

# Puspa Shrestha

Best Quality Resource Site for Class 11 And 12 Students  
(Based on Updated Curriculum 2077)

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## EXPERIMENT NO 1

### TO STUDY DIFFERENT PARTS OF COMPOUND MICROSCOPE

#### INTRODUCTION

A compound microscope is a delicate optical instrument consisting of two lens system [eye piece and objective lens] that magnifies the minute transparent or translucent objects manifold in two steps and enable us to study their minute details. This two fold magnification is the principle behind the working of compound microscope. The compound monocular microscope consists of many parts which are assembled to either mechanical parts or optical parts.

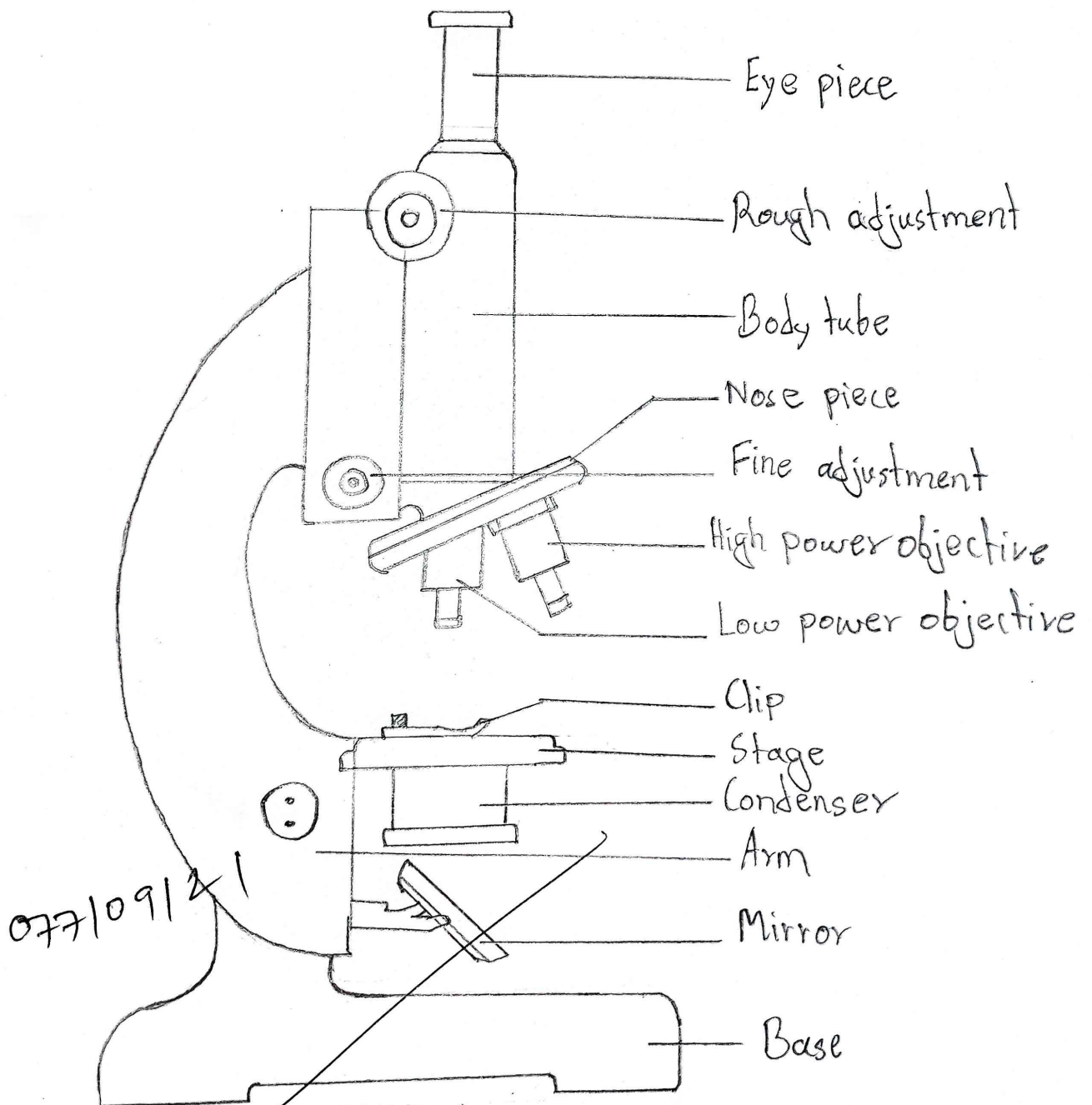
Much of the laboratory works in biology require the help of the microscope. So, it is highly appreciable to get familiar with its construction, use and care as well.

#### MECHANICAL PARTS OF A COMPOUND MICROSCOPE

- 1) Foot :- It is usually a horse-shoe shaped lowermost part. It supports the weight of the microscope.
- 2) Pillar :- It is a small vertical stand attached to the base. It supports the movable parts.

# TO STUDY DIFFERENT PARTS OF COMPOUND MICROSCOPE

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Fig. Compound microscope

- 3) Inclination joint:- It is a pivot between the pillar and the arm. It permits the tilting of the upper part of the compound microscope at various angles.
- 4) Arm:- It is a curved part of a microscope and its lower end is attached to the pillar and the upper end is joined to the body tube. It is used for handling.
- 5) Condenser:- It is a circular chamber with lens system, present below the stage. that can be raised or lowered. It is used to concentrate the light rays.
- 6) Draw tube:- It is a small hollow cylindrical metallic tube that support the eye piece at the top.
- 7) Iris diaphragm:- It is a circular piece with a knob below the condenser. The left and right movements of the knob control the amount of light entering into the microscope on the object.
- 8) Stage: It is usually a rectangular platform having a circular ~~whole~~ hole in the centre to allow the

## OPTICAL PARTS OF A COMPOUND MICROSCOPE

- 1) **Mirror:** It is a plano-concave mirror with one side plane and other concave. It is attached to the lower end of the arm. It is used for reflecting light rays into the microscope. The plane mirror is used to reflect the rays of light coming from nearby sources such as a bulb or a tube light, while the concave mirror is used to reflect the rays of light from distant source i.e. the diffused sunlight.
- 2) **Objective lenses:** They are attached to the nose piece. Generally, the lenses with the magnification power of 5X, 10X, 40X and 100X are available. These lenses magnify image of the object by the number written on the lens.
- 3) **Eye piece lens:** It is also called ocular lens and attached to the top of the body tube. It normally ranges in magnification from 5X, 10X and 15X. It is used to magnify the image produced by the objective.