WHY HAND WASHING MATTERS

Resources for 7-11 year-olds promoting the importance of good hand hygiene in the fight against disease across the world.
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Curriculum links

England

KS2 Science – Living things and their habitats (microorganisms)
KS2 PSHE – Developing a healthy, safer lifestyle (hygiene)

Scotland

Science – Body systems and cells SCN 1-13a
Health and wellbeing – Nutrition – Safe and hygienic practices HWB 1-33a & HWB 2-33a
Social studies – People in societies, economy and business SOC 2-19a & SOC 2-20a

Wales

Science – Interdependence of organisms
PSE – Active citizenship; Health and emotional wellbeing; Sustainable development and
global citizenship

N. Ireland

The world around us – Interdependence – Strand 1
PD&MU – Theme 4: Health, growth and change – Strand 1; Theme 8: Similarities and
differences – Strand 2
Introduction

Welcome to ‘Why hand washing matters’, the latest addition to the Healthy Schools Project* from KIMBERLY-CLARK PROFESSIONAL* which helps children learn about the importance of good hand hygiene in the fight against the spread of infectious illnesses such as stomach bugs, respiratory ailments, colds and influenza.

We are pleased to have produced this pack in collaboration with Cherwell and Village Water. Cherwell, a leading distributor of quality cleaning and hygiene products in the Midlands, are proud supporters of Village Water, a charity whose mission is to put lasting safe water, sanitation and hygiene at the heart of African communities. Together we are all committed to supporting hygiene education both here in the UK, in Africa and beyond. In this pack we continue talking about the importance of hand hygiene but we also expand the learning to a broader global context by introducing children to the issues and challenges around hand hygiene in parts of rural Africa.

The two lesson plans, and accompanying pupil worksheets, help 7-11 year-olds understand what microorganisms are, how they are spread, how harmful germs can make us ill and how hand washing can help prevent harmful microorganisms from spreading.

Lesson 2 extends the learning to a global context by introducing children to the issues and challenges around hand hygiene in Africa and the work of Village Water, a charity that helps thousands of people in rural Zambia to gain access to safe water, dignified toilets for the first time and also to hand hygiene education and sustainable hand washing facilities.

This pack can be used separately or in conjunction with the existing Healthy Schools Project* resources from KIMBERLY-CLARK PROFESSIONAL* which include engaging Science and PSHE lesson plans, posters and reward certificates. If you wish to access the full suite of Healthy Schools Project* education materials please talk to your local Cherwell contact.
Lesson 1: It's a bug's life!

About this lesson

This lesson helps children to understand what microorganisms are (commonly called ‘germs’, ‘bugs’ or ‘microbes’), the importance of washing their hands properly to help prevent the spread of harmful microorganisms and introduces them briefly to the challenges around hand hygiene in Africa (in preparation for Lesson 2).

Learning objectives

Children will learn:

- What microorganisms are and where they are found
- That some microorganisms are harmful and some are beneficial
- Some of the ways in which harmful microorganisms can be spread and how they get into the human body causing illness – specifically by their hands through direct, or indirect, contact
- How hand washing is the most effective way to prevent the spread of germs and to stop germs getting into their bodies
- The World Health Organisation's recommended hand washing method
- The key times for washing their hands
- Some of the issues relating to the spread of diseases in Africa aggravated by poor hand hygiene and sanitation.

Resources

Pupil worksheet 1: How germs spread
Pupil worksheet 2a: Bugs alive! Game board
Pupil worksheet 2b: Bugs alive! Question cards
Spoonful of vegetable oil
Spoonful of cinnamon
Link to Village Water website [www.villagewater.org/resources](http://www.villagewater.org/resources)
Link to the WHO web page/poster [www.who.int/gpsc/clean_hands_protection/en](http://www.who.int/gpsc/clean_hands_protection/en)

Time

At least 60 minutes (to give the children time to develop their ideas and complete both pupil worksheets).

If you prefer, or if you are working with younger or less able Key Stage 2 children, you could run these activities over two lessons (each of around 45 minutes) ending the first lesson after the hand washing demonstration.

Vocabulary

Microorganisms, Microbes, Bugs, Germs, Bacteria, Disease, Infection, Prevention, Virus, Fungi, Hand washing, Hygiene

Starter activity

Begin by reviewing what the children already know about microorganisms (germs/bugs/microbes) by asking them to solve this riddle, which you could either write on the board and run as a small-group challenge, or ask the whole class how quickly they can guess what 'you' are:

- I am a living thing but I am very, very small…
- I am so small that you need a microscope to see me – thousands of me could fit on to a full stop at the end of a sentence…
- I am everywhere – in the air you breathe, on your hands and bodies, on the desk, door handles, your pencils, the computer…
- There are over 5,000 of me on your hands at any one time…
- Some of me are friendly and are good for you…
- Some of me are harmful and can make you ill…
Establish that the answer is a microorganism (also accept ‘germs’, ‘bugs’ or ‘microbes’ as the correct answer) and explain that there are different kinds of microorganism (including bacteria, viruses and fungi) and that they are all around us. Reassure the children that over 70% of them are not at all harmful, and that in this country if we do get ill through ‘bad bugs’ we have medicines that help us fight them and make us better.

In this lesson the children are going to be thinking more about the ‘bad germs’ that can make us ill if they get into our bodies, like viruses that cause stomach upsets, colds and flu.

Main activity

- Ask the children if they can remember being ill, for example with a sickness and diarrhoea bug, a cold or flu. Where do they think the illness came from? (Microorganisms/germs/bugs getting into their bodies.) How do they think the germs that caused the illness got into their bodies? (Via their hands through nose, mouth, eyes, broken skin or via coughs and sneezes.)

- Play a quick game of ‘I spy germ hotspots’ – ask the children to name (or add a red sticker to) a place in the classroom where they think lots of ‘germs’ might be found (door handles, the computer mouse, desks, pencil/paint pots, books, etc., i.e. those places that lots of hands touch).

- Explain that we pick up and spread germs from the environment all the time with our hands.

- Demonstrate how our hands pick up masses of ‘invisible’, harmful germs that are all around us – and then pass them on to others, spreading the germs and causing illnesses. Put some vegetable oil on your hands and then dab them in cinnamon. Ask to shake hands with three or four children – and also touch your face, a cup, the desk top. Explain that the cinnamon is like the germs we pick up on our hands and spread as we touch things and each other. Tell the children that hands naturally secrete oil that helps to keep our skin moist and stops it getting too dry. This oil is a perfect place for germs to grow and multiply and helps them to ‘stick’ to our skin. We have up to 5,000 germs on our hands at any one time!

- Ask the children what they think might be a good way to help us stop spreading the germs and prevent them from getting into our bodies from dirty hands? (Wash our hands!)

- Demonstrate the World Health Organisation’s (WHO) method of effective hand washing as follows:
  1. Wet hands with water
  2. Apply enough soap to cover all hand surfaces
  3. Rub hands palm to palm
  4. Right palm over back of left hand with interlaced fingers and vice versa
  5. Palm to palm with fingers interlaced
  6. Backs of fingers to opposing palms with fingers interlocked
  7. Rotational rubbing of left thumb clasped in right palm and vice versa
  8. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa
  9. Dry hands thoroughly with a single use paper hand towel
  10. Rinse hands with water
  11. Use towel to turn off tap

Link to the WHO webpage: [www.who.int/gpsc/clean_hands_protection/en](http://www.who.int/gpsc/clean_hands_protection/en)

- The children can then mime these actions with you – or, if you have a teaching assistant, ask her/him to take small groups of children to the cloakroom/classroom sink to practise.

- If you have time, or at a later date, you could help the children to remember this sequence by playing a simple game: give 11 children a card or piece of paper with one of the instructions written on it and ask them to line up in the correct order. This could also be played as a team game – which team can line up in the right order first?

- Reinforce the key messages using pupil worksheet 1: How germs spread. In pairs, ask the children to talk about each story sequence, highlighting (in green) where germs are lurking and being spread and then (in red) where they might get into the body.

Continues on page 6...
Main activity continued...

- Alternatively, the children could work in small groups (with one story sequence each) to act out the stories and show and tell where germs are being spread and getting into the body – or you could talk through the pupil worksheet 1 as a whole-class discussion.

- Share outcomes and list the children’s ideas on the board, focusing on key areas where contamination can occur (be sure to include toilets/excreta, food, drinks, animals/animal waste, coughing/sneezing) and key ways germs can enter the body (dirty hands to mouth, eyes, nose or broken skin).

- How could the germs be stopped from spreading in all of these stories? (Chiefly by hand washing.) Ask the children to identify when the most effective time would be to wash hands in each of the five stories – and mark it on their sheets.

- Ask – who has washed their hands today? When and why? Thinking about the story sequences, and their own lives, help the children to list key times (and reasons) for hand washing:

  - Before, during and after preparing food
  - After going to the toilet
  - After touching animals or animal waste
  - After coughing, sneezing or blowing nose
  - If ill or been around people who are ill
  - After touching rubbish or picking up litter.

- As a link into Lesson 2, which extends the learning to a global context, show the children a video or photographs from the Village Water website [www.villagewater.org/resources](http://www.villagewater.org/resources) and ask them to suggest some of the challenges children in parts of rural Africa might face in being able to wash their hands at key times (e.g. after they have been to the toilet, before handling food or touching animals). Highlight the fact that although life is different in rural Africa the issues around hand washing and the spread of ‘bad bugs’ are the same for us all – germs are spread from the environment (see list of key times above) via the hands to the human body, and hand washing is the number one preventative measure for helping to reduce the spread of infectious diseases.

Plenary

Use the question cards from the Bugs alive! game (as a quick quiz) to check the children’s understanding or ask them:

- What causes illnesses like coughs and colds and tummy bugs?
- How can bad germs get from person to person – can they describe at least one scenario of how ‘bad bugs’ spread?
- How can we help to stop the spread of germs and prevent them getting into our bodies?
- Can they all mime or describe the 11 stages of effective hand washing as defined by the WHO?
- What might be the difficulties of hand washing, to help prevent the spread of germs, in parts of Africa?

Extension activities

- Ask children to teach their families – especially younger siblings the WHO method of hand washing.

- Children can play the Bugs alive! game (see pupil worksheets 2a and 2b) to reinforce the learning – or take a copy home to-play with their families and share their knowledge.

- Challenge children to add their own scenarios to pupil worksheets 1 or 2.

- As a drama activity, invite the children to work in groups of three or four and act out some of the ways microorganisms are passed on and how to prevent that happening.
Pupil worksheet 1: How germs spread

Colour or circle in 'green' where microorganisms are being spread. Colour or circle in 'red' where they might be getting into the body. What would be the best way to stop the germs spreading?
Pupil worksheet 2a: Bugs alive! Game board

Take turns to roll the dice. When you land on a ‘Q’ space pick up a card and ask another player to read it. Move on one space if you answer correctly.
True or false? When washing your hands properly, you don't need to wash your thumbs!
False. It is number 6 in the WHO hand washing sequence – remember, microorganisms are everywhere, including thumbs!

Why should we wash our hands after playing with animals?
Animals carry harmful microorganisms that you can pick up when you touch them and they can make you unwell if they get into your body.

What do we need to wash our hands properly?
Soap, clean running water, paper towels.

Can you mime the best way to wash our hands?
(See the World Health Organisation's 11-step method)

Which of these is NOT caused by a harmful bacteria:
A: a tummy upset
B: a broken arm ✓
C: sore throat

True or false? Hand washing is one of the best ways to avoid getting sick and spreading illness.
True. It removes microorganisms we've picked up on our hands and stops us spreading them by touch or putting them into our bodies via mouths, nose, eyes, broken skin.

Name two ways you can spread germs.
Answers can include: direct and indirect contact; coughs and sneezes; touching other people/things with dirty hands; sharing things like cups, food and toys; eating contaminated food.

Can you still eat your sandwich if you drop it on the classroom carpet?
Microorganisms on the carpet will spread to the sandwich when it touches the carpet, so it's safer not to eat it as you'd then put those germs in your tummy.

Which of these is NOT a way microorganisms can be spread:
A: talking to a poorly person on the phone ✓
B: eating food with dirty hands
C: sneezing not using a tissue

Who are the MOST effective way to prevent the spread of diseases?
A: antibiotics/medicine ✓
B: hand washing ✓
C: cleaning your teeth

Say two other words that mean the same as microorganisms.
Bugs, germs or microbes.

Can we see microorganisms?
Not with the naked eye – only with a microscope.

Can you give two examples of when it is VERY important to wash our hands?
After going to the toilet, before eating food, before preparing food, after touching animals.

Give two ways that germs can get into your body.
Mouth, nose, eyes, breaks in the skin (like cuts and grazes).

How long should we wash our hands for to make sure they are really clean?
A: at least 20 seconds ✓
B: 5 seconds
C: 2 minutes

What is the MOST effective way to prevent the spread of diseases?
A: antibiotics/medicine ✓
B: hand washing ✓
C: cleaning your teeth

Which two types of microorganisms are also accept algae, protozoa
Bacteria, virus, fungi

How many germs are on our hands at any given time?
A: 5,000 ✓
B: 500
C: 50
Lesson 2: Hand washing and Village Water

About this lesson

This lesson emphasises the importance of hand hygiene as a key preventative measure in the spread of infectious diseases wherever we are in the world – but particularly in Africa where access to sanitation and hand washing facilities can make the difference between life and death. It also introduces the children to the work of the charity Village Water.

Learning objectives

Children will learn:

- How important hand washing is to help prevent the spread of infectious diseases (and harmful microorganisms entering our bodies), wherever you are in the world
- That in parts of rural Africa, good hand hygiene can make the difference between life and death
- To recognise some of the environments and conditions in the developing world (e.g. parts of Africa) that contribute to the spread of dangerous diseases
- To identify some of the barriers to hand hygiene and good health in Africa
- Some effective interventions, that help prevent the spread of infectious diseases, which are being introduced by the charity Village Water.

Resources

Pupil worksheet 3: The challenge in rural Africa
Pupil worksheet 4: Village Water to the rescue!
Link to Village Water website www.villagewater.org/resources

Time

At least 60 minutes (to allow time for the children to develop their ideas, tackle the two worksheets and discuss some ideas for raising awareness of the work of Village Water).

Vocabulary

Infectious, Disease, Hand hygiene, Microorganisms, Contamination, Intervention, Prevention, Latrine, Village Water, Fund raising, Sanitation

Starter activity

To ascertain how much the children already know about harmful microorganisms (which they may call ‘bugs’, ‘germs’ or ‘microbes’), or to recap from Lesson 1 in this resource pack, put them into pairs or small groups to solve this quick quiz.

Which of these complaints are caused by microorganisms?

- A cold
- A broken leg
- A bruise
- A stomach bug
- Chicken pox
- Toothache
- A nose bleed
- Flu
- A sore throat/cough.

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Starter activity continued...

Give groups a few minutes to decide the correct answers, then ask some of the groups to feedback their answers and to explain how the microorganisms that cause the illness (cold, stomach bug, chicken pox, flu, sore throat/cough) are spread (largely by poor hand hygiene), how they get into the human body (via unwashed hands, through the mouth, nose and broken skin) and how we can help to prevent them from spreading (hand washing with warm water and soap is the number one preventative measure).

Demonstrate, then ask the children to mime, the World Health Organisation’s recommended hand washing method (see page 4 of this booklet for the link to their website or page 15 of this booklet for guidance).

Main activity

- Ask the children to tell you (or list on the board) the most important times for washing their hands (before, during and after preparing food, after going to the toilet, after touching animals or animal waste, after coughing, sneezing or blowing their nose, if they are ill or have been around people who are ill or if they have been touching rubbish/litter).

- Explain that no matter where people live, these are still the most important times for washing hands because germs or ‘bad bugs’ are spread from the environment (food, surfaces, animals, appliances, etc.) by unwashed hands that can carry up to 5,000 germs at any one time and can enter the body through the nose, mouth or broken skin and can make us ill.

- Talk about how in some parts of Africa diseases spread by bad bugs can be very, very serious because many people, especially in rural areas, don’t have medicines to treat them, access to clean, safe water and sanitation – or hand hygiene education. Explain that without access to hand hygiene the cycle of contamination continues and while diseases such as diarrhoea or chest infections are unpleasant in this country, in some parts of Africa they can – and do – kill.

- Use a world map to show the children where Africa is and locate Zambia.

- Using pupil worksheet 3: The challenge in rural Africa (or photographs on the Village Water website), introduce and discuss some of the challenges and issues relating to the spread of infectious diseases and poor hand hygiene in rural areas of Africa. Can the children identify through the composite picture where the main sources of contamination are and why there might be problems with repeated illnesses here? (Preparation of food in close proximity to animals/animal waste, flies landing on faeces and transferring dangerous germs to unwashed food that is then eaten, contaminated water sources, rubbish left rotting close to living and food preparation areas, lack of safe toilets, soap and running water, etc.)

- Can they suggest interventions, which could help prevent the spread of infectious diseases here? (Hand washing, lids on food containers, separate spaces for animals, latrines, etc.)

- The children can then work with a partner, or individually, to annotate the composite picture with their ideas.

- Give out pupil worksheet 4: Village Water to the rescue, to individuals or pairs, or look at images from the Village Water website as a whole class. Look at and discuss some of the ways the charity is helping people in rural Zambia to overcome these obstacles (e.g. building latrines, education around hand hygiene and use of tippy taps for hand washing). How do the children think these measures will help reduce the spread of infectious – and potential deadly – diseases?

- Talk about how Village Water educates the villagers about hand hygiene and supports them in helping themselves, e.g. through community and education projects – including encouraging children to become ‘hand washing ambassadors’ teaching community members to wash their hands using a tippy tap.

- As a class or a whole school you may like to get involved with the work of Village Water, for example through raising awareness, e.g. via an assembly, display or community presentation. Ask the children for their own ideas, or you might like to try one or more of these:
  - Water drops – children decorate templates of large water drops, which are then displayed in a prominent position in the school or in a community space. Each drop could contain a piece of factual information, a statistic or a comment about Village Water and/or the importance of hand hygiene education in Africa.
  - A sports or activity day based around water – water obstacles, relays carrying containers of water, swimming relays (where feasible) and involving parents and the local community. Children can create posters to advertise and promote the activity day and raise awareness of Village Water.
**Main activity continued...**

- A presentation about Village Water to parents/family/community groups/local businesses (this could include a little play or musical performance) to raise awareness.

**Plenary**

Can the children tell you:

- How harmful microorganisms are spread and how they can enter the human body?
- How we can reduce the spread of germs and prevent them from entering our bodies?
- Some of the conditions in developing countries, like parts of Africa, that contribute to the increased spread of infectious diseases?
- Some of the main challenges or barriers to overcoming these conditions?
- Some of the ways that Village Water is helping to improve conditions, such as sanitation and hand hygiene in areas of Africa, to reduce the spread of disease?

**Extension activities**

- If the children are keen to help raise awareness of the challenges faced by thousands of families in Africa around access to basic sanitation and hygiene, they could prepare and deliver an assembly to which they invite parents/carers and governors — using the resources in this pack and the outcomes of their activities.
- They could also carry out further research into the work of Village Water through the charity's website [www.villagewater.org/resources](http://www.villagewater.org/resources)
Pupil worksheet 3: The challenge in rural Africa

Can you circle where germs may enter people's bodies?
How would you prevent this happening? Write your ideas next to the picture.
Pupil worksheet 4: Village Water to the rescue!

Some of the ways Village Water is helping villages in Zambia to better health and hygiene.

Look at the six ways they are helping and write two reasons why they will help improve health and hygiene in these villages. Think about what you have learnt about how harmful microorganisms spread and get into our bodies.

<table>
<thead>
<tr>
<th>Animals kept away from living areas, food and water sources</th>
<th>Latrine construction away from water sources</th>
<th>Effective hand washing stations using tippy taps</th>
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<th>Safe water sources and water treatment</th>
<th>Health education by school pupils to village families</th>
<th>Safe storage of clean water and food</th>
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Existing WHO Method

The 11 steps below are the hand washing method advised by the World Health Organisation (WHO).

1) Wet hands with water
2) Apply enough soap to cover all hand surfaces
3) Rub hands palm to palm
4) Right palm over back of left hand with interlaced fingers and vice versa
5) Palm to palm with fingers interlaced
6) Backs of fingers to opposing palms with fingers interlocked
7) Rotational rubbing of left thumb clasped in right palm and vice versa
8) Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa
9) Rinse hands with water
10) Dry hands thoroughly with a single use paper hand towel
11) Use towel to turn off tap

This process can be found at www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf.
Welcome to 'Why hand washing matters', the latest addition to the Healthy Schools Project from KIMBERLY-CLARK PROFESSIONAL an education wellness programme that engages and motivates pupils, teachers and staff to learn the importance of good hand hygiene.

In this pack we continue talking about hand hygiene as part of a healthy lifestyle, highlighting how germs spread, but we also expand the learning to a broader global context by introducing children to the issues and challenges around hand hygiene in Africa. You will therefore find this resource pack most useful in your Science and PSHE programmes.

Cherwell is a family run organisation based in the Midlands that supplies quality cleaning and hygiene solutions to schools and other local businesses throughout the region. Cherwell are committed to contributing to the community around them and are proud supporters of the charity Village Water. For more information please visit www.cherwell-online.co.uk/villagewater.aspx

Village Water's mission is to put lasting safe water, sanitation and hygiene education at the heart of community development in Africa, improving lives in rural villages and schools for over 10 years. For more information please visit www.villagewater.org/resources

For further information on the Healthy Schools Project please visit www.kcprofessional.co.uk/healthyschools