

Year 3-4

Sneeze Test

This lesson was written in January 2021 and reflects information available, and guidance issued at the time.



Objectives:

- To use information from observations and measurements to describe how sneezes can spread viruses.
- To evaluate if their tests are 'fair' and suggest ways of improving them
- To explain how actions such as using a tissue can help lower the spread of a virus.

Curriculum Links:

- **Science:** setting up simple practical enquiries, comparative and fair tests
- **PSHE: (from PSHE Association) H9.** That bacteria and viruses can affect health; how everyday hygiene routines can limit the spread of infection

Key Vocabulary:

- virus
- microbes
- infection
- droplets
- fair test

Resources:

- PowerPoint
- 5 Tables
- Long sheets of paper
- Tape
- 5 spray bottles filled with different coloured water
- 5 A3 worksheets
- 5 tape measures
- 5 cardboard hands on sticks
- 5 pieces of kitchen roll

FAQs:

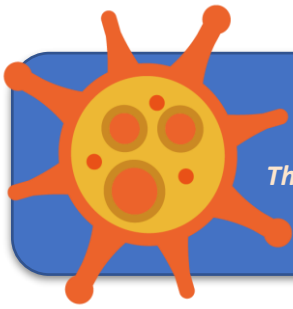
Why do we sneeze? A sneeze is a way for your body to get rid of germs and dust that tickle your nose. The sneeze pushes the germs and dust out of your nose and mouth in tiny droplets of snot and water.

Why should we cover our nose and mouth when we sneeze? Droplets are exhaled from our mouth when we talk / cough / sneeze. This is why it is so important for everyone who can to be wearing a face covering, particularly in spaces where it is more difficult to be socially distanced from each other, if we are indoors and if there is not very much ventilation.

Can a mask catch a sneeze? Yes, as long as it is worn correctly covering nose and mouth.

Do sneezes spread germs? A sneeze pushes droplets of liquid from our mouth and nose which can contain the virus. Smaller droplets can become aerosols and hang around in the air for longer. This is why it is so important for good ventilation to keep the air moving around, and why the risk of infection is higher indoors. Check out this YouTube video by the Slo-Mo guys for a demonstration of how many droplets are exhaled from our mouth when we talk / cough / sneeze

<https://www.youtube.com/watch?v=gZ66wJFD3bs>



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FAQs cont:

What is a fair test? A fair test is a test which controls all but one variable when attempting to answer a scientific question. Only changing one variable allows the person conducting the test to know that no other variable has affected the results of the test.

Introduction:

5 mins



Mascot video explaining why we sneeze and how sneezes can spread a virus.

- What is a sneeze? Why does it happen? (It is a way for our body to get rid of microbes and dust that tickle our nose and expels tiny droplets in mucus and water)
- What should you do when you sneeze? (put a tissue over your nose or sneeze into your sleeve, or into your hand)

Today we will look at how sneezes can spread viruses, and how we can help avoid this.

Main Activity:

20 mins



Set up a Sneezing Table per group by covering a table with white paper and give each group a spray bottle filled with coloured water and a worksheet. Groups will need to swap spray colours for each test.

Tell children that the spray bottle will act like a sneeze, spraying microbes over the paper. We will test how far and wide the microbes spread by measuring.

- **How can we ensure a fair test?** (don't change the variables- hold the bottle in the same place each time at the far end of the table, pump the spray once)
- **How far do you think the spray will go?**

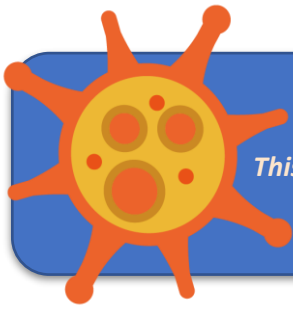
Ask one child to spray, one to measure length and width of spray, and one to record on their worksheet.

- **What do you think will happen when you put your hand in front of the sneeze?**

Explain how this can be made a fair test (by keeping the test as similar as possible to the first) Ask one child to spray, one to hold the cardboard hand 5cm in front of the spray. Measure and record length and width of the spray.

Final test, to see what happens when we use a tissue. One child to hold a piece of kitchen roll 5cm in front of the spray. Measure spray and record.

- **Does any of the water go onto your hands?** (Always remember to wash hands after sneezing)



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Plenary:

5 mins



- **What do your results show?** (that spray spreads less far when you use your hand or a tissue)

Ask children to have a look at the cardboard hand and the tissue. They are both covered in droplets.

- **What should you do after stopping a sneeze with your hand or a tissue?** (throw the tissue away and wash your hands)
- **What will happen if you touch something before you wash your hands?** (you will transfer germs)

Remind children that they can also sneeze into their sleeve if they don't have a tissue. This is safer than their hand because they are less likely to touch surfaces with it. They must remember to wash their clothes later!

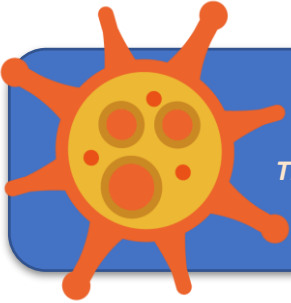
Ensure that children understand that we can also spread a virus by just talking, singing or shouting as this also pushes droplets out of our mouth. This is why we need to stay at least 2 metres away from those not in our bubble.



Possible Extension Activities:

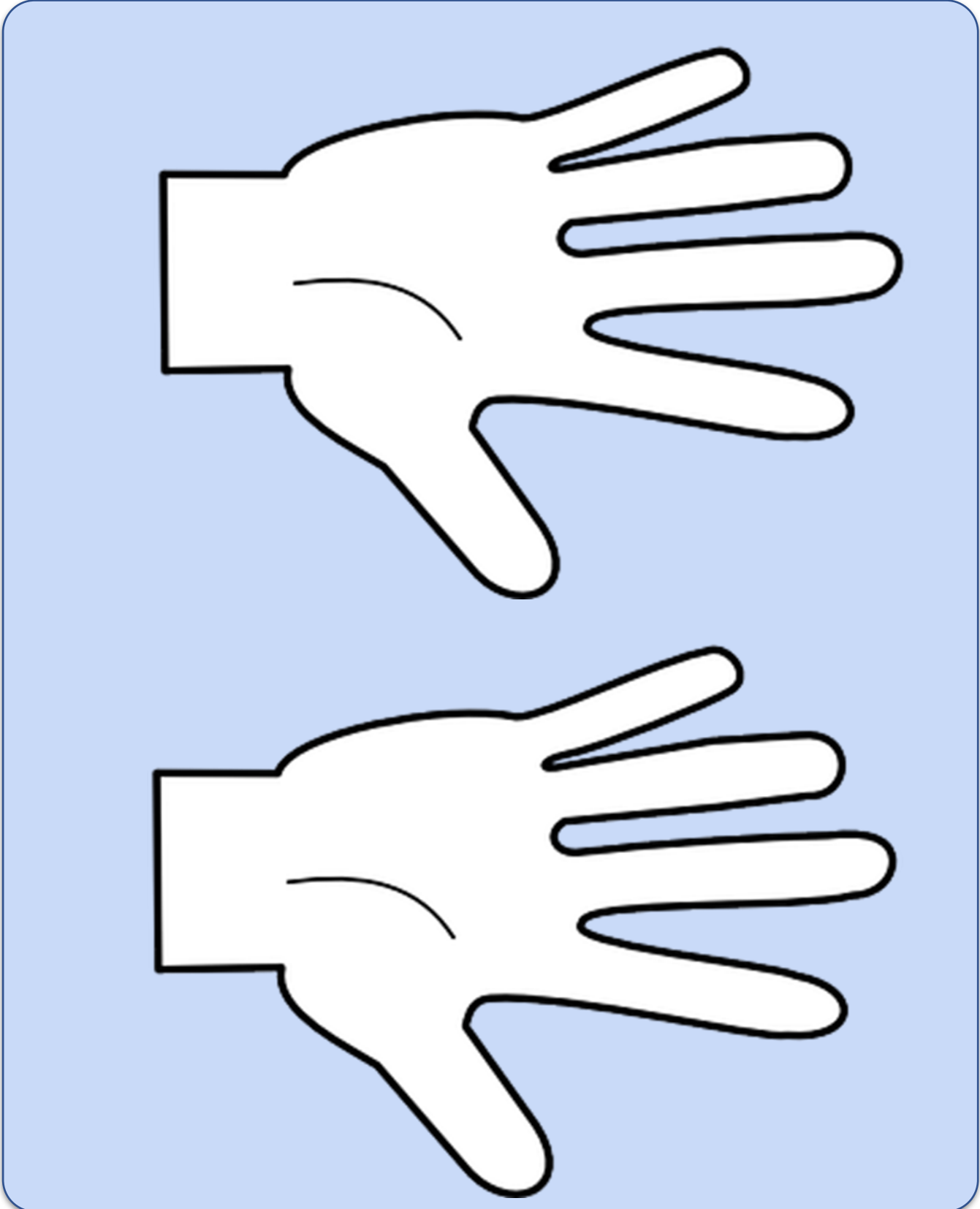
- Make a Safe Sneezing Poster.

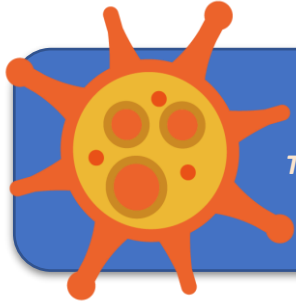
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How far do droplets of snot and saliva spread when you sneeze?

Sneeze Type	Length of spray	Width of spray
Free Sneeze 		
Sneeze with hand 		
Sneeze with tissue 