Teacher Refresher Information



**Key Stage 1**

### Respiratory Hygiene

Respiratory infections are infections that happen in the lungs, chest, sinuses, nose and throat, for example, coughs and colds, the flu and pneumonia. These infections can spread from person-to-person through the air, through person-to-person contact (touching hands, hugging, kissing) or by touching contaminated surfaces. The microbes can be spread by getting into the non-infected person’s nose or eyes because they touch their face with contaminated hands. The most common mode of spreading infection is through coughs and sneezes. Sneezing is a way in which our body tries to get rid of any harmful microbes and dust particles we might inhale. The harmful microbes and dust get caught on the nose hair and tickle our nose or might irritate the back of our throat or our lungs. The nose sends a message to the brain which then sends a message back to your nose, mouth, lungs and chest telling them to blow the irritation away. In the case of colds and flu, millions of virus particles rush out and contaminate the surface on which they land; this could be our food or hands.

Colds and flu are the most common illnesses in childhood settings and perhaps among the most contagious. COVID-19 is the name of the disease caused by the virus SARSCoV-2. and can be very contagious. As colds, flu and COVID-19 are caused by viruses, they cannot be cured by antibiotics. When we catch a cold or flu rest and drinking plenty of fluids are generally recommended however, if symptoms persist then a visit to the local doctor or pharmacist is required. Symptoms of colds and flu include headache, sore throat and fever. Colds can also cause runny noses. Many sore throats associated with colds and flu are due to the viruses in the throat making it inflamed and feeling raw. Breathing in through the mouth causes the throat to feel dry and continual coughing can aggravate sore throats and contribute to an aching feeling.

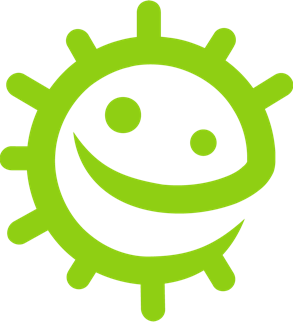
Teaching good respiratory hygiene from a young age, such as covering your coughs and sneezes or regularly washing your hands for 20 seconds, can help prevent the spread of these infections. This is especially important in the approach to the winter cold/flu season each year. It is a natural reflex to put our hands towards our faces when we sneeze, but it is important to replace this action with new habits of respiratory hygiene to reduce the spread of infection:

Cover your sneezes, dispose of tissues and regularly wash your hands.

* **Catch** it: cover your mouth and nose with a tissue. If you don’t have a tissue, cover with your upper sleeve or elbow (not your hands).
* **Bin** it: throw away the used tissue at once to avoid spreading infection to surfaces, or other people.
* **Kill** it: wash your hands well with soap and water, or hand sanitiser if soap and water are not available, immediately after throwing the tissue in the bin.

We can help prevent the spread of these infections (like the flu and COVID-19) by getting vaccinations. Check government links on why a different flu vaccine is needed each year.

Learning about respiratory hygiene provides a chance to talk to students about vaccinations, a vaccination they may be familiar with is the annual flu vaccine.



**Key Stage 1**

# Spread of Infection: Respiratory Hygiene

# Lesson 3: Respiratory Hygiene

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

## 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.

## Curriculum Links

### PHSE/RHSE

* Health and prevention

### Science

* Working scientifically
* Living things and their habitats

### English

* Reading & comprehension
* Spoken language

### Mathematics

* Comparing measurements

# Lesson 3: Respiratory Hygiene

## **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

#### Per student

* SW1 Super Sneezes Wordsearch Extension

### Activity: Fill in the Blank Worksheet

#### Per student

* SW2 Super Sneezes Fill in the Blank Worksheet

## **Supporting Materials**

* SH1 Super Sneezes Fact Sheet
* SH2 Super Slimy Snot Activity
* SW1 Super Sneezes Wordsearch
* SW2 Super Sneezes Fill in the Blank Worksheet

## Advanced 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

# Lesson 3: Respiratory Hygiene

## Key Words

Bacteria

Hygiene

Micro-organism

Sneeze

Cough

Hand wash

Hand sanitiser

## **Health & 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](http://www.cleapps.org.uk)

## **Weblinks**

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

## 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.

## Activity

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. You can then work out who was closest to the actual distance by measuring the distance between the spay 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

## 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.

## 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.



## SH1 – Super Sneezes Fact Sheet

## 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:

• 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.

## SH2 – Super Slimy Snot Activity

## 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.

## SW1 – Super Sneezes Wordsearch



## 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,

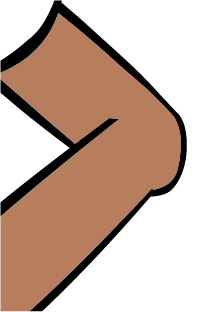
Sneeze, Flu, Bacteria, Germs,

## SW2 - Super Sneezes Fill in the Blank Worksheet



Into a

or

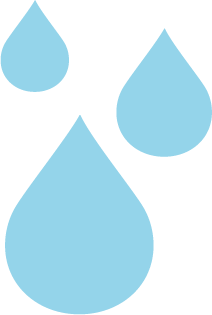
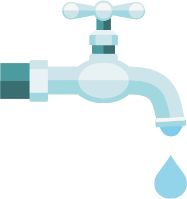


Throw the paper towel in the



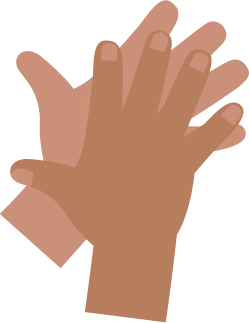
Turn the

to run the



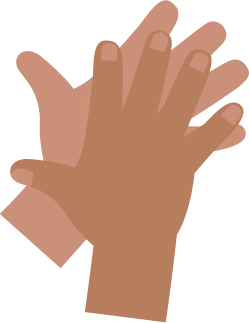
Put

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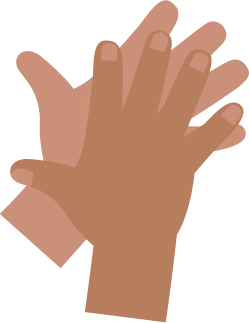
Rub your

together

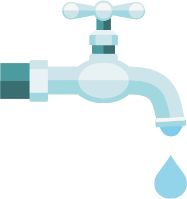


Rinse your

with



Turn off the



# e-Bug Key Stage One Teacher Answer Booklet

## Lesson Three: Spread of Infection: Respiratory Hygiene

### SW1 Super Sneezes Wordsearch



#### 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

### SW2 Super Sneezes Fill in the Blanks

* Sneeze into a tissue or the crook of the elbow
* Throw the paper towel in the bin
* Turn the tap to run the water
* Put the soap on your hands
* Rub your hands together
* Rinse your hands with water
* Turn off the taps