

SQUEAKY CLEAN

Communication Project
For Teachers **p2&3**, for Students **p4**

HEALTH AND SAFETY

Students should be encouraged to make their own risk assessment before they carry out any activity, including surveys. In all circumstances this must be checked by a competent person. Students using specialised equipment should be supervised at all times.

Students may want to set up unorthodox experiments and you may need to seek specialist advice.

Organisations such as CLEAPSS and the Royal Society of Chemistry are able to help. The MISAC (Microbiology in Schools Advisory Committee) can provide advice concerning microbiological investigations.

SQUEAKY CLEAN!

Silver Communication Project - For Teachers



Soap solution?

In the medieval world, pandemics were rife. Improved standards of hygiene have helped to bring these diseases under control. The widespread use of soap for washing hands, clothes and surfaces contributes to this daily battle. With the appearance of MRSA, C. diff and swine flu, the importance of effective hand washing is now at the forefront of Public Health messages. Hospitals encourage visitors to use alcohol hand gels and people buy them for their own use. Yet many people still believe that hand washing isn't important.

Are we using the best methods to prevent the spread of potential killers like MRSA, C. diff and swine flu?

HAVE YOU EVER WONDERED? ... does hand washing really matter?

You might like to imagine yourself in a situation such as...

When you use public toilets, you realise that many people leave without washing their hands. When you ask your friends, some admit that they don't always wash their hands after using the toilet and don't always use soap when they do. As a health promotion specialist, you think that the only way to persuade people is to give them clear evidence. You need to gather information on both sides of the argument, then **use your communication skills** to:

- convince people that frequent hand washing helps to prevent the spread of disease
- explain why the use of soap or alcohol hand gel is important in hand washing
- persuade people to improve their hand washing habits.

POSSIBLE EQUIPMENT, MATERIALS AND RESOURCES

These will depend on the presentation format(s) chosen by the student. They might include:

- digital camera and access to photo-manipulation software
- data projection facilities
- video camera and editing facilities
- laboratory bench demonstration area
- access to someone skilled in preparing and delivering presentations
- an independent audience to whom to present their project
- normal laboratory equipment for simulation of the presence of bacteria on students' hands (e.g. powder or gel such as *Glo Germ*, *Germ Juice* or *GlitterBug*, ultraviolet lamp)

Prompts

The **Student Brief** gives some triggers to start students thinking. They should realise that each trigger has various implications. Encourage students to identify these themselves. However, if necessary, prompts such as those below might be given, to point students in suitable directions.

- **The age-group(s) you will aim at and whether they need different approaches**
 - Will your audience be mixed ages or abilities or both?
 - What are your key points?
 - What different approaches could you use?
- **How to present a balanced argument, with arguments for and against your proposals, but making it clear that the evidence supports your point of view**
 - What kind of evidence will people believe?
 - What kind of facts and figures will you need?
- **How you will know if you have convinced people with your arguments**
 - How can you find out about their opinions or hand washing habits before your presentation?
 - How can you find out how their opinions or hand washing habits have changed after your presentation?
- **Using a mixture of written, spoken and visual communication, including experiments, if appropriate**
 - What kinds of written or visual materials can you use in a presentation?
 - How can you emphasise your key points?
 - Could live or videoed demonstrations help?
- **Ensuring that you present scientific information, rather than emotive arguments**
 - How will you choose your sources of information?
 - How will you check your facts?
 - Why is the use of soap for cleaning better than water alone?
 - Can you explain how soap and alcohol rubs work?
 - Why are MRSA (Methicillin-resistant Staphylococcus aureus) and C. diff (Clostridium difficile) so difficult to control?
- **Using scientific language and terminology correctly**
 - Are there any terms that you are unsure of?
 - Can you explain the technical terms in simple language?

Suggestions for supporting students

Communicators should spend the majority of their time working on how to deliver their message, rather than information seeking.

It is recommended that, wherever possible, Silver Award students should have a scientist or engineer as Mentor for their project. Please contact your CREST Local Coordinator to discuss Mentoring.

Depending on the nature of the project, someone with knowledge and/or experience of hygiene practice or cleaning technologies could be ideal. The Mentor might be involved in...

- academic or industrial research in hygiene or cleaning products
- professional cleaning, for example of hospitals or schools
- health education or health visiting
- occupational hygiene or environmental health
- Students should decide their focus, although this may alter in the light of experience as the project progresses.

Internet search

Combine 'hand washing' 'cleaning' with terms such as: experiment, testing, products, health, hygiene, infection control; or try: Semmelweis, soap, detergent, surfactant. Or try:

- **What is the best way to wash your hands?**
www.southernbiological.com/Assets/text/GlitterBug/GlitterBugLesson.htm
- **Dr. Semmelweis Was Right: Washing Hands Prevents Infection**
waterandhealth.org/newsletter/new/feb-1998/right.html
- **Handwashing, HPA (Health Protection Agency)**
www.hpa.org.uk [enter handwashing or Semmelweis in the search box]
- **American Cleaning Institute**
cleaninginstitute.org
- **Preventing MRSA infection, NHS**
www.nhs.uk/Conditions/MRSA/Pages/Prevention.aspx
- **MRSA, Patient UK**
www.patient.co.uk/health/MRSA.htm
- **Hand washing experiment**
bam.gov/teachers/activities/epi_4_hand_wash.pdf

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Some things to think about...

- The age-group(s) you will aim at and whether they need different approaches
- What views do people have about hand washing?
- How you will know if you have convinced people with your arguments
- How to use a mixture of written, spoken and visual communication, including experiments
- Using scientific language and terminology correctly

Health and Safety

Should you decide to carry out any experiments or practical activity:

- (a) find out if any of the substances, equipment or procedures are hazardous
- (b) assess the risks (think about what could go wrong and how serious it might be)
- (c) decide what you need to do to reduce any risks (such as wearing personal protective equipment, knowing how to deal with emergencies and so on)
- (d) make sure your teacher agrees with your plan and risk assessment

NOTE: Your teacher will check your risk assessment against that of your school. If no risk assessment exists for the activity, your teacher may need to obtain special advice. This may take some time.