Mi1 : Use of the microscope and wet-mount technique

Requirements for one experiment

One microscope
5 glass slides
5 coverslips
5 mL of broth : E.coli suspension
5 mL of activated sludge suspension
5 non sterile Pasteur pipette
One pipette filler for pipette pasteur

1. Description of the microscope
Page 1 : Comparison of microscope types ; size of cells and microscopic applications.
Page 2 : Bright-field microscope components

2. Wet-mount technique : page 3 (figures 1 to 3)

You have two broth :
- a pure suspension of E.coli, which should not be contaminated : all the experiments must be done aseptically : *observe how to handle tubes and pipettes aseptically* ;
- a suspension of activated sludge : no need to work aseptically.

Carry out the observation of
- a suspension of E.coli (1 to 5µm) : with a sterile pipette, draw aseptically one drop of this suspension and place it on a glass slide ; place the edge of the cover slip on the drop ; observe with the objective X40.

- a suspension of activated sludge (5 to 100µm) : objective X 10 and then X 40.

After observation, put glass slides and pipettes in bleach and suspensions in the basket destined to sterilisation.

3. Report

For each observation, note :
- the magnification used
- for cell :
    - their average size (µm)
    - their shape (rods, cocci for bacteria)
    - their association type (single, grapelike clusters, chain…)
    - their mobility

Draw a sketch illustrating your observations.