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| **Session 4:**  | **SLIDE PREPERATION FOR MICROSCOPIC INVESTIGATIONS** |

##

## Assessed criteria

Criterion E: AIE

**Research Question**

“How can we prepare slides to use for microbiological drawings?”

**Background Information**

Methylene blue is a substance we can use to help visualize cells under the microscope. It stains negatively charged molecules in cells, including DNA and RNA. This is toxic when ingested and it causes irritation when in contact with the skin and eyes, so should be handled with care.

It is possible to take a sample from the inside of your mouth with a swab and stain the cells when mounted on a slide. The cells seen are squamous epithelial cells from the outer epithelial layer of the mouth. The small blue dots are bacteria from our teeth and mouth



**Objective**

Prepare sample slides using cheek cells and make precise, labelled diagrams.

**Materials**

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| Methylene blue | Glass slides | Cover slips |
| Microscope | Sharp pencil and ruler | Wash bottle |
| Cotton swab | Paper towel |  |

**Method**

1. Take a clean cotton swab and gently scrape the inside of your mouth.
2. Smear the cotton swab on the center of the microscope slide, in circular movements, for 2 to 3 seconds.
3. Add a drop of methylene blue solution and place a coverslip on top.
4. Remove any excess solution by allowing a paper towel to touch one side of the coverslip.
5. Place the slide on the microscope, focus and locate a cell.
6. Use the nosepiece to select a higher magnification.
7. Observe the cells and decide what you can see.
8. Choose an appropriate magnification, draw and label two sections of the slide.
9. Choose 3 other sample slides and make biological drawings of 3 other specimens.

**Results**.

Include photos of your drawings below, with the name of the samples and magnification used.