

## Famous Scientists and Mathematicians

### Louis Pasteur



Louis Pasteur was a famous French scientist. He developed several important inventions in medicine, chemistry, and industry. His research proved that diseases are spread via **bacteria**<sup>1</sup> and that the spread of bacteria could be controlled. With this knowledge, humans were able to save many lives. His works greatly benefited human life.

Pasteur discovered a way to make milk, wine, and foods safe. The process, known as pasteurization, was named after him. He figured out that by heating these foods and freeing them from harmful bacteria, they could be better **preserved**.<sup>2</sup> The heat kills the germs that spread disease.

This research was also valuable in medicine. Pasteur was able to prove that germs in the body cause illnesses. He also discovered that animals could be **resistant**<sup>3</sup> to certain diseases if they have been exposed to the disease in a very minute amount. This paved the way for the development of **vaccinations**.<sup>4</sup> Vaccinations keep humans from contracting certain illnesses such as rabies, smallpox, and chickenpox.

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<sup>1</sup> **bacteria:** single-celled microorganisms that are important because of their disease-causing abilities and chemical effects

<sup>2</sup> **preserve:** to stop from spoiling; to save

<sup>3</sup> **resistant:** the ability of an organism to fight against harmful influences such as disease or infection

<sup>4</sup> **vaccination:** an injection of a preparation of killed or weakened microbes in order to produce or increase immunity to a particular disease

Pasteur's contributions to the scientific world make him one of the most important scientists of all time.

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

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

1. According to the passage, Pasteur's research proved that diseases are spread by

- a. animals.
- b. bacteria.
- c. heat.
- d. vaccination.

2. How do the middle paragraphs of the passage support its main topic?

- a. The paragraphs explain Pasteur's educational background.
- b. The paragraphs discuss Pasteur's private life.
- c. The paragraphs discuss Pasteur's contributions and influences.
- d. The paragraphs explain controversy surrounding Pasteur's legacy.

3. Based on information in this passage, what can we conclude about pasteurization?

- a. It had existed for a long time but no one had ever come up with a name for it.
- b. It was the first vaccine ever created.
- c. It only helps make milk safer.
- d. It helps prevent certain diseases from being spread by food.

4. Read this sentence:

"Vaccinations keep humans from contracting certain illnesses such as rabies, smallpox and chickenpox."

As used in this sentence, **contracting** means

- a. burning.
- b. getting.
- c. hiring.
- d. curing.

5. What is the author's main purpose in writing this passage?

- a. to discuss the importance of Pasteur in science and medicine
- b. to discuss the importance of Pasteur in food production
- c. to explain how medicine is different in France
- d. to give a detailed history of how pasteurization was invented

6. How does pasteurization help prevent the spread of disease?

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7. What evidence in the passage supports the author's statement that Pasteur was "one of the most important scientists of all time"?

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8. The question below is an incomplete sentence. Choose the answer that best completes the sentence.

Louis Pasteur's research paved the way for future advancements in science; \_\_\_\_\_, his research on diseases helped lead to the development of vaccinations.

- a. on the other hand
- b. for example
- c. instead
- d. otherwise

9. Answer the following questions based on the sentence below.

In France, Louis Pasteur developed a process called pasteurization to make foods more safe from germs.

Who? Louis Pasteur

Did what? \_\_\_\_\_

Where? \_\_\_\_\_

Why? \_\_\_\_\_

10. **Vocabulary Word:** contribution (*noun*): the part played by a person or thing in bringing about a result or helping something to advance or become successful.

Use the vocabulary word in a sentence: \_\_\_\_\_

\_\_\_\_\_

## Teacher Guide and Answers

**Passage Reading Level:** Lexile 850

**Featured Text Structure:** Descriptive – the writer explains, defines or illustrates a concept or topic

**Passage Summary:** The passage discusses Louis Pasteur’s significant contributions to science and medicine, including the discovery of pasteurization and research that paved the way for the development of vaccinations.

1. According to the passage, Pasteur’s research proved that diseases are spread by
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  - b. bacteria.**
  - c. heat.
  - d. vaccination.
2. How do the middle paragraphs of the passage support its main topic?
  - a. The paragraphs explain Pasteur’s educational background.
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“Vaccinations keep humans from contracting certain illnesses such as rabies, smallpox and chickenpox.”

As used in this sentence, **contracting** means

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5. What is the author's main purpose in writing this passage?
- a. to discuss the importance of Pasteur in science and medicine**
  - b. to discuss the importance of Pasteur in food production
  - c. to explain how medicine is different in France
  - d. to give a detailed history of how pasteurization was invented
6. How does pasteurization help prevent the spread of disease?

**Suggested answer:** Pasteurization is a process in which foods are heated in order to kill bacteria in the foods. This helps prevent the spread of disease through foods because it kills the germs that spread disease.

7. What evidence in the passage supports the author's statement that Pasteur was "one of the most important scientists of all time"?

**Suggested answer:** Louis Pasteur developed a process known as pasteurization to make foods safer by killing bacteria and also conducted research that proved diseases spread by bacteria which paved the way for the development of vaccinations. These were all significant contributions to science and medicine made by the notable scientist that have saved many lives.

8. The question below is an incomplete sentence. Choose the answer that best completes the sentence.

Louis Pasteur's research paved the way for future advancements in science; \_\_\_\_\_, his research on diseases helped lead to the development of vaccinations.

- a. on the other hand
- b. for example**
- c. instead
- d. otherwise

9. Answer the following questions based on the sentence below.

In France, Louis Pasteur developed a process called pasteurization to make foods more safe from germs.

Who? Louis Pasteur

Did what? **developed a process called pasteurization**

Where? **in France**

Why? **to make foods more safe from germs**

10. **Vocabulary Word:** contribution (*noun*): the part played by a person or thing in bringing about a result or helping something to advance or become successful.

Use the vocabulary word in a sentence: answers may vary.