




Learning Intentions: I can....			
<ul style="list-style-type: none"> <li>Describe what antibiotics do.</li> <li>Give an example of an antibiotic and state what it can be used to treat.</li> <li>Select relevant information from a cloze passage</li> </ul>			

1. View the **recorded lesson 'antibiotics'** then click the **link** on Satchel:One to **view the mp4 clip 'antibiotics'**.

2. Read the cloze passage below then **answer the questions** that follow **in sentences**.

### Penicillin – The First Antibiotic

Alexander Fleming, a Scottish biologist discovered Penicillin at St Mary's Hospital, London in 1928. Penicillin was the first effective antibiotic to be discovered and was deemed a major medical breakthrough. He received the Nobel Prize for Physiology and medicine in 1945 for the discovery of Penicillin.

Alexander Fleming discovered Penicillin almost by accident. He returned from a holiday and noticed that bacteria he had grown on petri dishes, were being killed by a substance released from a fungal mould. The fungal mould was *Penicillium* and the chemical it released was Penicillin. He used the word antibiotic to describe penicillin. (*An antibiotic is a chemical which prevents the growth of bacteria*) Fleming unfortunately did not have the money or the facilities to continue his research on Penicillin.

In the late 1930s two Oxford scientists, Ernst Chain and Howard Florey continued to research different methods in which to produce Penicillin. With the start of World War II in 1939, both scientists were given extra funding from the government. The problem they faced was being able to produce enough penicillin. In 1941, Penicillin was first tested on a policeman dying of an infection in a wound, from the scratch of a rose thorn. He got better for several days but when the Penicillin ran out, he sadly died. Although the policeman died when the penicillin ran out, it was obvious that it was effective.

By 1943, penicillin was being mass produced, as it continues to be today. Wounded soldiers during World War II were among the first to benefit from Penicillin. It was used to treat bacterial infections including Pneumonia and Septicaemia.

Many more antibiotics followed the discovery and development of Penicillin. Over the years they have been extremely successful in fighting bacterial infections. Today health organisations across the world are trying to reduce the use of antibiotics, especially for conditions that are not serious. The overuse of antibiotics has meant they have become less effective due to the emergence of resistant bacteria. This makes some infections more difficult to treat.

- a) What was the first antibiotic to be discovered?
- b) Who was the scientist that discovered this antibiotic and in which year did they discover it?
- c) What prize was the scientist awarded for this discovery and in which year was it awarded?
- d) Describe what is meant by the term antibiotic.
- e) *Penicillium* releases the antibiotic Penicillin. What type of microorganism is *Penicillium*?
- f) What problem did Ernst Chain and Howard Florey face with Penicillin?
- g) Who were among the first to benefit from the production of Penicillin?
- h) What type of infections are antibiotics used to treat?
- i) Give a problem that has arose from the overuse of antibiotics.

### 3. The PPT 'Antibiotics' will help you answer this question.

Below is a labelled diagram of a petri dish containing a jelly like substance called agar. The agar contains nutrients needed for microorganism to grow.

Bacteria were grown (represented by the blue colour) on the agar then three discs containing different antibiotics (represented by the yellow circles labelled A, B + C) were placed on top.

Which antibiotic would be **most effective** in treating an infection caused by this bacteria – A, B or C?

