La Consolacion College of Daet, Inc.

PAASCU ACCREDITED LEVEL II

Froilan Pimentel Avenue Daet, Camarines Norte 4600

**BASIC EDUCATION DEPARTMENT**

Academic Year 2024 - 2025

**General Biology 1**

**INTRODUCTION TO CELL BIOLOGY (MICROSCOPY)**

**Laboratory Activity No. 2**

**Group No.**

**Name:**

**Grade & Section:**

**Date Submitted:**

**Instructor: Mr. Christopher E. Bacurin, LPT**

**INTRODUCTION**

Before the invention of the very first microscope, everything that could not be seen by the naked eye was unexplainable. In 1665, Robert Hooke was able to observe in a piece of cork specimen structures that appear as tiny compartments similar to small rooms. Hooke coined the word “cell” to describe these chamber-like structures. (Chua, J., *et al.)*

The compound microscope is an instrument containing two lenses, which magnify, and a variety of knobs to resolve (focus**)** the picture. In this lab, we will learn about the proper use and handling of the microscope.

**Objectives:**

* Demonstrate proper handling of the microscope
* Determine the total magnification of a microscope
* Prepare and use a wet mount

**METHODOLOGY**

**Materials:**

* Microscope
* Glass Slides
* Coverslips
* Eye dropper
* Beaker of water
* Scalpel, forceps and scissors
* Letter “e” from a newspaper
* Tissue/Paper towel
* Iodine stain/Gentian violet
* Onion
* Mayana Leaf
* Toothpick
* Paper tape
* Pen and marker

**Procedures:**

1. *Microscope Handling*
2. Carry the microscope with both hands
3. Examine the microscope and identify its parts.
4. Plug and open the microscope
5. **WET MOUNTING LETTER “E” – An Introduction to Microscopy**
6. *Preparing a wet mount of the letter “e”*
7. Using your scissors, cut out the letter “e” from a newspaper
8. Place it on the glass slide so that it looks like (e)
9. Using your eyedropper, place a drop of water on the specimen. Wipe the excess water carefully then cover it with a clean cover slip
10. Place the slide on the stage of the microscope; make sure that the “e” is facing the normal the normal reading position. Make sure that the objective is on scanner. Move/rotate the coarse focus and the fine adjustment knob until the “e” can be seen clearly. Draw what you see. Draw what you see in the space provided below.
11. Describe the relationship between what you see through the eyepiece and what you see on the stage.

1. Looking through the eyepiece, move the slide to the upper right area of the stage. What direction does the image move? Now, move it to the lower left side of the stage. What direction does the image move?

1. Re-center the slide and change the objective to a low power objective. You will notice the “e” is out of focus. Use the coarse adjustment knob and fine adjustment knob to resolve the picture. Draw the image you see of the letter “e” (or part of it). Repeat this step and use the high-power objective.

Low Power Objective High Power Objective

Magnification: Magnification:

**Conclusion Questions:**

1. Images observed under the light microscope are reversed and inverted. Explain what this means.

1. Explain why the specimen must be centered in the field of view on low power before going to high power**.**

1. **PLANT (MAYANA LEAF) CELL**
2. Using a scalpel and forceps, peel a translucent (small) piece of tissue from the mayana leaf. Translucent means you can see light through the specimen, but it is not transparent.
3. Place the piece of mayana leaf on a glass slide and add a drop or two of gentian violet stain. Cover the slide with a cover slip.
4. Observe the onion cell under the scanner, low-power and high-power objectives. Draw your observations below. You can label its parts.

Low Power Objective High Power Objective

Magnification: Magnification:

1. **PLANT (ONION) CELL**
2. Using a scalpel and forceps, peel a translucent (small) piece of tissue from the onion. Translucent means that you can see light through the specimen, but it is not transparent.
3. Place the piece of onion on a glass slide and add a drop or two of gentian violet stain. Cover the slide with a cover slip.
4. Observe the onion cell under the scanner, low-power and high-power objectives. Draw your observations below. You can label its parts.

Low Power Objective High Power Objective

Magnification: Magnification:

1. **ANIMAL (CHEEK) CELL**
2. To view cheek cells, scrape the surface of your check using a toothpick.
3. Smear the toothpick on the center of your slide for 2-5 seconds.
4. Add a drop of gentian violet stain and place a cover slip on top.
5. Remove excess stain and place your specimen on the stage.
6. Observe the skin cells under the scanner, low-power, and high-power objectives.
7. Draw what you see.

Low Power Objective High Power Objective

Magnification: Magnification:

**Conclusion Questions:**

1. What are cells?

1. How are plant cells similar to the bricks of a building?

1. How are animal cells different from plant cells?