

LOUIS PASTEUR and PASTEURIZATION

READER'S THEATER

Instructor's copy

Pick five students to perform aloud pages 18–21 from the book. Prior to a public performance, have students look through the pages and identify their character. Students can then use the scripts provided on this CD-ROM to practice their part. Suggested props: glasses and bow-tie for Pasteur, lab coats for Appert and Pasteur, hat for wine grower, beakers and a thermometer.

Main Script

Scene One: Louis Pasteur and a wine grower are walking in a vineyard . . .

Narrator: In 1861, Louis Pasteur won the Zecker Prize from the Academy of Sciences in Paris for disproving spontaneous generation. After winning the award, Pasteur was asked by France's king, Napoleon III, to help France's wine industry. France exported a lot of wine to other countries, but it often arrived spoiled.

Pasteur: Are there any problems with your grapes?

Wine grower: No, they look and taste like they always do.

Scene Two: In the production area . . .

Wine grower: When we bottle the wine, it tastes fine. By the time the wine travels to customers in England, it has turned sour.

Pasteur (*thinking to himself*): Perhaps the wine is infected with microorganisms before it is bottled. Or maybe something happens to the wine during the bottling process.

Scene Three: Later, in the laboratory with Nicolas Appert . . .

Narrator: Pasteur looked at the work of French scientist Nicolas Appert, who developed canning as a way to preserve food.

Appert: Some scientists think that it was the lack of oxygen in the canned goods that keeps them preserved. But others think the heating of the food before it's canned preserves the food.

Pasteur: Could it be a combination of both?

Scene Four: Later, in Pasteur's laboratory, with his assistants . . .

Narrator: Pasteur knew that heat could kill microorganisms, but boiling wine changed the taste.

Pasteur: Let's try to determine the temperature needed to kill the bad germs and preserve the original taste of the wine. Vary the heat by five degrees.

Narrator: After days of experiments, Pasteur determined that 145 degrees Fahrenheit would kill bad germs without ruining the taste of the wine. Pasteur also determined the wine should be heated for 30 minutes to prevent spoiling.

Pasteur (*thinking to himself*): Cold slows growth, so the heat-treated wine should be moved to a cold tank to keep it from developing new germs. We'll bring in cold spring water to cool it.

Narrator: Pasteur and his assistants tested the entire process and then checked on the wine.

Pasteur: No harmful microorganisms are present! The process worked!

Assistant: And it tastes great.

Narrator: Pasteur took out a patent in 1865, calling the process pasteurization.

Assistant

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Louis Pasteur

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Narrator

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Nicolas Appert

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Wine grower

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