



Key Stage 4

Teacher Refresher

Information

Why is hand hygiene so important?

Hand hygiene is possibly the single most effective way of reducing and preventing the spread of infection and is an important behavioural intervention to instil and reinforce from a young age. Schools and community groups are a relatively crowded and closed environment where microbes can spread easily and rapidly from child-to-child via direct contact or via surfaces. Some of these microbes can be harmful and cause illnesses. Washing our hands with soap and water at key moments removes any harmful microbes we pick up on our hands from our surroundings e.g. home, school, garden, animals, pets, food. Effective hand washing has been shown to reduce absenteeism rates in schools.

Why is soap needed for effective hand washing?

Our hands are naturally covered by useful bacteria – *Staphylococcus* is a common example (ball shaped bacteria arranged in clusters). Our skin naturally secrete oil called 'sebum' which helps to keep it moist and keeps our skin microbiome (micro-organisms that live on our skin) healthy. This oil, however, is also a perfect place for potentially harmful microbes to grow and multiply as the sebum helps microbes 'stick' to our skin.

Soap is required to break up the oils on the surface of the hands and should be applied well to all surfaces of the hand, producing a lather which helps to lift the dirt and microbes. It is important to rinse our hands to help remove the dirt and microbes. Where possible liquid soap should be used instead of bars of soap, especially if used by multiple people. If soap is unavailable, hand sanitisers, with at least 60% alcohol can also be effective as long as there is no visible dirt/ other substance on hands (these need washing with soap and water). Sanitiser should be applied to all parts of the hands and rubbed until dry (about 20 seconds - the length of the happy birthday song twice). Hand sanitisers with ingredients like alcohol work by destroying microbes as they dry, but don't kill all types of harmful microbes and don't remove visible dirt or other substances from our skin. Therefore, hand sanitisers should not be generally used after using the toilet.

When are the key moments for hand washing?

- Before, during and after preparing food
- Before eating or handling ready to eat food
- After using the toilet or changing a soiled nappy/underwear
- After exposure to animals or animal waste
- After coughing, sneezing or blowing your nose
- If you are ill or have been around ill people
- When you get home or go into another place like work, school, or another household (especially in an outbreak situation)

Colds and flu's are the most common illnesses in the classroom and perhaps one of the most contagious. COVID-19 is a respiratory illness that is transmitted in a similar way to colds and flu's. The most common mode of transmission for respiratory tract infections (RTIs) is through close contact with respiratory droplets in the air from coughs and sneezes or through contact with contaminated surfaces. Most droplets are heavy and only fall within 1m – to 1.5m of people. However, there are smaller droplets that last in the air for longer (airborne) and travel further. Examples: the common cold (droplet) and measles (airborne). Microbes can also be spread more directly, through person-to-person contact and contact with contaminated surfaces or objects. The virus can be spread by getting into the non-infected person's nose or eyes because they touch their face with contaminated hands.

Sneezing is a way in which our body tries to get rid of any harmful microbes and particles we might inhale from getting deeper into our respiratory tract. The harmful microbes and dust get caught on the nose hair and tickle our nose. 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 viral particles rush out and contaminate the surfaces on which they land; this could be our food or hands. While a sneeze can travel at 100mph through the air and spread cold/flu virus over 20 feet away from the infected person, particles from a cough can travel up to 3 metres in a matter of seconds and could linger in the air for more than a minute.

Good respiratory hygiene is especially important in the approach to the winter cold/ flu season each year, and when there is an outbreak of some kinds of infection. Common symptoms of RTIs include a headache, sore throat and fever, and sometimes a runny or blocked nose. These infections can also cause sneezing and/or coughing, loss of taste or smell, and rarely nausea/vomiting or diarrhoea.

To prevent the spread of harmful microbes from coughs or sneezes:

- **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 having binned the tissue.

Another way of preventing the spread of respiratory illness is learning how to successfully practice good respiratory hygiene when we cough or sneeze. 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. We can prevent some of these infections (like the flu and COVID-19) by getting vaccinations. Check this ECDC infographic [www.ecdc.europa.eu/en/seasonal-influenza/prevention-and-control/vaccination-infographic] on why a different flu vaccine is needed each year.

Where there is an outbreak of infection it is important that you wash your hands more often and for 20 seconds and follow key guidance on respiratory hygiene. You may also be asked to wear a facemask and keep a certain distance from people.

Teacher Answers

SW1 Hand Hygiene Quiz

How can you spread microbes to others?

- By touching them
- By sneezing

Why should we use soap to wash our hands?

- It helps remove invisible microbes too small to be seen by the naked eye
- It breaks up the oil on our hands which trap microbes

Which is NOT one of the six steps of handwashing?

- Arms

Who might be at risk as a result of you not washing your hands properly?

- All of the above

When should we wash our hands?

- After stroking a pet
- After sneezing or coughing
- After using the bathroom or changing a soiled nappy

How can you stop harmful microbes from spreading?

- Use hand sanitiser if soap and water are not available
- Wash your hands with running water and soap

After we sneeze into our tissue, we should:

- Wash our hands immediately
- Put the tissue straight into the bin

How long should we wash our hands for?

- 20 seconds (happy birthday song twice)

SW2 Respiratory Hygiene Quiz

How can you spread microbes to others?

- Touching
- Sneezing
- Coughing

After we sneeze into our hands, we should:

- Wash our hands

If you do not have a tissue available, the next best thing is to sneeze:

- Into your sleeve

When sneezing, the best way to stop microbes from spreading is:

- To use a tissue to cover your sneeze

What should you do with a tissue after sneezing into it?

- Put it straight in the bin

What might happen if we don't wash our hands after sneezing into them?

- Transfer microbes to other people
- Nothing