University of Mohamed Boudiaf – M'Sila

Faculty of Science

Department of Nature & Life science

1St Year SC

Section: A /or B/ or C Groupe:

Lab Class (01):

Compound Light Microscope

Realized by:

1 – First name, Family name (Student 1)

2 – First name, Family name (Student 2)

3 – First name, Family name (Student 3)

4 – First name, Family name (Student 4)

5 – First name, Family name (Student 5)

University Year

2024/2025

1. Introduction

Microscopes are very important tools in biology. The term microscope can be translated as “to view the tiny,” because microscopes are used to study things that are too small to be easily observed by other methods. The type of microscope that we will be using in this lab is a: compound light microscope.

Compound Light microscopes magnify the image of the specimen using light and lenses. The term compound means that this microscope passes light through the specimen and then through two different lenses. The lens closest to the specimen is called the objective lens, while the lens nearest to the user’s eye is called the ocular lens or eyepiece. When you use a compound light microscope, the specimen being studied is placed on a glass slide. The slide may be either a prepared slide that is permanent and was purchased from a science supply company, or it may be a wet mount that is made for temporary use and is made in the lab room.

2. Material & Methods

a. Material:

- Microscope
- Slides
- Cover slips
- Scissors
- Millimeter paper
- Adhesive tape

b. Methods:

b.1. Experiment 01:

- We cut a 1 cm square of a millimeter paper using a scissors.
- Place the square of paper in the middle of a clean glass slide.
- Fix the paper on the glass side with adhesive tape.
- We put the slide above the stage and secure it with the stage clip, after that we turn on the microscope and we observe with 3 different lenses
- Starting with the scanning lens (Red lens 4x), followed by the low power lens (Yellow lens 10x) and finally the high-power lens (Blue lens 40x).

b.2. Experiment 02:

- We cut another 1 cm square of a millimeter paper using scissors.
- Write 2 near but not attached dots in the middle of the square paper.
- Place the square of paper in the middle of a clean glass slide.
- Fix the paper on the glass side with adhesive tape.
- We put the slide above the stage and secure it with the stage clip, after that we turn on the microscope and we observe with 2 lenses
- Starting with the scanning lens (Red lens 4x), followed by the low power lens (Yellow lens 10x).

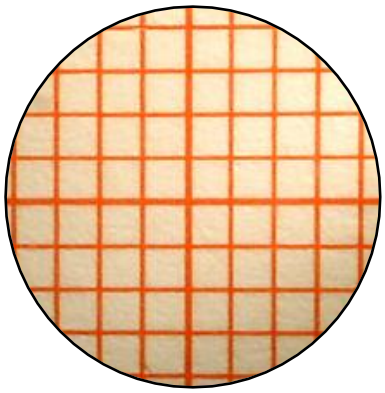
b.3. Experiment 03:

- Using a piece of millimeter paper, write a small, lowercase letter “a.” Cut a 1 cm square with that letter “a” near the middle of the square. (Do not just cut out the letter a, or it will be too hard to work with. The piece of paper that you cut out should be about the size of a fingernail.
- Place the square of paper in the middle of a clean glass slide. Position the square so that the words are in normal reading position (in other words, don’t have the “a” turned sideways or upside-down).
- Fix the paper on the glass side with adhesive tape.
- We put the slide above the stage and secure it with the stage clip, after that we turn on the microscope and we observe them with the scanning lens only (Red lens 4x).

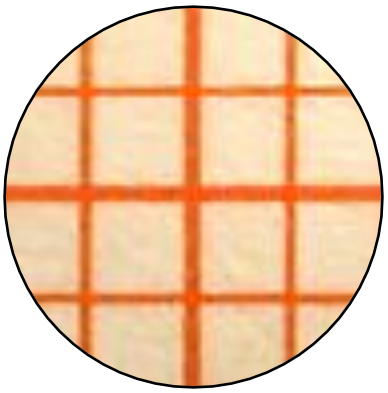
3. Results:

a. Observation

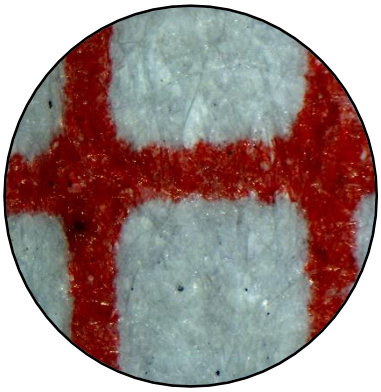
a.1. Experiment (01):



Schema (01): Microscopic observation of millimeter paper (Magnified: 40x).



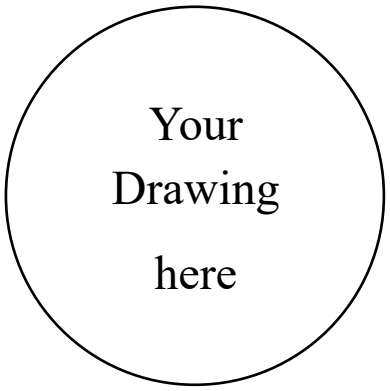
Schema (02): Microscopic observation of millimeter paper (Magnified: 100x).



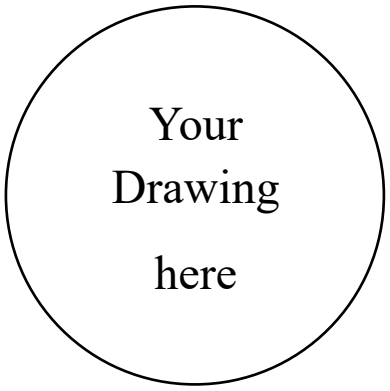
Schema (03): Microscopic observation of millimeter paper (Magnified: 400x).

a.2. Experiment (02):

Put the drawing of the second experiment here, the same as we did for the first experiment. (Each drawing should have their title under them with the level of magnification).

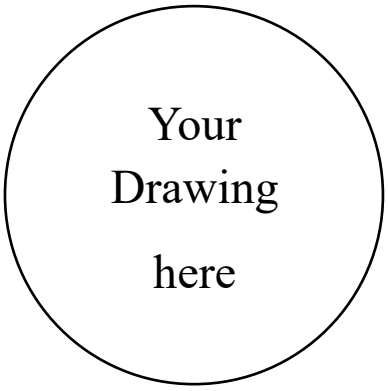


Schema (04): Microscopic observation of 2 dots on millimetric paper (40x)



Schema (05): Microscopic observation of 2 dots on millimetric paper (100x)

a.3. Experiment (03):



Schema (06): Microscopic observation of letter “a” on millimetric paper (40x)

b. Interpretation

Here you should describe and explain each experiment we did in the lab class starting by the first one.

b.1. Experiment (01):

Describe what you are observing in the first experiment then explain the results obtained from this experiment.

b.2. Experiment (02):

Same as we did for the first experiment, Describe then explain the second experiment.

b.3. Experiment (03):

follow the same method for the previous experiments, describe then explain this experiment.

4. Conclusion:

Here the students should mention all what they have learned from the different experiments performed in this lab class. (for example)

"In conclusion, this lab has been a great introduction to the world of microscopy. We successfully learned a lot of things regarding the light microscope.

First, we have learned the proper way of how to use the light microscope.

Secondly, the light microscope has different lenses that provide the clarity of the image and a higher resolution of specimens.