



Types of microscopes

Type of microscope:

1-Simple microscope: It's a lens single with magnification simple.

2- Compound microscope: or optical microscope:

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

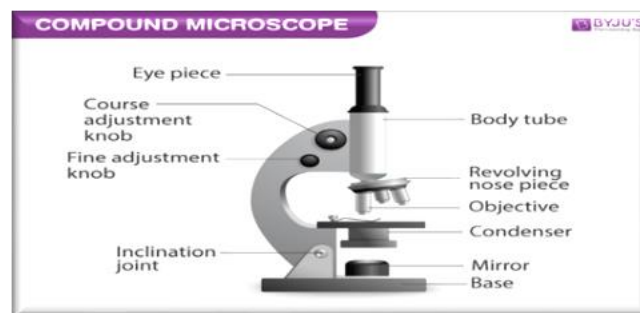


Fig: Compound microscope

3- florescence microscope:

is an optical microscope that uses fluorescence and phosphorescence instead of, or in addition to, reflection and absorption 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.

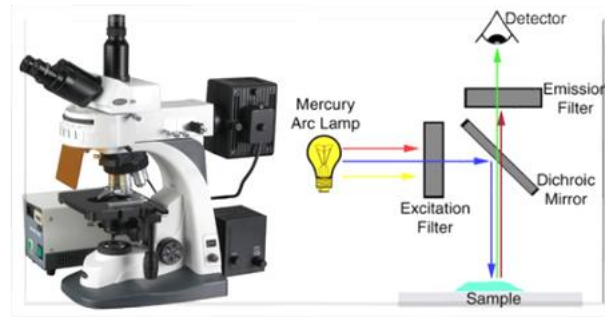


Fig: Fluorescence microscope

4- Electron microscope:

Used electrons rather than light radiation in this microscope type. That's where electrons' short wavelength gives this microscope's magnification high up to about 1000 times the common microscope. In this electron microscope, electrons pass through a series of areas magnetic resembling a system of lenses in a light microscope. Electrons which are reflected for the sample and which pass through the sample can be received on screens specially.

There are these types of microscope.

A- Scanning electron microscope.

B- Transmission electron microscope.

Operating instructions compound microscope:

1- Place the instrument in place opposite to be level and dry. It is not exposed to direct light.

2- Connect the instrument to the source electricity.

3- Select the objective type required in the experiment.

4- In the case of oil immersion :

a) Increase lighting intensity to maximum what can be.

b) Raise the condenser to the top .



- c) placed slide onto the sample and cover slide in the place custom and cover drop of oil (Cedar oil).
- d) Adjust field of vision by coarse adjustment and fine adjustment.

5- Run illumination by power supply.

6- After completion from examination.

- a) Extinguish the lamp the instrument.
- b) Cleaned instrument and lenses .
- c) Holds a microscope with both hands and not with one hand and stuck to the bottom of one and the other arm stuck.
- d) The end covered microscope by a protection bag.

Maintenance

To keep microscope and lenses system clean :

- 1- Never touch lenses if the lens become dirty wipe them with lens paper .
- 2- Never leave a slide on the microscope when it not used.
- 3- Always remove oil from the oil immersion objective after it used if oil. And if the oil became hardened on lens remove it by lightly moist paper with xylol.
- 4- kept the stage of microscope clean and dry if any liquid are spilled on the stage dry it with piece of cloth and if oil spilling on the stage moisten piece of cloth with xylol and clean it.
- 5- Do not tilt the microscope when you working with oil immersion lens because the oil may flow under the mechanical stage where it will be difficult moving.