



Superbugs Lesson Plan

60 mins

Learning Objectives	Every Child Matters
- To understand the features of some microbes - To understand the effects of microbes on the body - To understand the importance of good hygiene - To know the 5 steps to clean hands	- Enjoy and Achieve - Keeping Healthy
Success Criteria	National Curriculum Links
- I can name the 5 types of microbes and some of their features - I know some of the diseases microbes can cause - I can explain what is unhygienic behaviour - I know the 5 steps to use when I clean my hands	Key Stage 2: Science – Sc2 5f Personal, Social and Health Education – 3b, 5d

Resources and Equipment

- Superbugs IWB Presentation
- Superbug worksheet
- Strips of coloured paper
- The 5 steps to clean hands animation

Health and Safety Issues

None

Key Vocabulary

Microbe	Bacteria
Virus	Fungi
Algae	Protozoa
Disease	Mutation
Symptoms	Hygienic
Infection	Control



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Learning Experience:

Introduction (15 mins)

Ask pupils:

Q: What do you know about microbes? Discuss pupils' previous knowledge.

Show the Superbugs IWB Presentation and use it to explain:

- There are five types of microbes
- How microbes can be helpful
- Examples of bacteria and viruses and the diseases they cause
- The 'super powers' of microbes.

Explain the concept of mutation and how it can be difficult to treat diseases because bacteria and viruses change. So as a cure is developed by scientists the bacteria or virus has already changed and the treatment is ineffective.

Main Input (10 mins)

Teacher to model pupil task of creating their own 'Superbug' using their knowledge of microbes. Show the example of octobacteria and explain the disease and symptoms it causes and the super powers it has.

Encourage pupils to suggest their own ideas and praise imaginative examples that use scientific ideas previously discussed.

Independent Activities (20 mins)

Pupils create and illustrate their own microbe using the Superbug worksheet. Pupils should explain the disease and symptoms their Superbug causes and think carefully about the special features or super powers their microbe may have. Pupils can invent either friendly or harmful microbes.

Differentiation:

Pupils requiring support could use the idea of octobacteria and add extra details.

Pupils requiring extension could create a bacteria or virus which mutates and show the features of both microbes.

Plenary (15 mins)

- Display all the pupil's 'Superbugs' and ask a few volunteers to explain their ideas and microbe special features.
- Discuss how we can control the spread and potential infection of our harmful microbes. Show ideas on the IWB Presentation and focus on the 5 steps to proper hand cleaning, the 5 steps to clean hands animation could be shown here.
- As a class, discuss what the pupils will now do to be hygienic and protect themselves from infection. Pupils to write their good hygiene pledge on a strip of coloured paper. Pupils can then 'splat' their microbes by attaching their good hygiene pledge to their microbe – this could make a good classroom display.



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Marching Microbes Lesson Plan

85 mins

Learning Objectives	Every Child Matters
- To understand what microbes are and how infection is spread - To understand the importance of good hygiene in keeping healthy - To know the 5 steps to clean hands	- Enjoy and Achieve - Keeping Healthy
Success Criteria	National Curriculum Links
- I can name the 5 types of microbes - I know the diseases microbes can cause - I can explain what is unhygienic behaviour and how infection is spread - I know the 5 steps to use when I clean my hands	Key Stage 2: Science – Sc 1, 2j Sc 2, 5f Personal, Social and Health Education – 3b, 5d

Resources and Equipment

- Marching Microbes IWB Presentation
- Blocks of sticky notes
- School map on smart notebook
- Marching Microbes quiz
- The 5 steps to clean hands animation

Health and Safety Issues

Ensure children don't actually cough or sneeze on sticky notes before passing them around the classroom!

Key Vocabulary

Germ	Microbe
Bacteria	Viruses
Fungi	Algae
Protozoa	Illness
Infection	Control
Hygiene	Unhygienic



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Learning Experience:

Introduction (15 mins)

Ask the class:

Q: What are microbes? Learners share their ideas.

Show Marching Microbes IWB Presentation.

- Explain that there are micro-organisms (germs) that live everywhere but can only be seen through a microscope
- They fit into 5 main groups (bacteria, viruses, fungi, algae or protozoa)
- Microbes can be helpful (e.g. bacteria helping to digest food or fungi (yeast) helping bread rise)
- Microbes also cause infection (e.g. bacteria causing ear infections, viruses causing flu).

First Main Input

Explain that they are now going to become Special Agents and investigate how microbes can move around the classroom.

Explain the idea that microbes multiply and can spread very quickly (often leading to infection) – illustrate this by sticking a block of sticky notes to a surface then removing all but one. The sticky notes can appear to be just one but as you remove the block and put it elsewhere some are left behind. When microbes move around they leave a trail of potential infection behind.

Independent Activities (10 mins)

Pupils work in groups of 5 to investigate how microbes move around their classroom:

- One member of the group pretends to sneeze or cough into their hands and then goes around the room touching/using objects as they would during a normal lesson
- The rest of the group watch this behaviour and 2 pupils place sticky notes wherever is touched
- The other two children follow whoever also touches the 'infected' objects and puts sticky labels wherever they touch

Encourage pupils to do everyday things like; use scissors, read another person's book, borrow a pen.

Differentiation:

Pupils requiring support could have their own sticky notes and just track where they could pass infection to.

Pupils requiring extension could draw a map of the classroom and identify the high infection 'hot spots'.

Second Main Input (15 mins)

Bring the class back together and ask them to look at the sticky labels around classroom.

Ask pupils:

Q: Where are the most common places for microbes to be found?

Q: Why do you think this is?

Q: What activities were unhygienic (increased microbes on hands)?

Establish that microbes are most common on people (because we can move) and objects shared by the class (because lots of people touch them).

Show pupils the interactive school map in the IWB Presentation and discuss areas of the school where infection is most likely to be passed on.



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Independent Activities (20 mins)

In groups, ask the pupils to explore the possible 'hot spots' and record observations of people's unhygienic behaviour and interactions with objects and other people.

Differentiation:

Pupils requiring support could focus their observations on one communal piece of equipment (e.g. a water fountain).

Pupils requiring extension could draw flowcharts showing the path of infection.

Extended Plenary (25 mins)

- Pupils report their observations back to the class and update the interactive school map using handprints to show where infection was passed on.
- From findings, discuss rules that pupils could follow to encourage good hygiene and control the spread of infection.
- Write a list of hygiene rules to go on display in the classroom (e.g. cleaning hands whenever we use the toilet, sneeze, cough or blow our nose, keeping objects off the floor, not putting pens in mouths).

Ask class:

Q: What is the very best way we can stop people spreading infection?

Encourage pupils to suggest cleaning hands.

Q: Did you know that there are actually 5 steps to properly clean your hands?

- Show 5 steps to clean hands animation or the IVB Presentation slide and ask class to mime actions as each step is read out. Practise a few times so pupils have a good understanding of the steps.

Challenge pupils to answer questions from the Marching Microbes quiz showing their understanding of microbes, infection control and proper hand cleaning.

Ask pupils:

Q: What will you now do differently to stop microbes from spreading and help keep yourself healthy?



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SUPERBUG!

My name:

Type of bug:

Worksheet

Draw a picture of your Superbug here

Disease it causes:

Special powers:

Bug name:

Symptoms:

