

## Superbugs: Join the Fight Delivery Guide - Ages 11-14

This programme is initiated and funded by Pfizer.

### Lesson summary:

Pfizer's 'Superbugs: Join the Fight!' education programme has a goal; that is for young people to help raise awareness about stopping the spread of disease and reducing the rise of superbugs.

With the coronavirus pandemic, it's never been more important to stay clean and healthy. This lesson equips learners with practical advice on hygienic practices around handwashing, maintaining a clean environment and the correct use of medicines.

Imagine a world where antibiotics don't work. Learners will be introduced to the issue of 'superbugs' and will learn about the important steps they can take to stay healthy and prevent infection. The activities support science, citizenship and PSHE/PSE/Health and wellbeing/PDMU.



### Lesson Delivery

You can use this lesson in a classroom setting or for distance learning. The lesson takes around 60 to 90 minutes, plus optional extension activities. The activities can be used flexibly, according to the time you have, and could also be split over more than one lesson to allow more in-depth exploration of the issue.



### Preparation and resources:

- Superbugs Presentation
- Activity Sheet 1: Hygiene Audit
- Activity Sheet 2: Creative Communication
- Parent Letter

### Learning objective:

We are learning about superbugs and how to protect against them.

### Learning outcomes:

I can describe ways of taking responsibility for my own physical health and personal hygiene, and why this is important.

I can describe the purpose and importance of immunisation and vaccination.

I can explain what is meant by 'superbugs' and why the issue is important.

I can suggest some of the ways we can reduce the spread of infection.

### Introduce the session

Young people will be exploring the spread of superbugs and the impact of anti-microbial resistance. Before beginning, it is important to highlight that this is a challenging topic with real-life implications, therefore it is important to respect the content within the presentation and ensure that all learners feel comfortable with covering the content within this module. It would be advised that a safe learning environment is created prior to starting the session, establishing ground rules that will enable fair discussion and sharing of facts and opinions. Some examples of ground rules could be:

**'I will respect the ideas and opinions of other people.'**

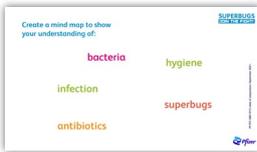
**'I will not interrupt someone when they are sharing an opinion.'**

**'I will not force anyone to speak if they do not wish to.'**

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## Starter

Slides 2 - 3



Ask learners what they know about the terms ‘bacteria’, ‘infection’, ‘hygiene’, ‘antibiotics’ or ‘superbugs’? They could use Think, Pair, Share; create a mind map; or write their ideas on sticky notes and display them on a wall.

Read through the learning objective and outcomes.

## Main activities

Slides 4 - 10



### Superbugs and antibiotics. How much do you know?

Read the information about antibiotics and the development of superbugs then take the quiz on **slides 5 to 8**. The answers are revealed on the next slide. See if learners can recall information to fill in the gaps on **slides 9 and 10**.

Slide 11



### Superbug spread

Learners create a diagram showing a human model of infection. They can use the example on **slide 11** to get started. Begin with one person who spreads to two others, who each spread to two more. Keep adding to the diagram, doubling the number of people who are infected each time. Why is it so important to slow down the spread of infectious diseases?

If this activity is challenging for learners, you could create the diagram together then ask them to count how many transmissions it would take before the whole class would be infected.

You could also discuss the R rate that pupils may have heard about during the COVID pandemic. How did social distancing measures help to reduce transmission?

Slide 12-15



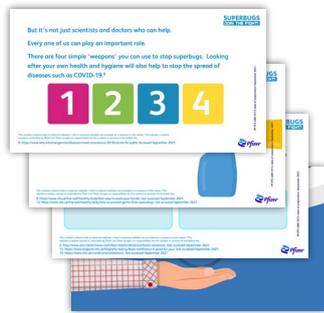
### Solving the superbugs issue

Use these slides to explore what is being done to help solve the superbugs problem. Learners could share with a partner, who they think is responsible for finding a solution. Thoughts could include doctors, scientists, the government, parents, yourself. See how real-life scientists are working to tackle the issue and how doctors use vaccinations to prevent diseases spreading, but that this is only part of the picture. Explain that ultimately, everyone is responsible and has a part to play.

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## Main activities

### Slides 16 - 27



### The four 'weapons' to fight against superbugs

Read the information on the slides to learn about the four weapons in the fight against superbugs and stopping the spread of disease.

Learners use **Activity Sheet 2** to complete a Hygiene Audit of their classroom and/or home. They could use the results to come up with an agreed list of rules and practices to keep places as clean and hygienic as possible, e.g. 'I will wash my hands with soap and hot water for 20 seconds every time I go to the toilet'.

Watch the video on **slide 26** to learn more about the four weapons in the fight against superbugs.

### Slide 28



### Creative communication (optional extension)

Learners use **Activity Sheet 3** to plan how they would creatively communicate the message about the four weapons to an audience. How could they make their message memorable? If working in a classroom setting, learners could present their ideas to the class and vote for their favourite.

### Slides 29 - 30



### Plenary

Learners write down or share with a partner one thing they've learnt during this lesson that they didn't know before.

## Extension/homework ideas:

- Learners could hold a debate around: 'Who is responsible for solving the superbugs problem?'
- Create a bathroom poster or design a school mural encouraging younger learners to wash their hands after using the toilet.
- Write a blog article about the superbugs issue.

## Sites for additional research:

The following links contain useful and age appropriate information if learners wish to conduct additional research.

- **BBC Own It: Health advice** <https://www.bbc.com/ownit/dont-panic/dr-radha-vs-dr-internet?collection=we-got-your-back>
- **Health for Kids information on hygiene** <https://www.healthforkids.co.uk/staying-healthy/washing-hands/>
- **Science news for students, article on how we are fighting superbugs** <https://www.sciencenewsforstudents.org/article/war-superbugs>
- **Rise of the superbugs animated video including history of antibiotics** <https://www.youtube.com/watch?v=fyRyZ1zKtyA>

This module contains links to external websites. Links to external websites are provided as a resource to the viewer.

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## Curriculum links:

### England

#### Relationships and Health Education

Health and prevention

- about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing.
- the facts and science relating to allergies, immunisation and vaccination.

#### Science

All learners:

- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

### Scotland

#### Health and wellbeing

I am developing my understanding of the human body and can use this knowledge to maintain and improve my wellbeing and health. HWB 3-15a.

I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible. HWB 3-16a.

I understand the positive effects that some substances can have on the mind and body but I am also aware of the negative and serious physical, mental, emotional, social and legal consequences of the misuse of substances. HWB 3-38a.

#### Sciences

I have explored how the body defends itself against disease and can describe how vaccines can provide protection. SCN 3-13c.

### Wales

#### PSE

Display a responsible attitude towards keeping the mind and body safe and healthy.

#### Science

The beneficial and detrimental effects of some drugs on the organs of the human body and other consequences of their use.

Applications of science, medicine and technology that are used to improve health and the quality of life, including those in countries with different levels of economic development.

### Northern Ireland

#### LEARNING FOR LIFE AND WORK: Personal Development

Investigate the influences on physical and emotional/mental personal health of, for example, immunisation, regular physical activity, personal hygiene, diet, stress, addiction, life/work balance etc.

Investigate the effects on the body of legal and illegal substances and the risks and consequences of their misuse, for example, effects on behaviour, physical and mental health, life and work changes etc.

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### Sciences

Learners should have opportunities to:

develop creative and critical thinking in their approach to solving scientific problems.

- **Personal Health:** Explore physical, chemical and biological effects on personal health, for example, inherited characteristics, exercise and nutrition, misuse of chemicals, loud sound etc.
- **Media Awareness:** Investigate how the media (internet, television, radio, newspapers) help inform the public about science and science-related issues.
- **Cultural Understanding:** Consider how the development of scientific ideas or theories relate to the historical or cultural context, for example, the development of the heliocentric model of the solar system, Jenner's work on vaccination etc.