

Key Stage 1 Lesson Plans

**All lesson plans
and supporting
materials
contained in this
pack are available
to download
as modifiable
templates from
the e-Bug website**





Introduction to Micro-organisms

This lesson is designed to introduce students to viruses, bacteria and fungi. The introductory activity allows students to combine their observational and creative skills to make a microbe of their own choice, exploring various microbial types and shapes.

Curriculum Links

Science

Working scientifically, Living things and their habitats

PSHE/RSHE

Health and prevention

English

Reading and comprehension, Writing

Key Words

Fungi, Bacteria, Viruses, Cocci, Bacilli, Spiral, Penicillium, Lactobacilli

Weblinks

e-bug.eu/eng/KS1/lesson/Introduction-to-Microbes

Learning Outcomes

All students will:

- Understand there are three different types of microbes: viruses, bacteria and fungi.
- Understand microbes are all different shapes and sizes.
- Understand some microbes are useful but some can be harmful.

Most students will:

- Understand microbes are found everywhere.
- Understand most microbes are too small to be seen with the naked eye.

Resources Required

Activity: Modelling Microbes

Per group

- Coloured modelling clay (follow TS1 for a home-made recipe)
- Permanent black marker
- SH1 Making Microbes Guide
- SH2 Microbes Fun Fact Sheet
- SH3-5 Microbe Example Sheets

Per student

- Petri dishes (optional)

Extension Activity: Yes or No Cards

Per class/group

- SW1 Yes or No Cards
- TS2 Yes or No Answers

Extension Activity: Microbe Flashcards

Per class/student

- SW2 Microbes Flashcards

Extension Activity: Fill in the Blanks Worksheet

Per group

- SW3 Microbe Mania Fill in the Blanks Worksheet

The modelling clay activity can be carried out using arts and craft materials you may already have in your classroom, or by drawing the microbes.

Advance Preparation

For the main activity students will be making microbes out of modelling clay. Use the Making Microbes Guide (SH1), Microbe Mania Fun Fact Sheet (SH2) and Microbe Example Sheets (SH3-5) for inspiration. Provide each student group with modelling clay, Petri dishes (if using), images and information about microbes.

Health and Safety

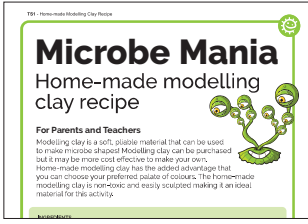
Take care that modelling clay is non-toxic and suitable for students.

Take care that students do not eat the modelling clay.

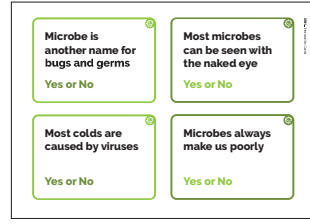
For safe microbiological practices in the classroom consult CLEAPPS www.cleapps.org.uk



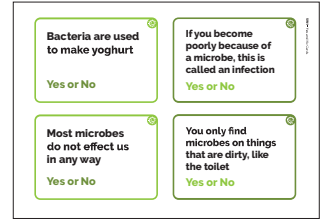
Supporting Materials



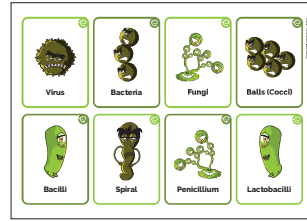
TS1 Home-made Modelling Clay Recipe



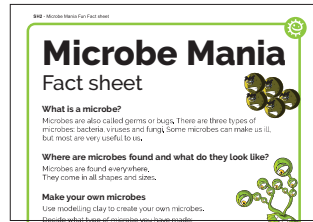
SW1 "Yes" and "No" cards



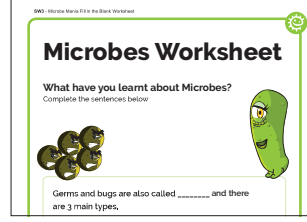
SH1 Making Microbes Guide



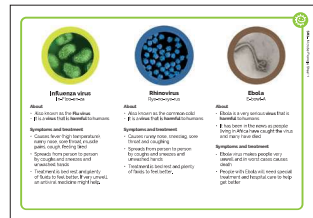
SW2 Microbes Flashcards



SH2 Microbe Mania Fun Fact Sheet



SW3 Microbes Mania Fill in the Blank Worksheet



SH3 Microbe Example Sheets (SH4-5 available online)



Lesson Plan



Introduction

1. Begin the lesson by asking students if they know what microbes are. Explain that they are tiny living things that are all around us. Most of these are too small to be seen with our eyes.
2. Ask the students if they, or anyone in their family, has ever been poorly with a cough, cold or a temperature? What do they think caused it? Explain to the students that some illnesses called infections, are caused by these tiny living things called microbes. Explain that there are three different types of microbes: viruses, bacteria and fungi.
3. Emphasise that although some microbes make us ill, there are also useful microbes. Tell the students that bacteria help to make foods like yoghurt, and fungi like yeast help make bread while other fungi are used as medicines.
4. Highlight to the class that microbes can be found EVERYWHERE: floating around in the air we breathe, on the food we eat, on the surface of our bodies, in our mouth, nose and gut/tummy, most of these are not harmful and some are good for us.

Discussion

Discuss the microbes the students made highlighting the differences between viruses, bacteria and fungi.

If you have used the extension activity, SW1 Yes and No cards, discuss the answers with the students. Explain that not all microbes make us poorly.

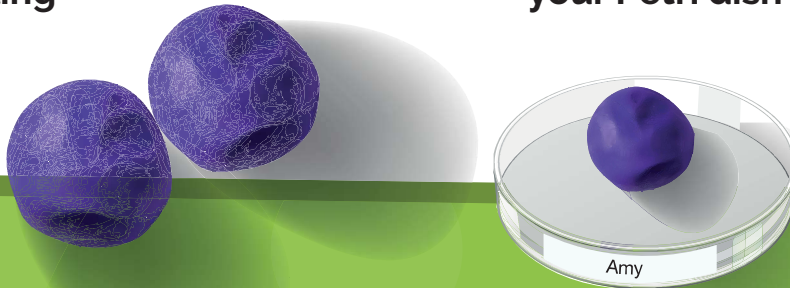
Activity: Modelling Microbes

1 Shape your microbe using modelling clay

2 Place into your Petri dish

3 Write the name of your microbe on your Petri dish

4 Take your Petri dish home



This activity aims to introduce students to different types of microbes and microbe shapes by allowing them to make a microbe out of modelling clay. This activity also introduces students to terms associated with microbes that they may come across day-to-day e.g. germs, bugs.

1. Remind the students that there are three different types of microbes (viruses, bacteria and fungi) and how these are different.
2. Encourage students to make microbes using modelling clay and to place them in a Petri dish (if using). They can use the images from SH1 and SH3-5, and information about microbes on SH2 as inspiration.
3. Point out common forms of microbes that they might have heard of to get them started.
4. Ask them which microbe they are making and to describe it e.g. is it a virus, fungi or bacteria and is it useful or harmful?

5. When they have finished, ask students to write what they have made on the Petri dish with the permanent black marker. Students can take the dish home.

Extension Activities

Yes or No cards

As a class activity or in groups of 3 or 4 provide SW1 Yes or No cards or display them on a whiteboard. Ask students to answer yes or no to the questions provided. Answers can be found in TS2 on the e-Bug website.

Microbe Flashcards

SW2 can be used to support learning. Print the sheet and cut out the flashcards, or display on a whiteboard. Ask students to name the image, the correct word is shown on the card.

Fill in the Blanks Worksheet

SW3 requires students to fill in the blanks using the correct words provided. Provide one worksheet per student to help test their knowledge of microbes.

Fascinating Fact

Micro-organisms first appeared on earth about 3.5 billion years ago and are essential to sustain life on our planet.

✓✓ Learning Consolidation

At the end of the lesson, ask the class the following questions as a fact checking exercise.

- What are the three different types of microbes?

Answer: Viruses, bacteria and fungi

- Microbes can be beneficial to us e.g. yeast, can be used to make bread rise. What type of microbe is yeast?

Answer: Fungus

- True or false? Microbes are invisible to the naked eye and come in different shapes and sizes.

Answer: True





Microbe Mania

Home-made modelling clay recipe



For Parents and Teachers

Modelling clay is a soft, pliable material that can be used to make microbe shapes! Modelling clay can be purchased but it may be more cost effective to make your own. Home-made modelling clay has the added advantage that you can choose your preferred palate of colours. The home-made modelling clay is non-toxic and easily sculpted making it an ideal material for this activity.

INGREDIENTS

- 1 cup of plain flour
- 2 teaspoons of cream of tartar
- 1 cup of water
- 1 tablespoon of vegetable oil
- 1/2 cup of salt
- Food colouring

Method

1. Mix together the dry ingredients
2. Add the water and mix until smooth
3. Add the food colouring followed by the vegetable oil
4. Cook on a medium heat, stirring constantly, until the dough leaves the side of the pan in a ball
Alternatively, microwave the mixture on a high setting for 4 minutes, stirring every 30 seconds
5. Allow to cool before use
6. Store in a plastic bag or wrapped in cling film to stop the modelling clay drying out



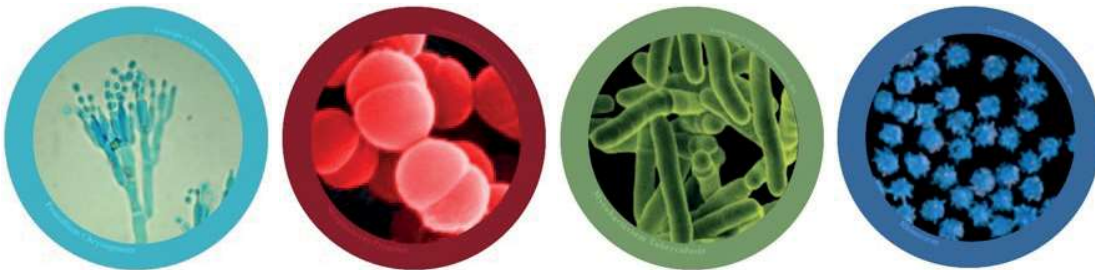
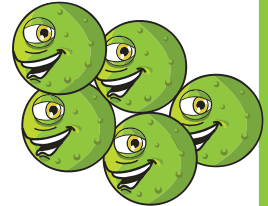


Microbe Mania

Make your own Microbes

Use modelling clay to create your own microbes!

Decide what type of microbe you have made:
virus, bacteria or fungi and whether it is a useful
or harmful microbe



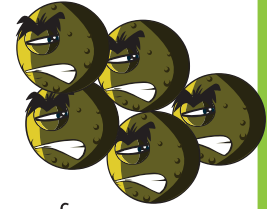
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Microbe Mania

Fact sheet



What is a microbe?

Microbes are also called germs or bugs. There are three types of microbes: bacteria, viruses and fungi. Some microbes can make us ill, but most are very useful to us.

Where are microbes found and what do they look like?

Microbes are found everywhere. They come in all shapes and sizes.



Make your own microbes

Use modelling clay to create your own microbes.

Decide what type of microbe you have made:

Fungi, bacteria or virus, and whether it is a useful or harmful microbe

For ideas, download pictures of microbes from www.e-bug.eu. Ask an adult to help you make your own modelling clay, using the TS1 recipe.

Surprise your friends and family with these fun facts!

**DID YOU
KNOW?**

- There are more microbes on the planet than any other type of living thing.
- Microbes are the oldest form of life on Earth. They've been here for 4 billion years.
- Microbes are found everywhere on Earth, even inside volcanoes.
- Some microbes can glow in the dark. People once used glowing pieces of fungus growing on wood to light their way.
- Humans would not be able to live without microbes. Some microbes produce oxygen which we need to breathe and others help plants to grow which we eat.





Influenza virus

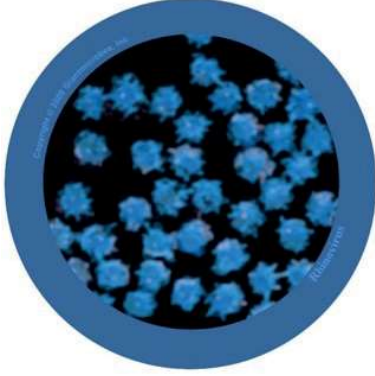
In-Floo-eh-za

About

- Also known as the **Flu virus**
- It is a **virus** that is **harmful** to humans

Symptoms and treatment

- Causes fever (high temperature), runny nose, sore throat, muscle pains, cough, feeling tired
- Spreads from person to person by coughs and sneezes and unwashed hands
- Treatment is bed rest and plenty of fluids to feel better. If very unwell, an antiviral medicine might help.



Rhinovirus

Rye-no-vye-rus

About

- Also known as the common cold
- It is a **virus** that is **harmful** to humans

Symptoms and treatment

- Causes runny nose, sneezing, sore throat and coughing
- Spreads from person to person by coughs and sneezes and unwashed hands
- Treatment is bed rest and plenty of fluids to feel better.



Ebola

E-bowl-A

About

- Ebola is a very serious **virus** that is **harmful** to humans
- It has been in the news as people living in Africa have caught the virus and many have died

Symptoms and treatment

- Ebola virus makes people very unwell and in worst cases causes death
- People with Ebola will need special treatment and hospital care to help get better





**Most microbes
can be seen with
the naked eye**

Yes or No



**Microbes always
make us poorly**

Yes or No



**Microbe is
another name for
bugs and germs**

Yes or No



**Most colds are
caused by viruses**

Yes or No





**If you become
poorly because of
a microbe, this is
called an infection**

Yes or No



**You only find
microbes on things
that are dirty, like
the toilet**

Yes or No



**Bacteria are used
to make yoghurt**

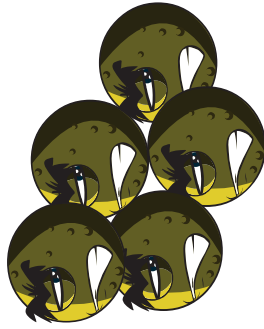
Yes or No



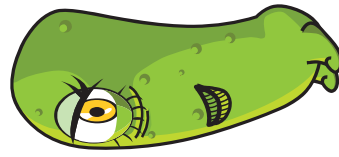
**Most microbes
do not effect us
in any way**

Yes or No

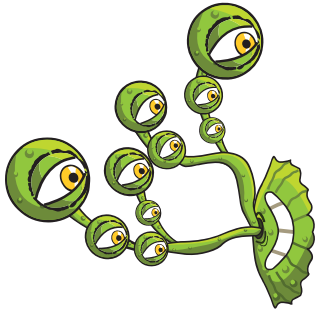




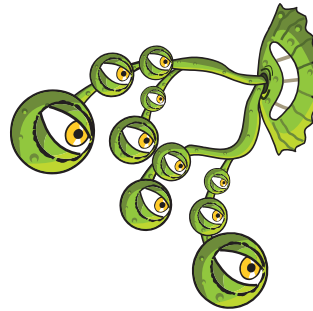
Balls (Cocci)



Lactobacilli



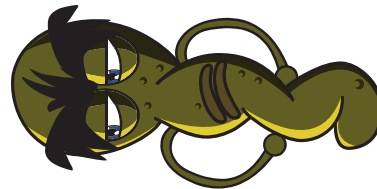
Fungi



Penicillium



Bacteria



Spiral



Virus



Bacilli

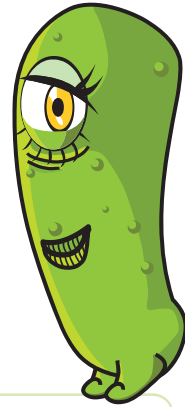
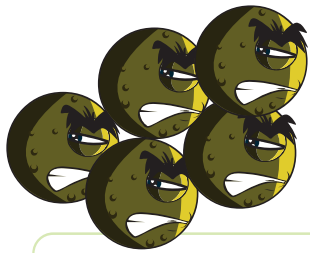




Microbes Worksheet

What have you learnt about Microbes?

Complete the sentences below



Germs and bugs are also called _____ and there are 3 main types.

The smallest Microbe is a _____ and they can make us poorly with a cough or a cold.

The largest Microbe is a _____ we use this to make bread.



Balls, rods and spirals are the 3 main shapes of _____.

Microbes are found _____ and even in volcanos!





Spread of Infection: Hand Hygiene

By taking part in a classroom experiment students will understand how soap or sanitisers work and that hand washing is the best way to remove microbes.

Curriculum Links

Science

Working scientifically, Living things and their habitats

PSHE/RSHE

Health and prevention

English

Reading and comprehension, Writing

Key Words

Hygiene, Soap, Hand washing, Microbes

@ Weblink

e-bug.eu/eng/KS1/lesson/Hand-Hygiene

Learning Outcomes

All students will:

- Understand washing hands can help remove microbes.
- Understand washing hands is one of the best ways to prevent the spread of microbes.
- Understand washing hands with soap and water is better than washing hands with water alone.



Resources Required

Activity: Pepper and Water Experiment

Per group

- Small plastic bowls
- Water
- Washing up liquid
- Pepper
- Cocktail sticks

Extension Activity: Healthy Hands Fact Sheet

Per student

- SH1 Healthy Hands Fact Sheet

Extension Activity: Hand Washing Flashcards

Per class

- SW1 Hand Washing Flashcards

Extension Activity: Fill in the Blank Worksheet

Per student

- SW2 Healthy Hands Fill in the Blank Worksheet

Advance preparation

Set up a few bowls of water with pepper sprinkled on the surface, a few plain bowls of water, and another bowl with washing up liquid in.

Health and Safety

Ensure that the demonstrating students have no soap allergies or sensitive skin conditions

For safe microbiological practices in the classroom consult CLEAPPS www.cleapps.org.uk

Supporting materials



SH1 Healthy Hands Fact Sheet



SW1 Hand Washing Flashcards



SW2 Healthy Hands Fill in the Blank Worksheet

Lesson Plan



Introduction

1. Begin the lesson by asking the students if they know why we wash our hands. Explain that we wash our hands to not only remove any dirt and grime that we can see, but also to remove germs (microbes) that we cannot see.
2. Explain to students that because we use our hands all the time they pick up millions of germs (microbes) every day. Although many of these are harmless some could be harmful and might make us ill.
3. Explain that our skin is naturally covered in oils and that this oil helps microbes 'stick' to our skin. This means we need to wash our hands properly with both soap and water to be able to wash away the germs from our hands. If no soap is available, hand sanitiser gels can also remove germs from our hands.
4. Explain to the students that they are now going to complete an activity to show them why soap is important when we wash our hands.

Discussion

Can the students answer the question: Why do we use soap to wash our hands?

Discuss where germs (microbes) on their hands may have come from. Emphasise to students here that not all the germs on their hands are harmful; there may also be useful microbes there too.

Discuss what happened with and without the soap with the students. Explain why using soap when you wash your hands is important - because it breaks up the oils on the surface of your hands that microbes stick to, and they can be rinsed away under running water. Without soap, the oils are not removed, and microbes find it easier to stick.

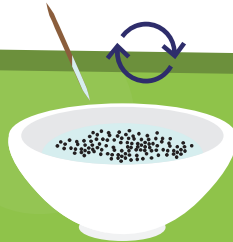
Emphasise to students that we also need to wash hands properly. Highlight that microbes like to hide in between fingers and under the nails. It is important to know both WHEN and HOW to wash hands properly to prevent harmful microbes and potentially infection.

Activity: Pepper and Water Experiment

1 Dip the cocktail stick into the plain water



2 Dip the cocktail stick into the pepper water and swirl the stick around



3 Dip the cocktail stick into the washing up liquid then back into the pepper water



This activity shows how washing with soap and water is better than using water alone. Demonstrators should help students with cocktail sticks to ensure safety. The bowls must be rinsed after each group for this activity to be effective.

1. Explain to the class that the surface of the water in the bowls represents their hands, and that the pepper represents harmful microbes that need to be washed away.
2. Dip the end of a cocktail stick into the plain bowl of water and then into the pepper water. Gently swirl the cocktail stick around and explain that using water to wash your hands only moves the microbes around.
3. Dip the cocktail stick into the bowl of washing up liquid and then into the pepper water.
4. The pepper (microbes) will move towards the edges of the bowl as the soap hits the surface of the water.
5. Explain to the class that the soap breaks up the oil on our hands. The microbes can then be washed away when we rinse the soap off hands with water.

Now visit e-bug.eu/eng/ks1/lesson/Hand-Hygiene to find a NHS demonstration and UKHSA hand washing song to help make the correct technique more memorable for little hands.



Extension activity

Healthy Hands Fact Sheet

Provide each student with a copy of SH1 to consolidate the session. Students can learn and share Healthy Hands facts with family and friends.

Hand Washing Flashcards





SW1 can be used to support learning. Print the sheet and cut out the flashcards, or display on a whiteboard. Ask children to explain the image, the correct words are shown on the card.

Fill in the Blank Worksheet

Provide each student with SW2. Ask students to name the image to complete the sentence. Students can re-write the completed sentence or read it out loud.

Learning Consolidation

At the end of the lesson, ask the class to complete the following sentences with their own answers.

-  A song to use when washing my hands is: _____
-  I will wash my hands at key moments during the day, for example: _____
-  There are ____ steps to wash every part of my hands.
-  If I am not able to wash my hands with soap and water, I will use _____





Healthy hands

Fact sheet

What makes our hands dirty?

We get microbes on our hands from everything that we touch like door handles, school desks, the floor or our pets. We also get microbes on our hands when we hold hands, pick our nose or sneeze into our hands.

Why should we wash our hands?

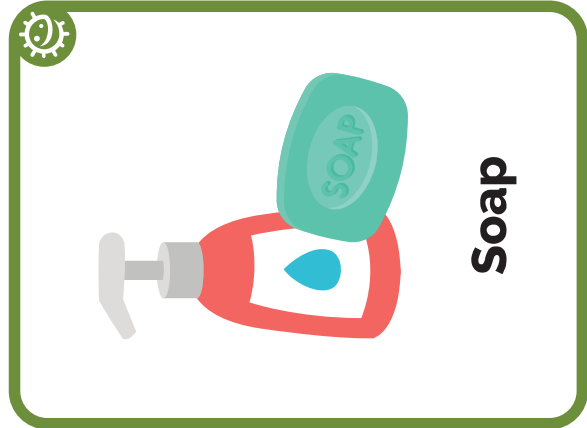
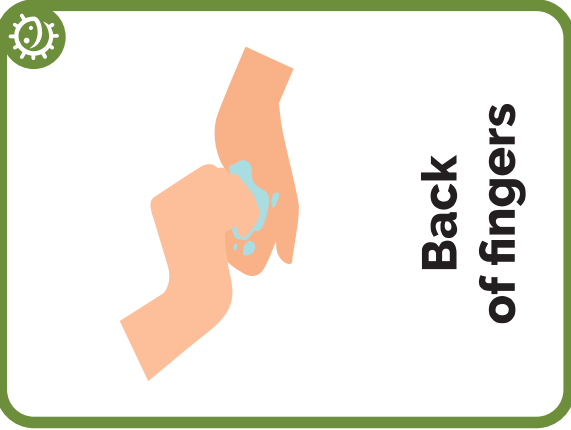
We wash our hands to get rid of harmful microbes that might make us poorly. It is important that we wash our hands after using the toilet, before eating or cooking, after stroking animals or after coughing or sneezing.

Surprise your friends and family with these fun facts!

**DID YOU
KNOW?**

- Most microbes on our hands are under our fingernails.
- Nearly everyone says they wash their hands after using the toilet, but more than half don't. Just think what may be on their hands.
- Most toilet handles have 400 times more microbes than the toilet seat.
- There are more microbes on one person's hand than people on the planet.
- Hand washing is the best way to stop microbes spreading.
- Some microbes can stay alive on our hands for up to three hours.





Turn the



to run the



Put



on your



Rub your



together



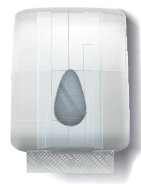
Rinse your



with



Turn off the



dry



Throw the paper towel in the





Spread of Infection: Respiratory Hygiene

In this fun experiment students learn how easily microbes can be spread through coughs and sneezes and recreate a sneeze.

Curriculum Links

Science

Working scientifically, Living things and their habitats

PSHE/RSHE

Health and prevention

English

Reading and comprehension,
Spoken language

Mathematics

Comparing measurements

Key Words

Bacteria, Hygiene, Micro-organism,
Sneeze, Cough, Hand wash,
Hand sanitiser.

Weblink

[e-bug.eu/eng/KS1/lesson/
Respiratory-Hygiene](http://e-bug.eu/eng/KS1/lesson/Respiratory-Hygiene)

Learning Outcomes

All students will:

- Understand there can be harmful microbes in our coughs and sneezes.
- Understand that infection can be spread through coughs and sneezes.
- Understand that good respiratory hygiene can reduce the spread of infection.

Most students will:

- Understand that we can spread infection through touching surfaces after touching/wiping our nose or holding a cough/sneeze.
- Understand how to develop best practice respiratory hygiene behaviours in everyday life to reduce the spread of infection.

Resources Required

Activity: Snot Runway *Per group*

- Long roll of paper such as wallpaper
- Measuring tape or 2m ruler
- Pump action spray bottle/s
- Green food colouring
- Disposable plastic/vinyl gloves
- Kitchen roll
- Pens and sticky notes (optional)
- A funny mask to cover the spray bottle (optional)
- Cardboard

Extension Activity: Fact Sheet *Per student*

- SH1 Super Sneezes Fact Sheet

Extension Activity: Super Slimy Snot Activity *Per student*

- SH2 Super Slimy Snot Activity

Extension Activity: Super Sneezes Wordsearch

- SW1 Super Sneezes Wordsearch

Extension Activity: Fill in the Blank Worksheet

- SW2 Super Sneezes Fill in the Blank Worksheet

Advance preparation

1. Create a paper runway on the floor or by placing 3 – 4 desks in a row and covering them with white paper (lining wallpaper is a cheap alternative).
2. Fill one spray bottle per group with water and food colouring.

3. Create a large cardboard cut out hand for each group with a longer arm section for holding or alternatively cover a student's hand with a disposable glove.
4. Create a large tissue from a section of kitchen roll.

Health and Safety

Students may require aprons.

Ensure that the food colouring is dilute (to avoid staining).

Ensure that all spray bottles have been thoroughly cleaned and rinsed prior to use.

Students may need to wear safety goggles.

For safe microbiological practices in the classroom consult CLEAPPS www.cleapps.org.uk

Supporting Materials



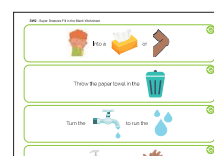
SH1 Super Sneezes Fact Sheet



SH2 Super Slimy Snot Activity (available online)



SW1 Super Sneezes Wordsearch



SW2 Super Sneezes Fill in the Blank Worksheet

Lesson Plan



Introduction

1. Begin the lesson by explaining to students that they are going to learn how harmful microbes (germs) can make us poorly and are passed from person to person through coughing and sneezing.
2. Explain to students that many harmful microbes can travel in tiny droplets of mucus/snot and water coughed and sneezed into the air by people. If you are carrying out the Super Slimy Snot Activity (SH2) it is useful to refer to that here. You can use examples like the common cold or flu.
3. Continue to discuss a cold, or flu, explaining that they are caused by very small microbes called viruses.
4. Explain that it is very important for everyone's health that people cover their mouth and nose with a tissue when they cough and sneeze, or with their sleeve/into the crook of their elbow if they have no tissue. They should then wash their hands or use hand gel.

Discussion

Explain that sneezing in your hand can spread the microbes to things that we touch, so it is better to sneeze into the tissue and then throw it away and wash your hands or use hand sanitiser as soon as possible.

Discuss with the class what happened. You may want to show the glove or hand that covered the cough/sneeze and notice that the spray germs (microbes) are still on it. Show the students that when they place the hand on the paper, sprayed side down, the microbes transfer to the paper.

As was observed from the activity, microbes can still be passed from person to person through touch if we cover our coughs and sneezes with our hands. Recent guidance recommends we sneeze or cough into our elbow or sleeve because we are less likely to transmit harmful microbes to other people by doing this.

Activity: Snot Runway

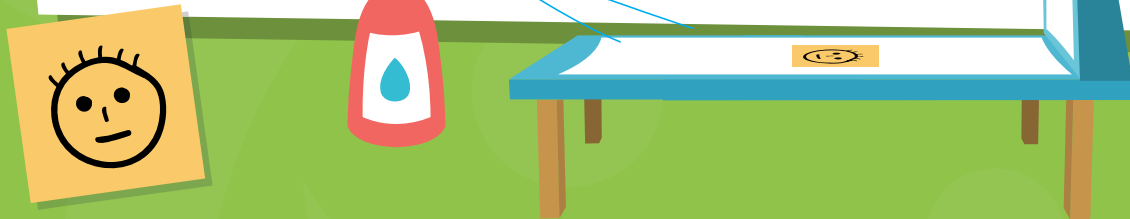
1 Write your name or draw a picture of yourself on sticky note and place on runway

2 Spray the bottle from end of runway

3 Measure the distance

4 Spray the bottle with hand or glove over nozzle

5 Spray the bottle with kitchen towel over nozzle



1. Ask the group to write their name or draw a picture of themselves on a sticky note (or write directly on the runway). Ask the group to imagine that the runway is a bus and the students can place themselves where they think they will avoid the germs from the cough/sneeze.
2. Hold the bottle at the end of the sneeze runway and simulate a sneeze/cough by squeezing the trigger while everyone shouts 'ACHOO'. You can then work out who was closest to the actual distance by measuring the distance between the spray droplets and the student's name or picture of themselves. You may wish to repeat to allow all students to have a go.
3. Ask a student to measure how far and how wide the cough/sneeze spreads with a meter ruler or tape measure and determine which student guessed the closest.
4. Ask the group what you would usually do when sneezing or coughing – put a hand over your nose.
5. Ask one student to put on a glove and place their hand over the nozzle to demonstrate putting a hand over your

nose as you cough/sneeze. Pull the trigger again after predicting what will happen. Ask students if this is an effective way to stop the microbes in the snot spreading to others? The microbes stay on our hands and can spread to anything we touch. Explain that students should wash their hands immediately if they cough or sneeze into their hands.

6. Ask someone to put a piece of kitchen towel over the nozzle to demonstrate holding a tissue over your nose as you cough/sneeze. Pull the trigger after predicting what will happen. The cough/sneeze is successfully caught in the tissue and won't infect anyone else if the tissue is thrown in the bin straight away. Ask the catcher to throw the tissue away.
7. Ask the group to recite what they have learned, for example by repeating the phrase 'catch it, bin it, kill it'. Reinforce that catching a cough/sneeze in a tissue is the best way to prevent the spread of microbes to others.

Students will notice that the spray travels furthest when it isn't covered.

Extension Activities

Fact Sheet

SH1 contains fun facts about sneezes. You can read and discuss this sheet with students at the end of the snot runway activity, or provide it as a home reading activity for students.

Super Slimy Snot Activity

Provide each student with the SH2 guide for students to make their own gooey snot. The activity demonstrates how snot sticks to germs and prevents them from entering our bodies.

Super Sneezes Wordsearch





Provide each student with a copy of SW1 and ask them to find hidden key respiratory hygiene words, this can be completed in class or as a homework activity.

Fill in the Blank Worksheet

Provide each student with SW2. Ask students to name the image to complete the sentence. Students can re-write the completed sentence or read it out loud.

Learning Consolidation

At the end of the lesson, ask the class to create some simple rules or messages to reduce the spread of coughs, colds and flu in their school, for example:

-  Coughs and sneezes spread diseases.
-  Catch it, bin it, kill it.
-  Cover my coughs and sneezes with a tissue or cough/sneeze into the crook of my elbow or sleeve (not my hand).
-  Wash my hands after a cough or a sneeze or use hand sanitiser.





Super sneezes

Fact sheet

Why do we sneeze?

Sneezing is a way in which our body tries to get rid of harmful microbes. Germs and dust get stuck in our nose hair and so we sneeze to blow them away.

What is in a sneeze?

Sneezes contain snot and harmful microbes. That is why it's important to cover our sneezes with a tissue or our sleeve (but never our hand), so we don't pass the harmful microbes onto someone else.



Surprise your friends and family with these fun facts!

**DID YOU
KNOW?**

- Sneezes can travel at a speed of 100 miles per hour!
- Sneezes can spread microbes 2-3 meters.
- The longest sneezing spree was 978 days, a record set by Donna Griffiths of Worcestershire, England.
- It is impossible to sneeze without closing your eyes.
- It is illegal to burp or sneeze in a church in Nebraska.





Super slimy snot

Activity

Make your own snot!

Sticky, slimy snot in our noses traps microbes. This helps to stop harmful microbes getting into our bodies and making us poorly. Ask an adult to help you make your own snot using the recipe below.

To make your own snot, you will need:

INGREDIENTS

- PVA Glue
- Laundry starch and warm water
- Green food colouring
- Water
- 2 disposable cups, labelled A and B
- A plastic spoon or stirrer
- A tablespoon
- Rubber gloves

Method

1. Put the gloves on. Fill cup A with water, and ask an adult to add a spoonful of laundry starch to the cup. Stir to mix the powder and water.
2. In cup B, add 2.5cm of PVA glue to the bottom of the cup, and mix with about three tablespoons of water. Stir to mix.
3. Add a few drops of green colouring to cup B and stir to mix.
4. Finally, add a tablespoon of the starch solution (from cup A) to cup B, and watch the green slimy snot form! After about 30 seconds you can play with it!

You can play with the snot, but do not eat it!

Wash your hands when you have finished playing with the snot. It will last a few days if you keep it wrapped up in cling film.





Super Sneezes Wordsearch

Can you find all the sneezy words in the wordsearch below?

Remember that words can be horizontal (across), vertical (down) or diagonal (top left to bottom right)

G	E	R	M	S	N	Y	Y	K	O
M	C	O	L	D	J	Z	W	T	S
B	N	O	H	C	D	E	I	W	P
A	P	I	G	S	U	B	U	G	S
C	B	Z	J	C	N	C	O	K	S
T	F	L	U	P	M	O	J	A	N
E	B	V	K	A	S	D	T	T	E
R	F	C	O	U	G	H	S	B	E
I	I	W	F	R	S	V	H	B	Z
A	V	I	R	U	S	B	C	D	E

SNOT

BUGS

VIRUS

COUGH

COLD

SNEEZE

FLU

BACTERIA

GERMS





Into a



or



Throw the paper towel in the



Turn the



to run the



Put



on your



Rub your



together



Rinse your



with



Turn off the





Prevention of Infection: Oral Hygiene

Students learn how plaque forms and why and how sugary food and drink can damage your teeth.

Curriculum Links

Science

Working scientifically, Living things and their habitats,

PSHE/RSHE

Health and prevention

English

Reading and comprehension, Writing

Key Words

Bacteria, Plaque, Cavity, Sugar, Acid, Tooth brushing, Decay.

@ Weblink

e-bug.eu/eng/KS1/lesson/Oral-Hygiene

Learning Outcomes

All students will:

- Understand what dental plaque is and how it forms.
- Understand the consequences of tooth decay.
- Understand that limiting sugary foods and drinks can reduce tooth decay.
- Understand the importance of eating healthier snacks.



Resources Required

Activity: Eggshell Experiment

Per group

- Egg shells – cracked and then cleaned out
- Clear cups
- High sugar cola
- Semi-skimmed milk or water
- High sugar juice drink
- Labels for cups

Extension Activity: Tooth Brushing Chart

Per student

- SW1 e-Bug Healthy Teeth Progress Chart

Extension Activity: Healthy Food Swaps

Per class

- TS1 Oral Hygiene True/False Quiz
- SH1 Healthy Food Choice Fact Sheet
- SH2 Oral Hygiene True or False cards
- SW2 Healthy Food Choice

Advance preparation

1. Set out 3 cups per 3-4 students and label these as 1 to 3.
2. Divide up the eggshells so that each cup has one eggshell half.

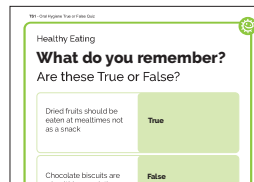
Health and Safety

Ensure students do not drink the cola, especially those who may have diabetes. Students with egg or milk allergies or intolerances must not directly handle these components.


See the e-Bug website for alternative activities.

For safe microbiological practices in the classroom consult CLEAPPS www.cleapps.org.uk

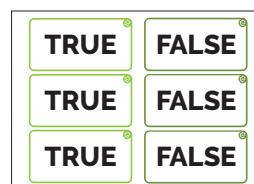
Supporting materials



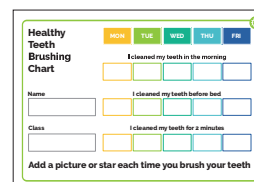
TS1 Oral Hygiene True/False Quiz



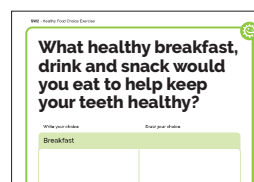
SH1 Healthy Food Choice Fact Sheet



SH2 Oral Hygiene True or False Cards



SW1 e-Bug Healthy Teeth Progress Chart



SW2 Healthy Food Choice

Lesson Plan



Introduction

1. Ask the students to think about their teeth; ask the what are they like (they are hard and white and shiny). Ask the students why they think their teeth are like that (so that they are strong and can chew and bite food).
2. Pass around the eggshells, have the students (carefully) examine them. Ask them if they think they are like any parts of their body? The students should be able to identify that they are like their teeth. Tell the students that teeth are made of layers. The eggshell is similar to the hard layer on our teeth called the enamel.
3. Explain to the students that throughout the day, germs called bacteria can grow on teeth to form a sticky substance called plaque and when we eat sugary foods and drinks the bacteria uses the sugar to attack our teeth (especially the hard outer enamel layer). This is why it is important to brush our teeth to get rid of the bacteria.

Discussion

The next day, have the student check on their eggs. What changes can they see? Why do they think that has happened?

Tell the students that the sugar in the drinks has damaged the eggshells and made the shell discolour – remind the students that the eggshell is like the enamel on their teeth, and a lot of sugar can cause damage to their teeth.

Ask the students what they think they should do to keep their teeth healthy?
Answers should include:

- Have sugary food and drinks less often and in small amounts
- Brush your teeth twice a day (before school and before bed)
- Using a fluoride toothpaste
- Spit don't rinse
- Visit your dentist regularly.

Activity: Egg Shell Experiment

1 Label each cup with a number from 1 to 3



2 Place each egg in a different cup



3 Pour one of the liquids in each cup (enough to cover the egg)

4 Wait at **LEAST** one day



1. Explain to the students you will be using the eggshells to show what sugar can do to our teeth.

2. Divide the class into groups of 3-4 and give them 3 cups labelled 1-3. Assist them placing one eggshell half into each cup and pouring the three drinks you've chosen into the cup.

1. Cola
2. Water (or milk)
3. Juice

3. To see the effects, you will need to wait one day. Now, ask the students: What will happen to the egg if you leave it in the drink for a long time? Which liquid will change the egg most? Which liquid will change the egg least? You can record their guesses for tomorrow.

After one day, students will notice a discoloured and partly dissolved eggshell from the cola, an unchanged eggshell from the water (or milk), and a slightly dissolved eggshell from the juice. This demonstrates that high sugar content foods and drinks can damage the enamel.

Extension activity

Tooth Brushing Chart

SW1 is a useful way to encourage routine tooth brushing. Provide one sheet per student. Ask students to mark or draw a picture every time they brush their teeth to keep track of how often they have brushed their teeth during one school week. This can be completed in the classroom or at home.

Healthy food swaps

Begin by reminding students how the sugar in the cola effected the eggshell. Eating too much sugar is bad for you and can cause tooth decay. Around half the sugar we consume comes from unhealthy snacks and sugary drinks. That is why it is important to choose healthier snacks. Fruit and vegetables are a good snack choice; you can eat them on their own or with a healthy dip. Dried fruits have a high sugar content and they should be kept to mealtimes only.

Ask the class what their favourite fruit and vegetable snacks are.

Tell students that they can swap their unhealthier foods (e.g. sugary breakfast cereals) and drinks (e.g. sugary fizzy drinks, fruit juice and smoothies, full sugar squash) for lower sugar alternatives such as low sugar yoghurt with fruit, lower fat milks, plain waters, or no-added sugar/sugar free squash. We don't need to worry about the sugar in whole fruits and vegetable and plain milk and yoghurts because this isn't added sugar. Smoothies and fruit juices should consume a maximum of 150ml per day.

What other swaps can they think of?

Provide students with SH1 Healthy Food Choice Factsheet to help them complete SW2 and ask students to draw their favorite food swaps on SW2. Food items with the most green labels are considered the healthiest choices and the ideal swap.

Oral Hygiene True or False Quiz

Hand out SH2 to groups of 3 or 4 students. Ask students to cut out the cards and hold them up to answer True or False quiz contained in TS1. Answers are provided on the sheet.

Learning Consolidation

At the end of the lesson, ask the class the series of questions below as a fact checker.

■ What is the sticky substance made up of bacteria that clump together on our teeth called?

Answer: Plaque

■ Complete the sentence; When we consume sugary foods and drinks, this leads to an attack on our teeth that can lead to....?

Answer: Tooth decay

■ How many times a day should brush your teeth with toothpaste.

Answer: At least twice

■ After brushing, should you; a) spit out the toothpaste and rinse; b) spit out the toothpaste and don't rinse?

Answer: you should spit out the toothpaste but don't rinse (this will allow the fluoride to stay on the teeth for longer).





Healthy Eating

What do you remember?

Are these True or False?

Dried fruits should be eaten at mealtimes not as a snack

True

Chocolate biscuits are a healthier snack than plain yogurt and fruit

False

Biscuits contain a lot of added sugar.

Lower-fat milk is a healthier drink choice than a sports drink?

True

Sports drinks can contain lots of sugar. Water or lower-fat milk are better choices.

Eating too much sugar can cause tooth decay?





True









Healthy Food Choice Fact Sheet





Breakfast

 <p>High sugar cereal</p> <p>Fat Sugar Salt</p>	 <p>Wheat biscuit cereal</p> <p>Fat Sugar Salt</p>	 <p>Porridge</p> <p>Fat Sugar Salt</p>	 <p>Jam on toast</p> <p>Fat Sugar Salt</p>
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Drink

 <p>Squash and water</p> <p>Fat Sugar Salt</p>	 <p>Chocolate milk</p> <p>Fat Sugar Salt</p>	 <p>Orange juice</p> <p>Fat Sugar Salt</p>	 <p>Full sugar cola</p> <p>Fat Sugar Salt</p>
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Snack

 <p>Chocolate bar</p> <p>Fat Sugar Salt</p>	 <p>Malt loaf</p> <p>Fat Sugar Salt</p>	 <p>Low sugar yogurt</p> <p>Fat Sugar Salt</p>	 <p>Regular yoghurt</p> <p>Fat Sugar Salt</p>
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FALSE



FALSE



FALSE



TRUE



TRUE



TRUE





Healthy Teeth Brushing Chart

MON

TUE

WED

THU

FRI

I cleaned my teeth in the morning

Name

I cleaned my teeth before bed

Class

I cleaned my teeth for 2 minutes

Add a picture or star each time you brush your teeth





What healthy breakfast, drink and snack would you eat to help keep your teeth healthy?

Write your choice

Draw your choice

Breakfast

--	--

Drink

--	--

Snack

--	--

