# Healthy Hands Experiment (10-15 mins)

This activity is included in the KS2 pack. It involves the use of UV gel and a torch to demonstrate the spread of microbes through our hands. The invisible UV gel represents “pretend microbes”, whilst the torch represents a “microbe detector”, as the gel can only be seen under the UV light.

## Before you begin you will need:

* + The lesson pack for KS2 Hand Hygiene. Available on the website link [here](http://www.e-bug.eu/en-gb/ks2-hand-hygiene).
  + Student worksheets for each participant (KS2) and student handouts for each group of participants
  + Arrange 4 desks side by side for the 4 stations. Each desk should have the following:
    - A sign reading “no handwashing”
    - A basin of cold water, paper towels, and a sign reading “wash in cold water”
    - A basin of warm water, paper towels and a sign reading “wash in warm water”
    - A basin of warm water, paper towels and a sign reading “wash in warm water using hand soap”
    - UV torch and Glo Gel (or cooking oil and cinnamon, or hand moisturiser and glitter)
    - Hand soap
    - Hand basin or sink
    - Paper towels
    - Six steps of handwashing poster

**Risk Assessment:** In the event of an outbreak of infection you may need to modify this activity to ensure social distancing or other criteria according to your school’s policy. In this case, one idea would be to transfer the gel by having students touch objects and see how the gel transfers from hands to surfaces (or vice versa), with the handwashing to follow. Please email the e-Bug team at e-Bug@phe.gov.uk if you wish to discuss ideas or modifications to this activity that are needed to follow guidelines in your setting.

Ensure no allergies or sensitivities to soap or cinnamon, or moisturiser or glitter (if using).

## Use the introduction in the lesson plan to discuss:

* Current handwashing practices
* How microbes can spread from our hands to our faces and to other classmates through touch

## Use the following steps as a guide to implement this activity:

* Divide the group into four equal separate groups
* Ask each participant to stand in a row one behind the other and designate groups as follows
  1. No hand washing b) Wash hands in cold water

c) Wash hand in warm water d) Wash hands in warm water with soap

3. Blindfold the lead person in each group and cover their hands in Glo Gel. The blindfold ensures that they don’t wash their hands any better than normal. Ask the lead person to wash their hands according to the group they are in (or just in their “normal way” if KS1).

1. Once completed, they should take off their blindfold, turn around and shake hands with the person behind them. It is important that they shake hands firmly and well. The second person should then shake hands with the third person and so on until everyone in the group has shaken hands with the person in front of them.
2. When the task is complete, turn down the lights and shine the UV torch over everyone’s hands,

starting with group A.

1. Ask participants to fill out their answer sheets (**SW1** and **SW2**) (or ask participants to compare their hands).
2. Show participants the six steps of handwashing poster (Image of six steps of handwashing: palm to palm, back of the hands, in between the fingers, back of the fingers, the thumbs, and tips of the fingers) and then ask them to wash their hands again using these six steps.
3. Use the UV torch to compare hands once more.
4. Note that the bits often missed out when washing hands include the thumbs, in between the fingers, and around the fingernails. Point these out when participants are comparing their own hands. Using the six steps of handwashing effectively ensures that the entire hand is washed properly, using soap to make sure microbes can be easily washed away.

**Use the plenary or discussion questions to check participant’s understanding after the activity is**

**completed.**

***Alternative to Glo Gel****: Hand moisturiser and glitter can be used if UV gel and a UV torch is not available. Participants dip their hands into a bowl of glitter instead and shake hands with each other, as described above. They can then be placed into the four handwashing groups described as above. You should notice that those who wash their hands with soapy water will show that the glitter comes off easily, however those who only wash their hands with water alone, will still have glitter stuck to their hands.*

