



Microscope Definition:

An optical instrument that uses a lens or a combination of lenses to produce magnified images of small objects, especially of objects too small to be seen by the unaided eye.

TYPES OF MICROSCOPES

There are a variety of microscopes, each with specific advantages and limitations. Microscopes are of two categories.

a. **Light Microscope:** Magnification is obtained by a system of optical lenses using light waves. It includes (i) Bright field (ii) Dark field (iii) Fluorescence (iv) Phase contrast and (v) UV Microscope.

b. **Electron Microscope:** A system of electromagnetic lenses and a short beam of electrons are used to obtain magnification. It is of two types:

(I) Transmission electron microscope (TEM)

(ii) Scanning electron microscope (SEM).

The light microscope : the common light microscope use in the laboratory for diagnosis and study structures the microscopic organisms, the light microscope is called a compound microscope because it contains two types of lenses that function to magnify an object. The lens closest to the eye is called the ocular, while the lens closest to the object is called the objective.



Parts of microscope:

The following are the parts of microscope:-

Eyepiece or ocular lens: Eyepiece is the lens, present at the top and is used to see the objects under study. Eyepiece lens contains a magnification of 10X or 15X.

Tube: connects the eyepiece to the objective lenses.

Resolving nosepiece: It is also known as the Turret. It allows the rotation of the lenses while viewing.

Objective lenses: Generally, three or four objective lenses are found on a microscope, with ranges of 10X, 40X, 100X powers.

Diaphragm: Diaphragm helps in controlling the amount of light that is passing through the opening of the stage.

Coarse adjustment knob: Used for focus on scanning.

Fine adjustment knob: Used for focus on oil.

Arm: It supports the tube of the microscope and connects to the base of the microscope.

Stage: The platform that is flat used for placing the slides under observation.

Stage clip: Stage clips hold the slides in proper place.

Condenser: The main function of condenser lens is focusing the light on the specimen under observation.

Base: Provides basal support for the microscope.

Power switch: The main power switch that turns the illumination on or off.

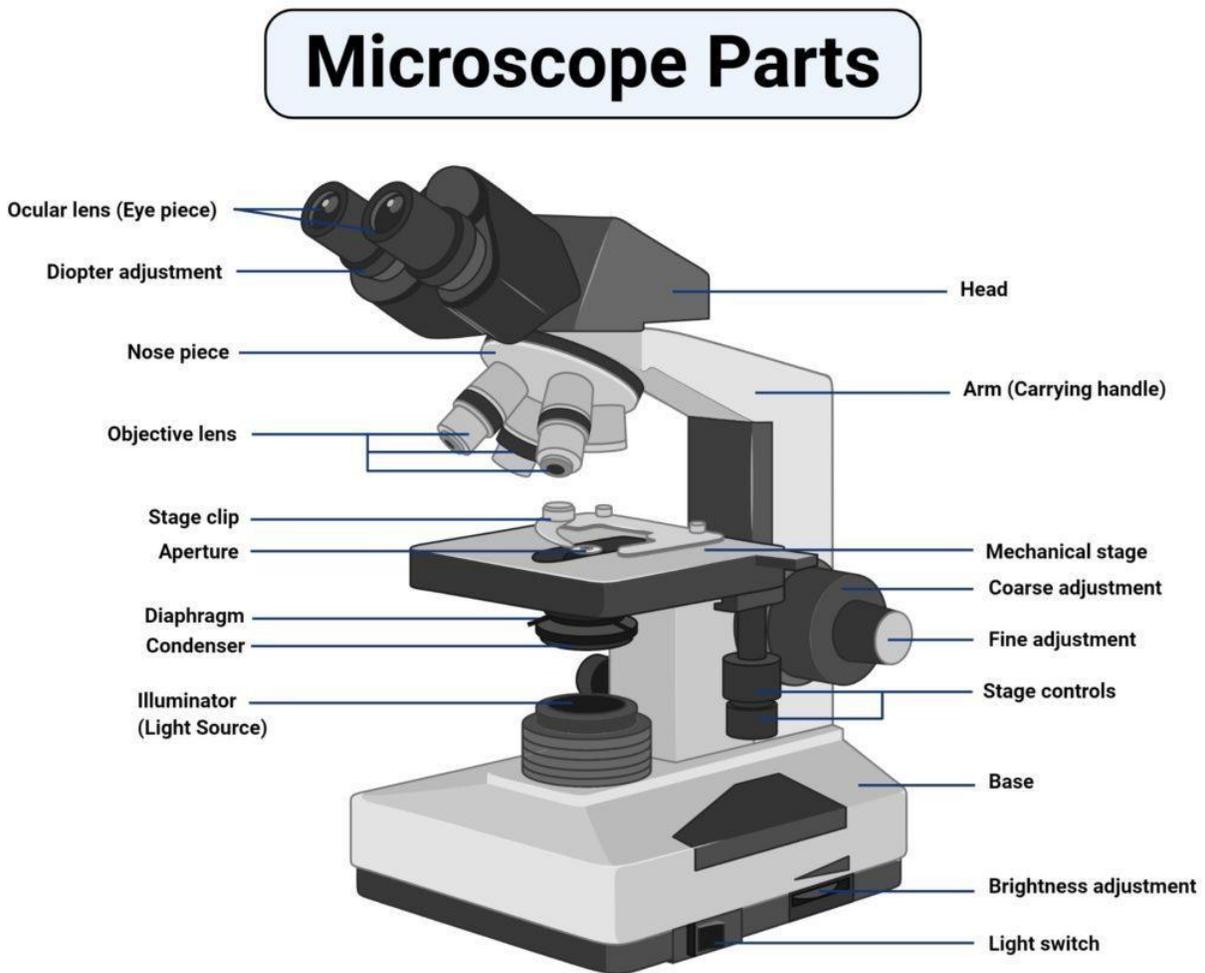


Figure: Parts of a microscope, Image Copyright © Sagar Aryal, www.microbenotes.com