

Respiratory hygiene activity



Curriculum Links (KS1/2):

Science: Working scientifically; Living things and their habitats

English: Reading and Comprehension

PSHE: Core Theme 1 - Health and Wellbeing

Mathematics: Comparing measurements

Learning Objectives:

All students will:

- learn that infection can spread through coughs and sneezes.
- understand that covering the mouth when sneezing or coughing can prevent the spread of infection.



Most students will:

- understand that coughing and sneezing in your hand can still spread infection.

Risk Assessment:

In the event of an outbreak of infection you may need to modify this activity to ensure social distancing or other criteria according to your school's policy. In this case you could have the teacher demonstrate the activity to the class without having the students gather in groups. Please email the e-Bug team at e-Bug@phe.gov.uk if you wish to discuss ideas or modifications to this activity that are needed to follow guidelines in your setting.

Please watch the video for a full demonstration of this activity.

This activity has been popular in several different situations including school assemblies, science shows and festivals, even at a flu vaccination launch event for public health professionals! It demonstrates the best way to keep coughs and sneezes from spreading microbes. It can be modified to be appropriate for various ages and features in [KS1](#) , [KS2](#), [KS3](#) and [Beat the Bugs](#).

Before you begin you will need:

- Background and lesson plans for “2.2 Respiratory Hygiene” (KS2 lesson pack) or “Spreading Bugs” in Beat the Bugs pack.
- Student worksheets 1 (SW1) for each participant (KS2)
- Pump action spray bottle filled with water (pump action to ensure the sneeze travels the distance of two or three tables – 2-3 metres) for each group
- Two or three tables placed end to end (long enough for the sneeze to travel)
- Green food colouring (to place in spray bottle with water, for green “snot”)
- Wallpaper roll or flipchart paper for the tables (this is the “snot runway”)
- Non-latex gloves (to catch the sneeze with a hand)
- Kitchen towel or tissue (to catch the giant sneeze the correct way)
- Bin
- Post-it notes (to write group members names)
- 1-2 metre length rule or tape measure (optional)
- Helpful volunteers to demonstrate the activity!

Risk assessment: ensure no allergies or sensitivities to gloves or food colouring used. Ensure that participants are not directly in front of the activity when the sneeze is being demonstrated to avoid it getting onto skin, eyes, or on hands or clothes.

Use the introduction in the lesson plan from the appropriate pack to discuss the following with the class:

- Harmful microbes can be passed from person to person through sneezing and coughing.
- Many diseases are airborne and are spread in tiny droplets of mucus and water coughed and sneezed into the air by people.
- The cold and flu are caused by viruses and not bacteria. There are sometimes large outbreaks of flu when 1000s of people in a country get the infection.
- How colds/flu can be transmitted from participant's own experiences.

Use the following steps as a guide to implement this activity (check for variations depending on age in the KS1 and KS3 packs)

- Divide the group into smaller groups of 4 to 5 participants.
- Each group should be provided with the sneezing runway, a sneezing bottle, a measuring tape or a ruler, a giant hand or glove and a giant tissue.
- To demonstrate the distance a sneeze and microbes in the sneeze travel, participants in each group should take turns holding the bottle at the end of the runway and simulate a sneeze by squeezing the trigger once over the paper. Before "*sneezing*" (squeezing the trigger) participants should predict how far and wide the sneeze will go. They can use post-it notes to write their name on and place on the "*sneezing runway*" where they think the sneeze will land. After "*sneezing*" participants should measure and record how far and how wide each sneeze spreads and fill this on their results sheet (SW1 in KS2 pack).
- The next step is to observe what happens when we put our hand over our mouth when we sneeze; the microbes stay on our hands and can spread to anything we touch. One participant in each group should be the "*sneezier*" and a second participant should hold the giant or gloved hand about 2 to 5cm away from the spray bottle. Participants can record this on their worksheets.

- Finally, we want to observe what happens when we cover our mouth with a tissue during sneezing. Ask a different participant in each group to be the “sneezer” and ask another participant to hold the tissue directly in front of the spray nozzle.

Use the plenary or discussion questions to check participant’s understanding after the activity is completed. Then complete action plan (Beat the Bugs).