

Using Microscopes to observe flowers- using the microscope to see the pollen grains and the stigma surface and the ovules gave pupils a better understanding of the plant anatomy, pollination and how it ultimately leads to seed formation. Good for observational drawing and recording. Pupils also had a stylised diagram to help them identify flower parts when necessary. Linked to early efforts at using number of stigma and stamen to classify plants.



First observe the flower head you have been given. Carefully peel off 2 petals so that you are looking inside the plant. Draw what you see carefully.

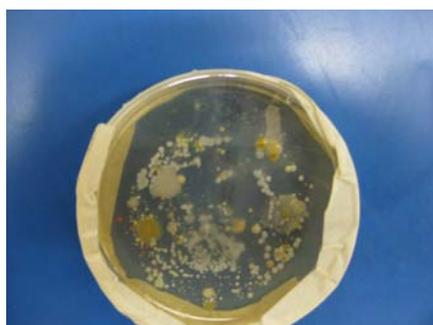
Detach a stamen and put it under the microscope. Observe carefully. What does the surface of the anther look like? Compare this with an anther from a bud that has been just opened by the teacher. How are they different?

Compare the anthers/ pollen of different flowers (e.g. each group could have a different flower species)

Look carefully at the top of the stigma- draw and describe it.

Carefully cut open, or teacher cuts open, the ovary. Observe under the microscope- what can you see? (sorry- picture of ovules and pollen got deleted)

Whose hands are cleanest? This is a real eye-opener for pupils. I have done this with Year 6 and they were amazed.



Can be done girls vs boys, or members of one group vs other members. Group can do collectively, e.g. all members of group press fingers onto the plate. Have done with everything from an individual doing their own, to 4-10 pupils in a group. Can be extended into investigation into using soap/ handwash/ different brands of handwash or comparing antibacterial hand cleanser with soap, etc.

Plates should be sealed and disposed of carefully by teacher (e.g. submerging in bleach) Pupils to wash hands carefully afterwards.

You have 2 agar plates. Take one and press your fingers gently on the surface. Place the lid on and seal it up around the sides with tape (or teacher can do this to be sure it is sealed correctly).

Place label (group name and 'unwashed') on the tape. Masking tape can be written on.

Place 'upside down' in the tray. (so condensation does not drip onto it)

Go and wash your hands and do the same thing with the other plate. Remember to label it.



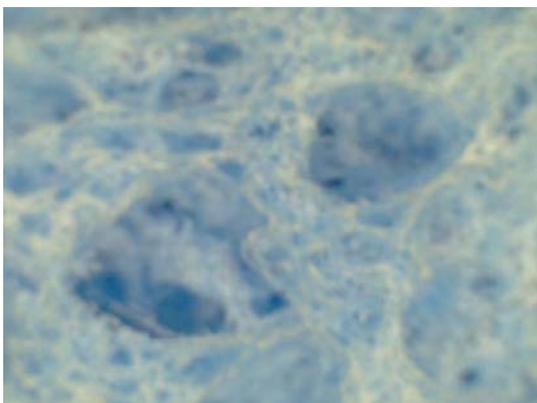
Next lesson- observe the plates with the naked eye, then under the microscope. What do you notice? What differences are there between groups? Use internet to try and identify some of the bacteria colonies. Photos can be taken and used in posters to explain why washing hands is so important. If you have the Smart Science resources, this ties in well with the Bacteria and Custard activity.

As seen under the microscope.



What is best for mopping up spillage?

Have a selection of materials for mopping spills. Looking at under the microscope can help with prediction or explanation, such as this sponge below.



What is the worst drink for teeth?

Place clean eggshell or marble chip in a variety of drinks. Observing the surface under the microscope shows any damage better to allow comparison.