Collins
English Readers

Student Activities

Alexander Fleming

Before reading

1 Guess

Alexander Fleming is famous for discovering penicillin, the first antibiotic. How much do you know about penicillin? Circle the correct answer. If you don't know the answer, guess.

1 Penicillin comes from _____.
   a a tree
   b an insect
   c a fungus

2 Penicillin was first used _____.
   a before the First World War
   b before the Second World War
   c after the Second World War

3 Fleming's discovery is estimated to have saved _____ lives to date.
   a 200 thousand
   b 200 million
   c 200 billion

Don't worry if you don't know the answers: you will discover them when you read the story!

TIP If you don't know what any of these words mean, or if you need help with any other vocabulary in the story, use the free dictionary at www.collinsdictionary.com/cobuild for help.

While reading

2 Comprehension

Scan the timeline and put these events in the correct order. Write 1–8 in the spaces.

_____ He discovered the antibiotic substance penicillin in a fungus.
_____ He and his colleagues received the Nobel Prize.
_____ He graduated and became a lecturer at St Mary's Hospital.
_____ Fleming studied in London, then worked in a shipping office.
_____ He studied medicine using money he inherited from his uncle.
_____ He and his colleague received knighthoods.
_____ He conducted research into an enzyme found in tears.
_____ He researched antibacterial substances during the First World War.

3 Comprehension and writing

Answer these questions in sentences.

1 Why did Fleming decide not to leave St Mary's Hospital after graduation?

2 Why did Fleming say that the soldiers who died instantly 'were the lucky ones'?

3 What was the problem with antiseptics?

4 What was the benefit and the drawback of lysozome?

5 What successes and problems did Fleming encounter after the discovery of penicillin?

6 What contributions did Florey and Chain make to work in penicillin?

After reading

4 Language

Complete these sentences with words from the box. Change the form of the word if necessary. You will not need to use all the words.

inherit	findings	fungus	clinical
well-respected	agent	microscope	isolate
rewarding	enzyme	dilute	inject

Fleming was already a **1** _____ scientist when his discovery of penicillin was published in medical journals and he found his work very **2** _____. However, few scientists took his research seriously. Fleming continued his research, but he found it impossible to **3** _____ the part of the **4** _____ that killed the bacteria. However, two scientists, Florey and Chain, were interested in Fleming's **5** _____. They conducted more **6** _____ trials and experimented with **7** _____ penicillin into mice, to great effect. However, even though penicillin was effective after it was **8** _____ a thousand times, there was too little penicillin in supply to save lives.

5 Research

Find out three facts about each of the following people:
- Sir Almroth Wright
- Howard Florey
- Ernst Chain

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Answer Key (Student Activities)

Alexander Fleming

1 Guess

1 c
2 b
3 b

2 Comprehension

1 Fleming studied in London, then worked in a shipping office.
2 He studied medicine using money he inherited from his uncle.
3 He graduated and became a lecturer at St Mary's Hospital.
4 He researched antibacterial substances during the First World War.
5 He conducted research into an enzyme found in tears.
6 He discovered the antibiotic substance penicillin in a fungus.
7 He and his colleague received knighthoods.
8 He and his colleagues received the Nobel Prize.

3 Comprehension and writing

1 He became interested in studying immunology after meeting Sir Almroth Wright.
2 Death from blood poisoning or infection was more painful and long-lasting than death from a bullet or explosion.
3 Antiseptics killed the good bacteria as well as the bad bacteria and, as a result, prevented recovery and caused more deaths.
4 Lysozome had antibacterial qualities, but it was not very strong.
5 Penicillin worked even when diluted. It worked against many kinds of bacterial diseases. However, it could not kill typhus. He also could not isolate the part that killed bacteria. It was not successful when applied onto surface wounds.
6 They continued research into penicillin and tried injecting it. They also helped to set up the production of penicillin in Illinois.

4 Language

1 well-respected
2 rewarding
3 isolate
4 fungus
5 findings
6 clinical
7 injecting
8 diluted

5 Research

Answers will vary