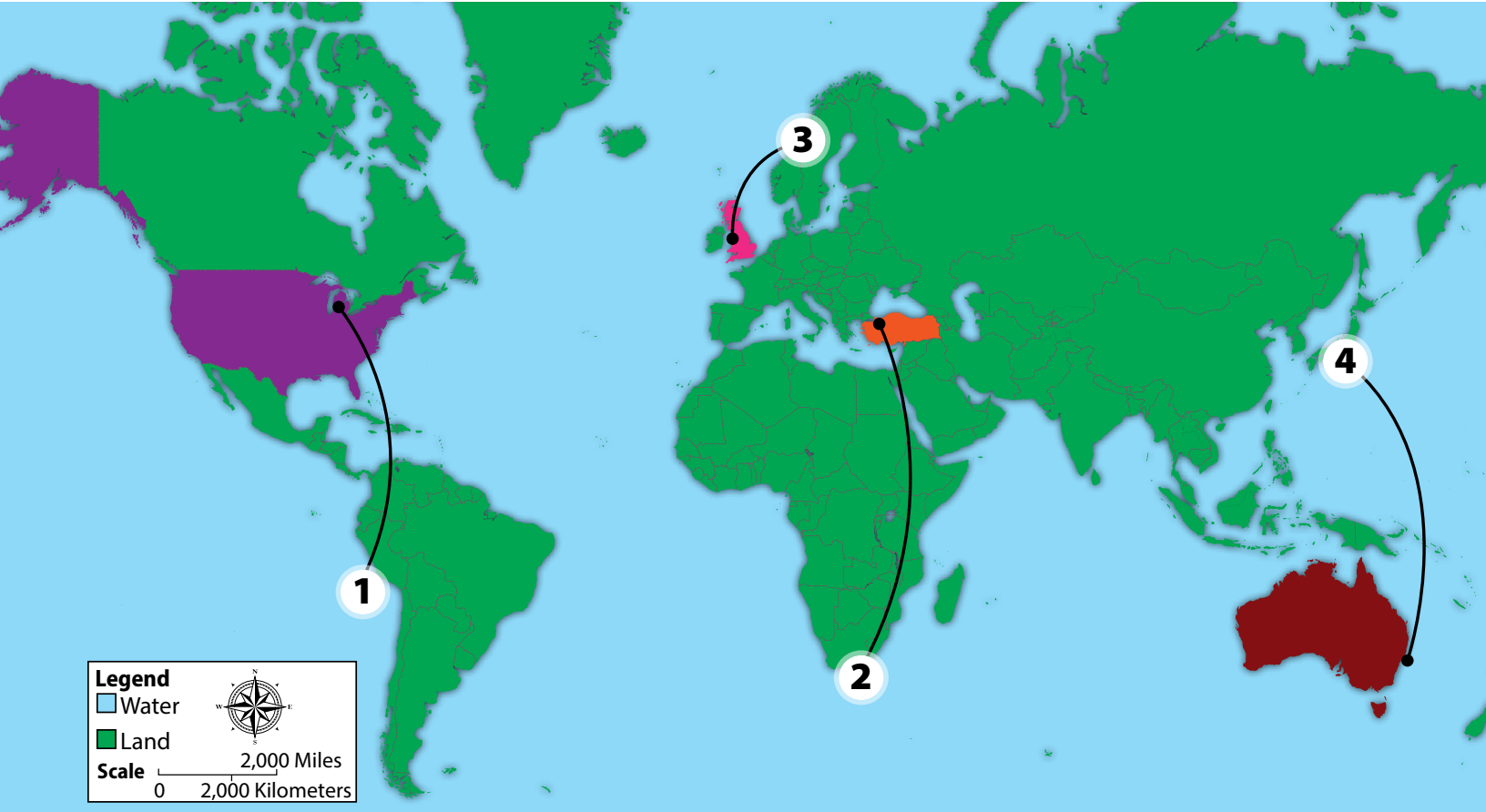
People in China begin to use silkworms for their silk.

A University of Massachusetts research team develops a very strong adhesive material, based on gecko feet, that is partly made from special fabrics.

Inspired by squid, scientists develop a solution, made of bacteria and yeast, that can be used to repair many kinds of fabrics.



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

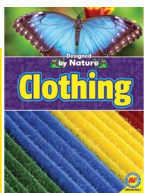


①

②

③

④



## Quiz

Test your knowledge by answering these quiz questions.

NAME

DATE

1

What happens during transpiration?

2

When did people in China first domesticate silkworms?

3

What is kombucha made of?

4

What insect inspired a dye-free cloth?

5

What is sharkskin covered with?

6

What did George de Mestral invent?

7

How wide can a giant squid sucker be?

8

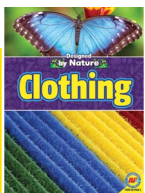
What materials can be used to create artificial muscles?

9

What are lotus leaves covered with?

10

How much water is used to produce one cotton shirt?



## 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

camouflage  
bacteria  
eco-friendly  
yeast  
DNA

insert  
artificial  
high-tech  
proteins  
carbon

Your Score is  %

1.   
a type of fungus used to make foods and drinks, such as bread

2.   
not harmful to the environment

3.   
an object that is placed inside another object

4.   
the genetic material in the cells of living organisms

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

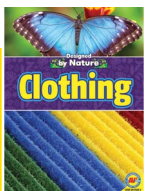
6.   
molecules that are important in telling a living cell what to do

7.   
one of the basic chemical elements of all living things

8.   
made by humans instead of occurring naturally

9.   
a pattern that is designed to look like its surroundings

10.   
using advanced technology



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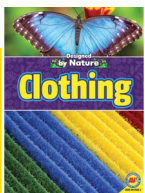
## Quiz Answer Key

Compare your quiz answers with the answer key below.

NAME

DATE

- 1** Small openings in leaves release water and oxygen
- 2** 3500 BC
- 3** Bacteria, yeast, and sweet tea
- 4** The morpho butterfly
- 5** Small, tooth-like structures
- 6** Velcro
- 7** More than 2 inches (5 cm)
- 8** Carbon tubes
- 9** Tiny bumps and a waxy material
- 10** 700 gallons (2,650 L)



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