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(General Zoology)

Lab (1)

Stage-1-

Microscope

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INTRODUCTION TO THE MICROSCOPE

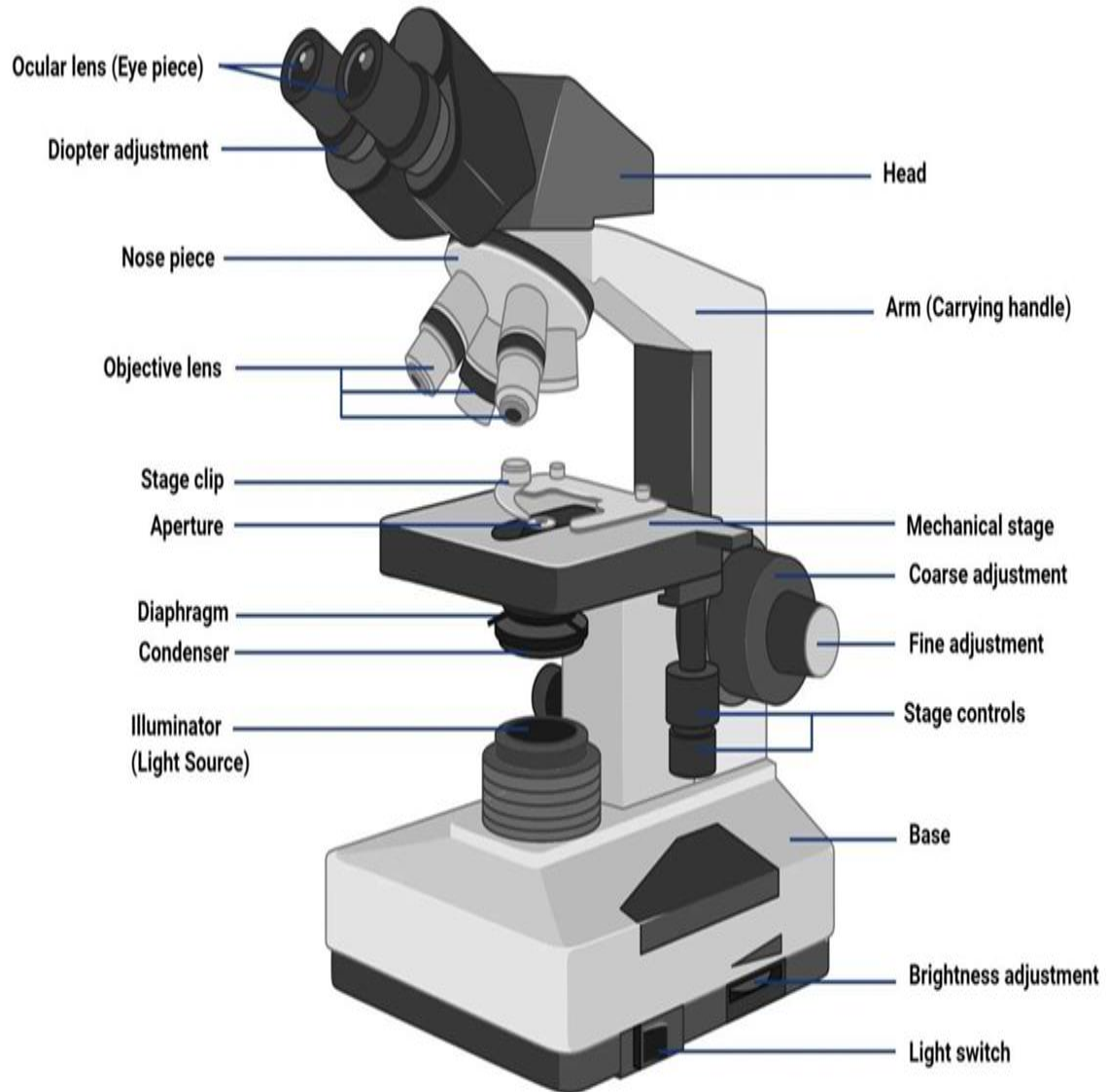
The Microscope : is a device uses for magnifying small objects that cannot be seen with the naked eye or for showing fine details of objects in order to discover and study their composition. Microscopes are used to observe the shape of bacteria ,fungi, parasites and host cells.

Types of Microscope

- 1-Light Microscope
- 2-Ultraviolet Microscope
- 3-Fluorescent Microscope
- 4-Electron Microscope
- 5-Compound Microscope
- 6-Dissection Microscope



Microscope Parts





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Structural parts of a microscope and their functions:

There are three structural parts of the microscope i.e. **head**, **arm**, and **base**.

1-Head –Is a **cylindrical metallic tube that holds** the eyepiece lens at one end and connects to the nose piece at other end. It is also called a body tube or eyepiece tube. It **connects the eyepiece lens to the objective lens**. The light coming from objectives will bend inside this tube. In binocular microscopes, they are adjustable so that the viewer can adjust the eyepiece for maximum visualization.

2-Arm – This is the part connecting the base to the head and the eyepiece tube to the base of the microscope. It supports the head of the microscope and is also used when carrying the microscope. Some high-quality microscopes have an articulated arm with more than one joint, allowing more movement of the microscopic head for better viewing .

3-Base –Is the lowermost part of the microscope that supports the entire microscope structure. It provides stability for the microscope. Illuminators, light switches, and electrical wiring systems are fitted in the base.



Types of microscopes and the correct ways to use them

1-Florescence microscope: Is an optical microscope that uses fluorescence and phosphorescence ,to study organic or inorganic substances Fluorescence microscope" refers to any microscope that uses fluorescence to generate an image, whether it is a simple set up like an epifluorescence microscope or a more complicated design such as a confocal microscope, which uses optical sectioning to get better resolution of the fluorescence image.

2-Electron microscope: Used electrons rather from light radiation in this microscope types. that's where electrons short wavelength are given this microscopes magnification high up about 1000 twice the microscopes common. in this electron microscope passes electrons through series of areas magnetic resembling system of lenses in light microscope. electron which reflected for the sample and which passes through sample can be received on screens specially.

3-Compound microscope or optical microscope uses light radiation can to see samples and it was named compound microscope, because it consists of lenses complex. The microscope has two system of lenses they lenses Eyepiece



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and objective lenses it also contains the source lighting (mirrors or lamp electric) depends the microscope on magnification and elucidative power and illumination.