



Tikrit University  
College of Veterinary Medicine

## Lect.1: biology

Subject name: Microscope parts

Subject year: First stage

Lecturer name:

Assist. Lecturer. Hanen omar

Academic Email:

Hanenomar@tu.edu.iq



SCAN ME

Lecturers link

**Rotating head**

Contains mirrors and allows the body tube to rotate 360°.

**Body tube**

Passes light from the head to the eyepiece.

**Eyepiece**

The eyepiece is where one views the enlarged object. It contains a lens called the ocular that further magnifies the specimen by 10x.

**Objective lens**

Objectives produce most of the magnification. The high-power lens (blue stripe) magnifies 40x and the low-power lens (yellow stripe) magnifies 10x.

**Arm**

Supports the lenses, mirrors, and body tube. The microscope should be carried with one hand holding the arm and the other under the base.

**Stage**

Holds the slide and contains an opening that allows light to pass through the specimen on its way to the objective.

**Coarse focus knob**

Moves the stage up and down quickly. Used to find a specimen when using the low power objective.

**Diaphragm**

Rotating dial that controls the passage of light through the stage. Numbers on the dial indicate the relative amount of light passing, with "5" being the most and "1" being the least.

**Fine focus knob**

Used to make small focus adjustments, esp. when using the high power objective.

**Base**

Supports the microscope and contains the electronics. The microscope should be carried with one hand under the base and the other holding the arm.

**Power switch**

Turns the light on and off.

**Light source**

The light source illuminates the specimen by shining bright light through it.

**Figure 5** The compound light microscope with descriptions of its parts

## **Microscopes**

A microscope is an instrument that can be used to observe small objects, even cells. The image of an object is magnified through at least one lens

### **Types of Microscopes**

- • The Compound Light Microscope.
- • The florescent Microscope.
- • The Electron Microscope.
- • The Scanning Probe Microscope (SPM)
- • THE dark field microscope
- • Bright field microscope

**parts of microscopes**

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

1. Head – This is also known as the body, it carries the optical parts in the upper part of the microscope.

2. Base – It acts as microscopes support. It also carries the microscopic illuminators.

3. Arms – This is the part connecting the base and to the head and the eyepiece tube to the base of the microscope.

Optical parts of a microscope and their functions

The optical parts of the microscope are used to view, magnify, and produce an image from a specimen placed on a slide. These parts include:

1. Eyepiece – also known as the ocular.

2. Eyepiece tube – its the eyepiece holder.

3. Objective lenses – These are the major lenses used for specimen visualization.

4. Nose piece – also known as the revolving turret.

5. The Adjustment knobs – These are knobs that are used to focus the microscope.

6. Stage – This is the section on which the specimen is placed for viewing.

7. Aperture – This is a hole on the microscope stage,

8. Microscopic illuminator – This is the microscopes light source

9. Condenser – These are lenses that are used to collect and focus light from the illuminator into the specimen.

10. Diaphragm – its also known as the iris

