Teacher Resource

Antibiotic Resistance

EPISODE 34
24 November 2026

KEY LEARNING
Students will understand how antibiotics treat bacterial infections, the importance of using them responsibly, the impact of antibiotic resistance, and Howard Florey's contribution to the development of penicillin.

CURRICULUM
Science – Years 5 & 6
Examine why advances in science are often the result of collaboration or build on the work of others.

Investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions.

Focus Questions

Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Most bacteria are harmless to humans. True or false?
2. What is a type of bacteria that can make you sick? Name one.
3. What scientists were involved in discovering and turning penicillin into a usable medicine?
4. What are antibiotics used for?
5. What is antibiotic resistance?

Activity: Think-pair-share

Before watching the BTN Antibiotic Resistance story, ask students to think independently about the questions below before discussing these with a partner.



- What do you think antibiotics are?
- Do you know what sorts of illnesses antibiotics treat?
- Have you or someone you know taken antibiotics?

Activity: Class Discussion

Discuss the BTN Antibiotic Resistance story in small groups or as a class. Use the following questions to help guide the discussion:

- Are all bacteria harmful? Explain why or why not.
- What are antibiotics?
- What do they do?
- What illnesses do antibiotics treat?
- What impact have they had on controlling disease?
- What might happen if antibiotics stopped working against harmful bacteria?

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Activity: Key Words

Students will brainstorm a list of key words that relate to the BTN Antibiotic Resistance story. Ask students to write what they think is the meaning of each word (including unfamiliar words). Check these against the dictionary definition.

BACTERIA	ANTIBIOTIC	PENICILLIN
INFECTION	ANTIBIOTIC RESISTANCE	MICROBE

Activity: Research

Discuss the information raised in the BTN Antibiotic Resistance story. What questions were raised in the discussion and what are the gaps in students' knowledge? Students will develop their own question/s to research or choose one or more of the questions below.

Research Questions

- What is the difference between bacteria and viruses? Create a Venn diagram to show the similarities and differences.
- What are antibiotics and how do they work?
- Why have some bacteria become resistant to antibiotics?
- What would happen if antibiotics stopped working?
- How are helpful bacteria important to the human body?
- How might the world be different today if penicillin had never been discovered?
- Why do you think it took scientists several years to turn Fleming's discovery into a medicine?
- How did World War II influence the development and production of penicillin?

Create a timeline showing important events in the history of antibiotics. Include:
The year or time period.
A short explanation of what happened.
A picture or drawing for each event.

Activity: Howard Florey Biography

Students will learn more about the life and achievements of Australian scientist Howard Florey and his role in developing penicillin into a usable medicine. Students can use the following questions to guide their research to create a biography.

- When and where was Howard Florey born?
- How did Howard Florey help develop penicillin into a usable medicine?
- What challenges did Florey and his team face?
- What awards and recognition did he receive?
- How did his work change the world of medicine?
- Why should Howard Florey be remembered today?
- Imagine you could sit down and talk to Howard Florey. What questions would you ask about his life and achievements?



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Activity: Quiz

1. What are bacteria?

A. Small animals with many cells

B. Tiny single celled organisms

C. Medicines that help fight infections

2. All bacteria are harmful.

A. True

B. False

3. What are antibiotics designed to treat?

A. All illnesses

B. Viral infections

C. Bacterial infections

4. Antibiotics can be used to treat the common cold.

A. True

B. False

5. Who accidentally discovered penicillin?

A. Alexander Fleming

B. Howard Florey

C. Ernst Chain

6. What did Howard Florey and his team help achieve?

A. They discovered bacteria

B. They developed penicillin into a useable medicine

C. They invented vaccines

7.What does antibiotic resistance mean?

A. Antibiotics become stronger over time

B. Bacteria change so antibiotics no longer work effectively against them

C. Viruses turn into bacteria

8. Handwashing can help prevent the spread of infections and reduce the need for antibiotics?

A. True

B. False

Quiz Answers:
1B, 2B, 3C, 4B, 5A, 6B, 7B, 8A

Useful Websites

- Penicillin – National Museum Australia
- Antibiotics – BTN
- Sir Howard Florey – The Nobel Prize
- Howard Florey, the story – ABC Science

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