



# 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](http://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

## Health and Safety

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

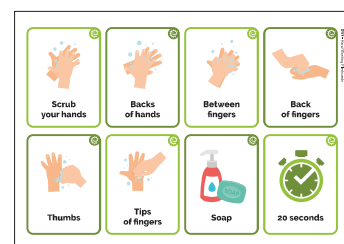
For safe microbiological practices in the classroom consult CLEAPPS

[www.cleapps.org.uk](http://www.cleapps.org.uk)

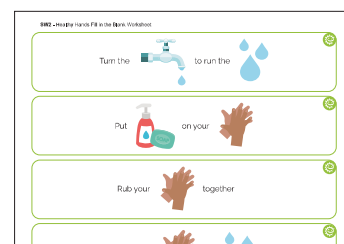
## Supporting materials



### SH1 Healthy Hands Fact Sheet



### SW1 Hand Washing Flashcards



### 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.

# 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?

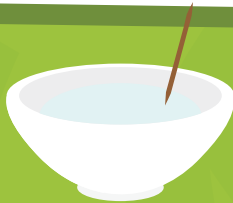
Discuss where germs (microbes) on their hands may have come from. Emphasise to students here that not all the germs on their hands are harmful; there may also be useful microbes there too.

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.

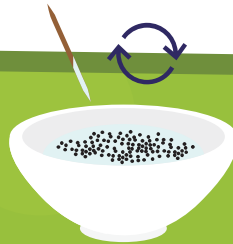
Emphasise to students that we also need to wash hands properly. Highlight that microbes like to hide in between fingers and under the nails. It is important to know both WHEN and HOW to wash hands properly to prevent harmful microbes and potentially infection.

## 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](https://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 \_\_\_\_\_

