



Tikrit University
College of Veterinary Medicine

Lect.1: Microbiology

Subject name: Microscope parts

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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

Microscope

Microscope: Micro =small , scope =view

Bright Field Microscope:-

- 1- Commonly used in bacteriology laboratory.
- 2- It depends on light.
- 3- It consider as compound microscope, why ?

Bright Field Microscope components

- 1- **Base:-** The bottom support of the microscope.
- 2- **Arm :-**It helps in holding the microscope.
- 3- **Light source:-** A light source mounted under the stage.
- 4- **Body tube :-** It hold the projector lenses that direct the light toward the ocular lenses.
- 5- **Nosepiece :-** Hold the objectives lenses. (movable disk).
- 6- **Coarse adjustment :-**Used to obtain primary explaining specimen.
- 7- **Fine adjustment :-** Used to obtain final and fine explaining specimen.
- 8- **Stage:-** The flat plate where the slides are placed for observation.
- 9- **Stage Clips:-** Clips on the stage used to hold the slide in place.
- Condenser :-** Focuses the light through the specimen. - **10**
- 11- **Iris diaphragm :-**Vary the amount of light passing through the stage opening.
- 12-**Condenser adjustment knob :-** Used to move the condenser up and down.
- 13- **Objective lenses :-** primary magnification. (4 x, 10 x, 40 x, 100 x) .
- Ocular lenses :** final magnification (Eye Pieces)x 10. - **14**

Other types of the microscopes

- 1- Dark field microscope. - 1
 - 2- Phase- contrast microscope.
 - 3- Fluorescent microscope - 3
 - 4- Electron microscope
 - 5- Scanning electron microscope
- Type