

Al-Zahraa(A.S.) University for Women
College of Health and Medical
Techniques
Department of Radiological Techniques



Microscope



Practical Physiology
Asst. Lect. Duaa Raad



Objectives:

Microscope

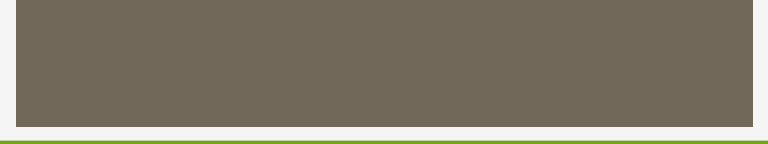
Types of Microscope

Microscope care

Microscope parts

Using a Microscope





A microscope is an **instrument** used to see objects that are too small to be seen by the naked eye.

Microscopy is the **science** of investigating small objects and structures using such an instrument

Light microscope is a type of microscope that used to magnified object by using the visible light and lenses system.

Types of Microscope

- Light Microscope
- Dissection Microscope
- Scanning Electron Microscope (SEM)
- Transmission Electron Microscope (TEM)



Simple (Light Microscope)

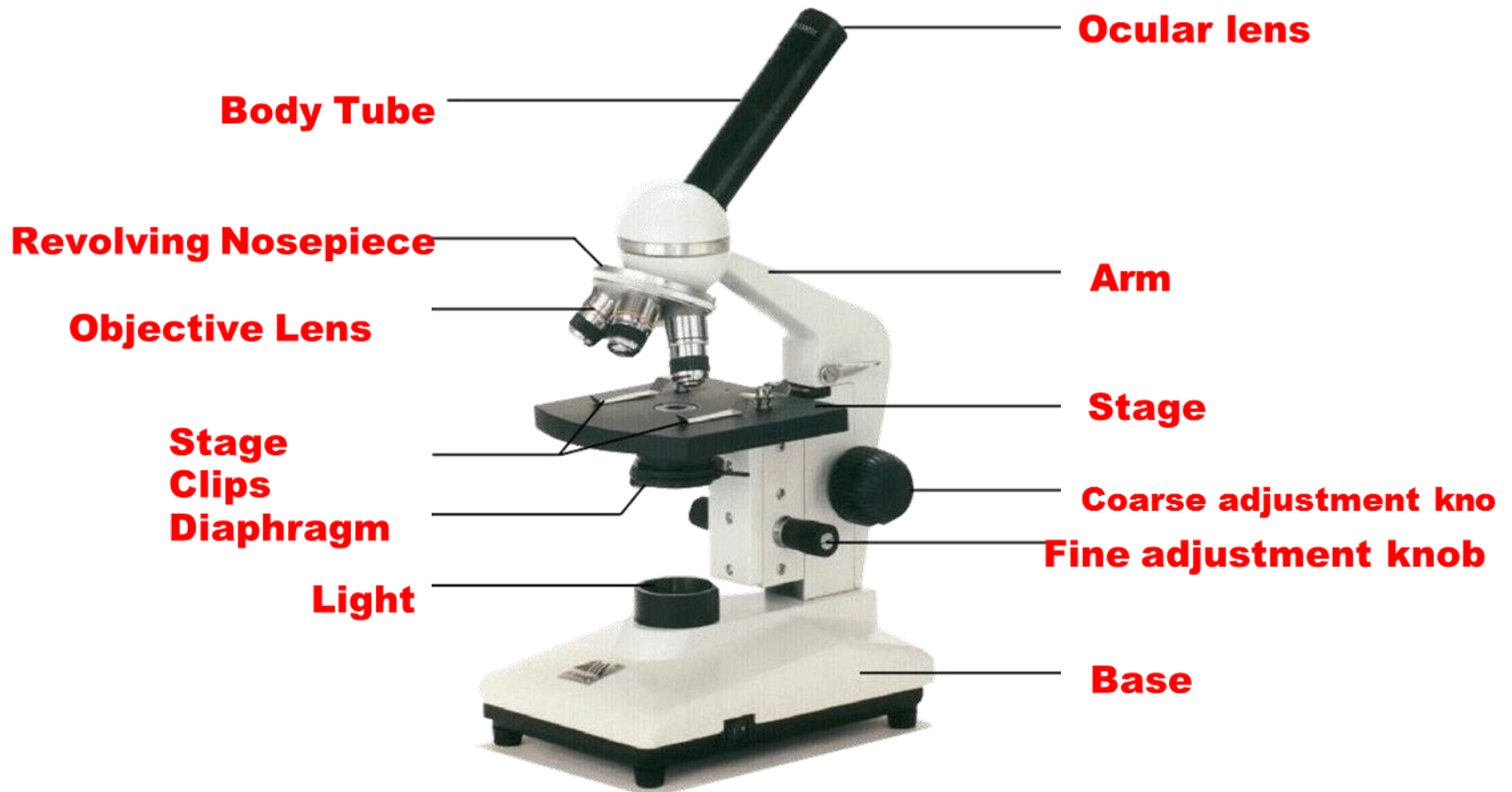


Compound(Light Microscope)

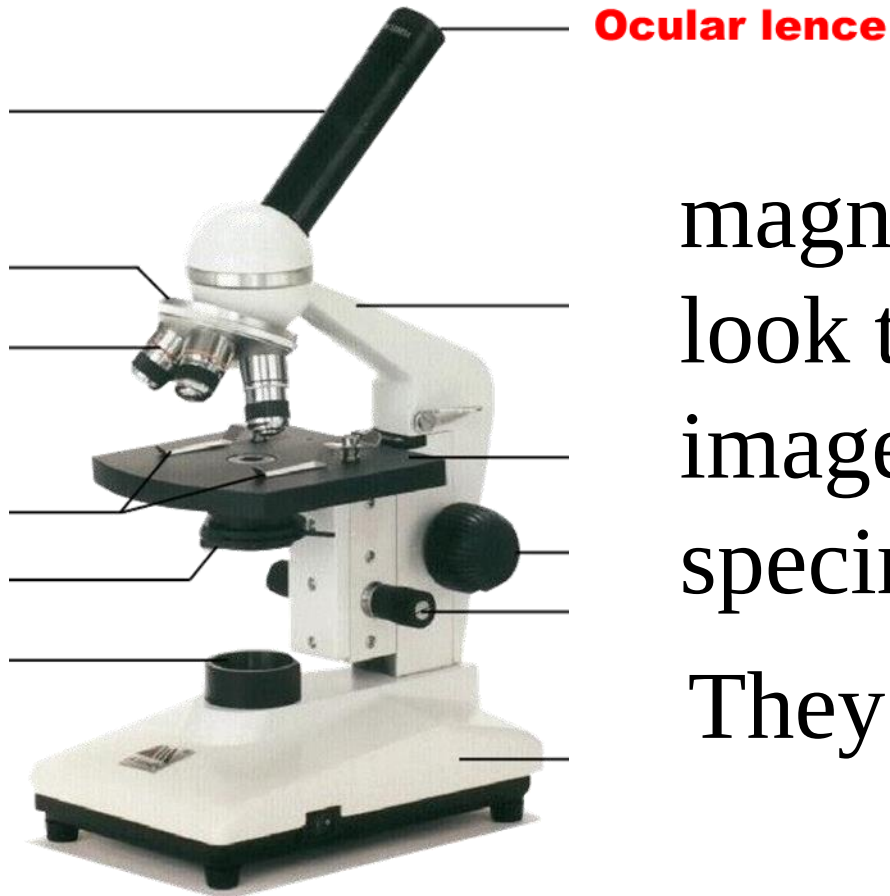
Microscope care

- Always carry with 2 hands
- Never touch the lenses with your fingers.
- Only use lens paper for cleaning
- Always store covered
- Turn the instrument off when it is not in use

Microscope parts



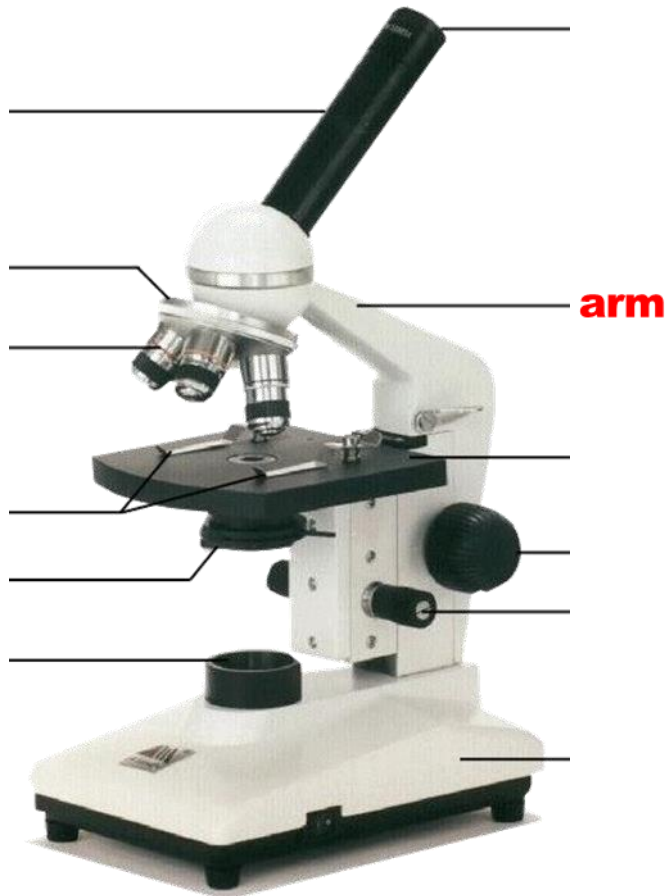
Ocular lence



magnifies; where you look through to see the image of your specimen.

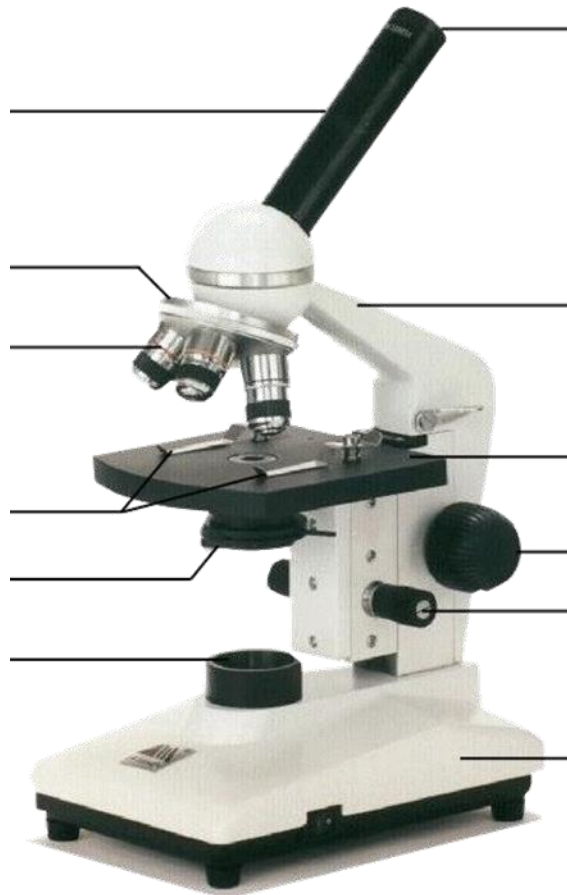
They are usually 10X

Arm



supports the tube and
connects it to the base

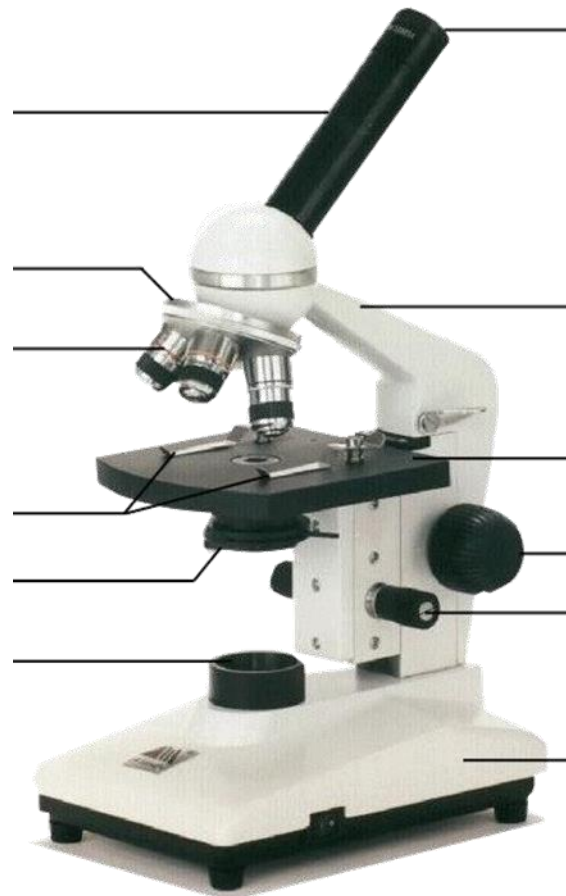
Stage



The flat platform where
you place your slides

stage

coarse adjustment knob



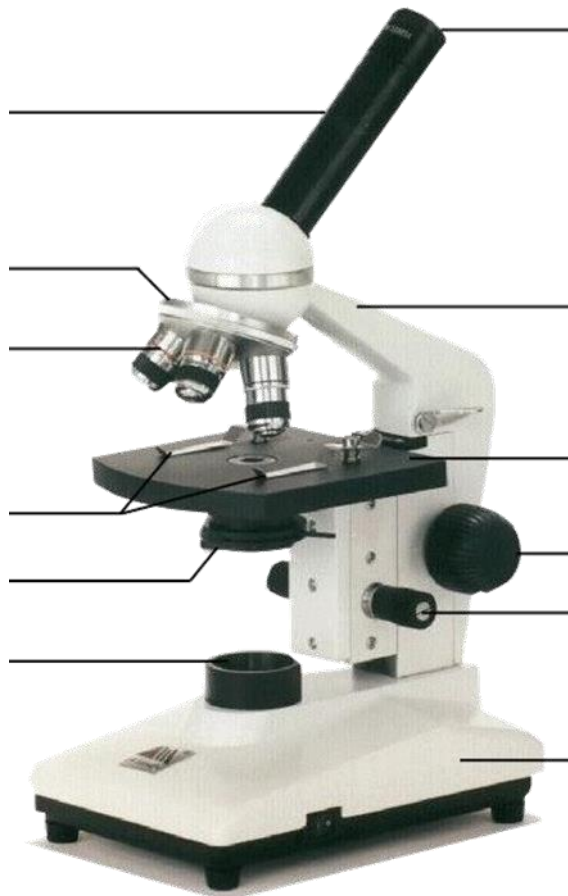
moves stage (or body
tube) up and down

coarse adjustment knob

fine adjustment knob

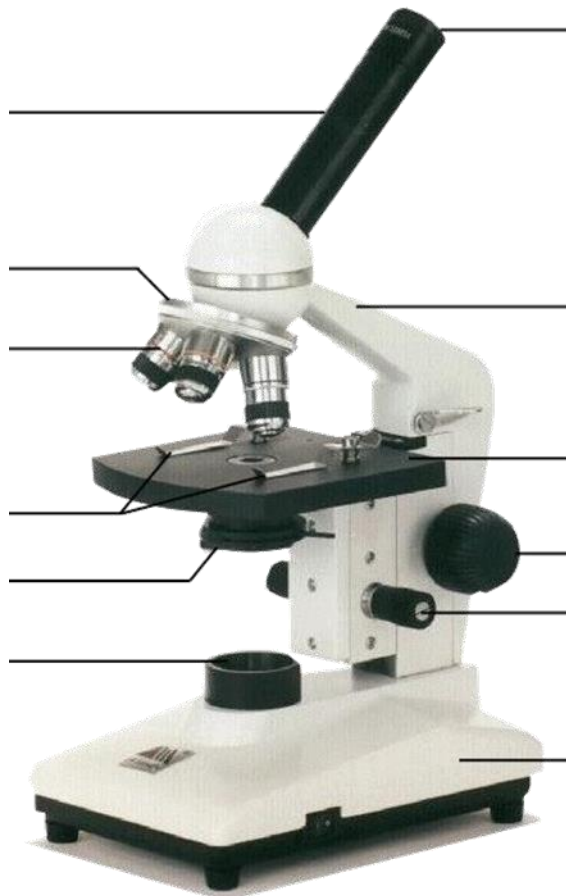
small, round knob on the side of the microscope used to fine-tune the focus of your specimen

after using the coarse adjustment knob



fine adjustment knob

base



The bottom of the
microscope, used for
support

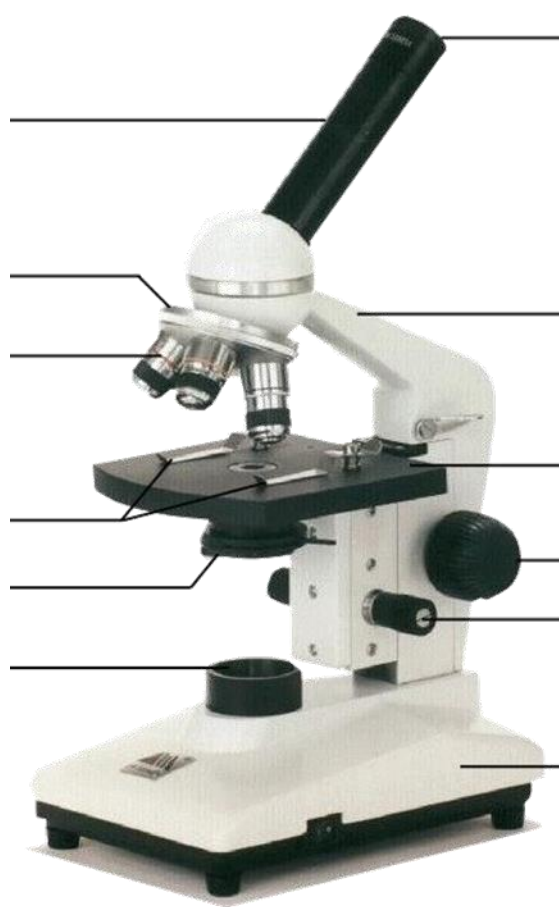
base

body tube

body tube

connects the eyepiece to
the objective lenses





objective lens

Used to the magnifies
Usually you will find
3 or 4 objective lenses
on a microscope.
They almost always
consist of 4X, 10X,
40X and 100X
powers.

objective lens



stage clips

Stage clips hold the slides in place. If your microscope has a mechanical stage, you will be able to move the slide around by turning two knobs.

stage clips

One moves it left and right, the other moves it up and down.



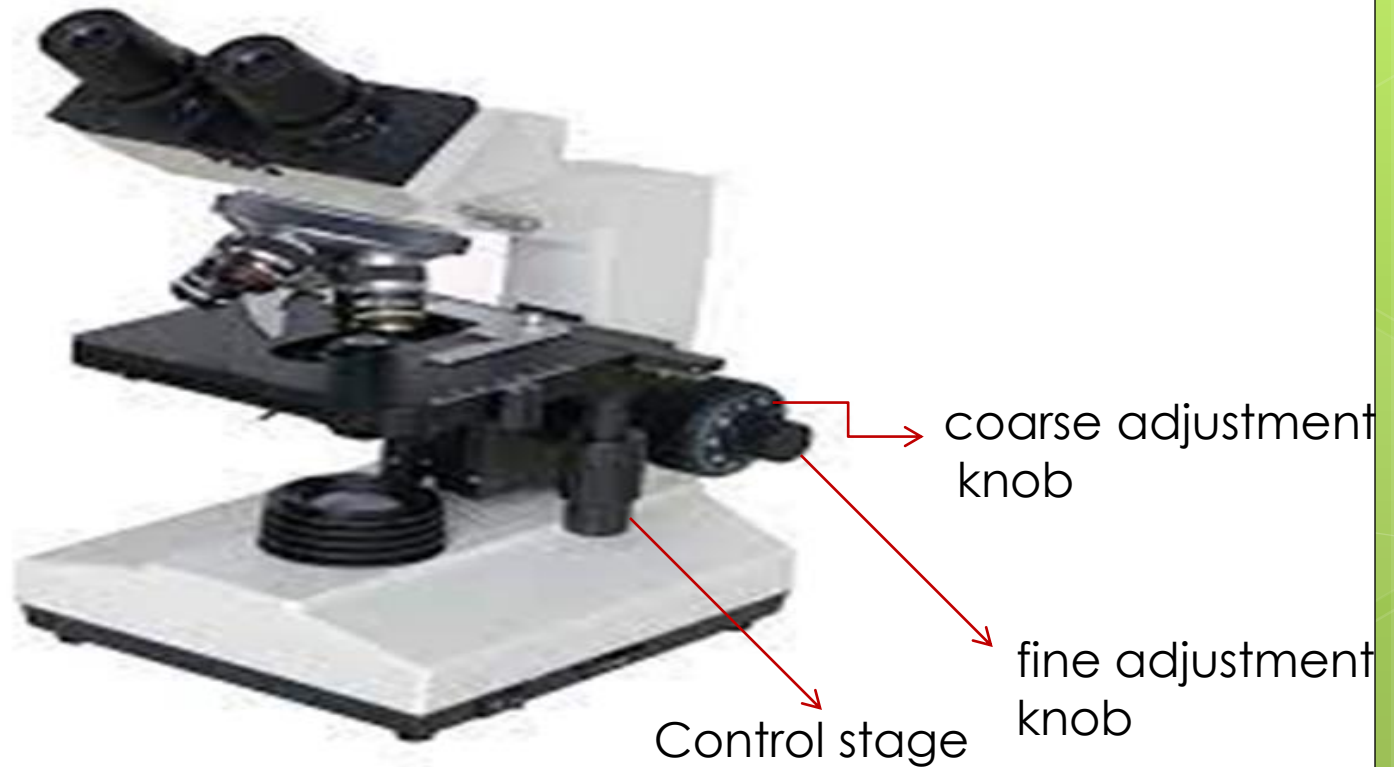
light

makes the specimen easier to see

light

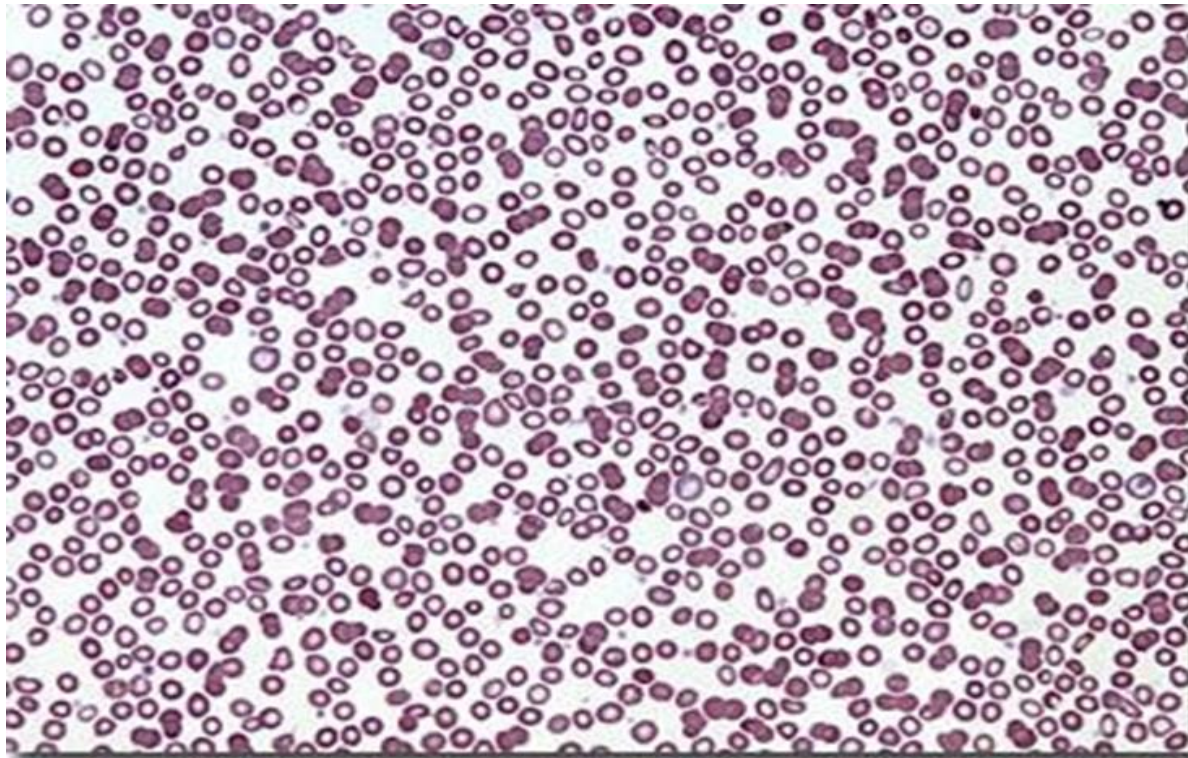


Compound (Light Microscope)



Stage Control: These knobs move the stage left and right or up and down.

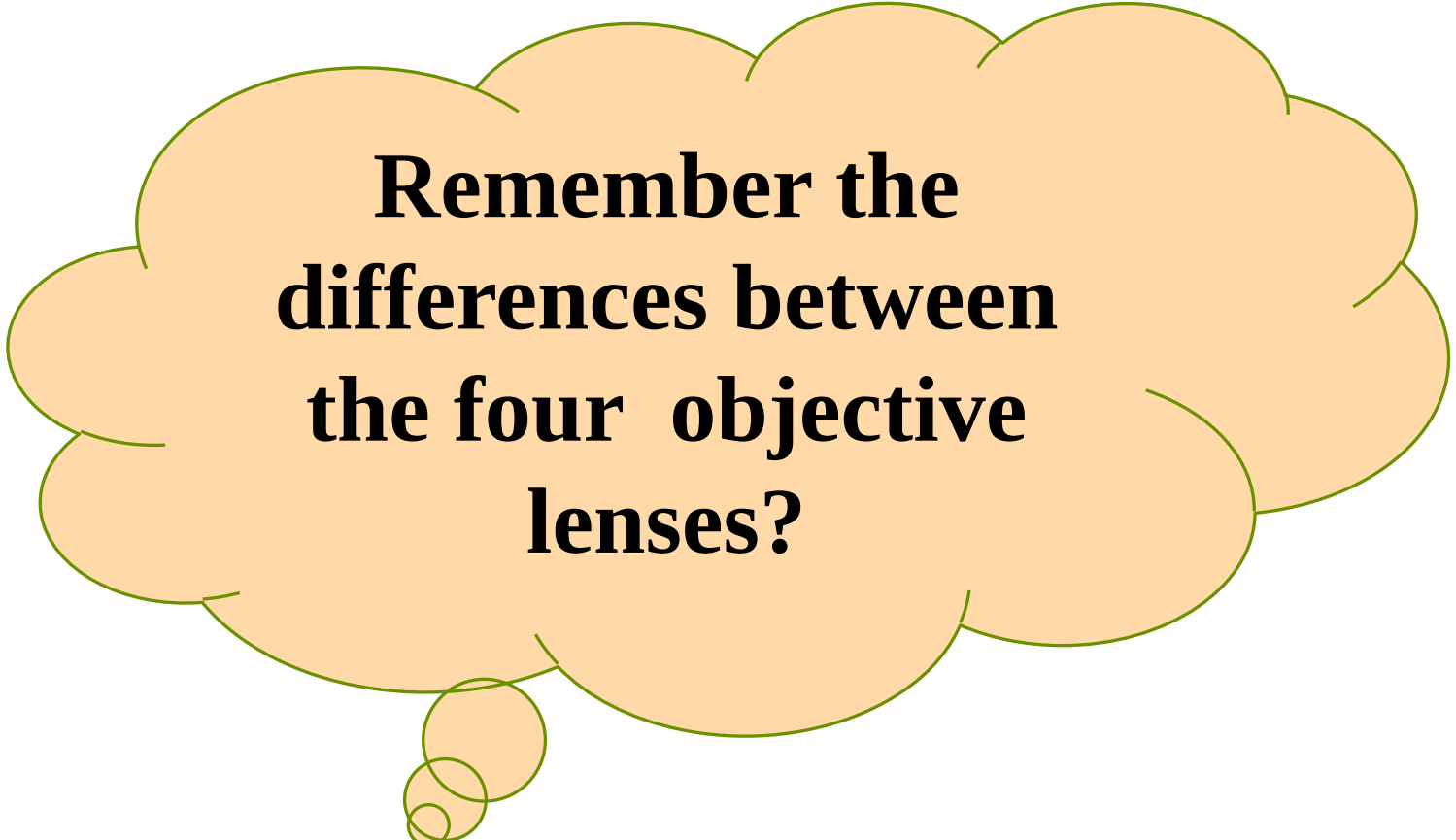
Blood Smear under light microscope



Using a Microscope

- Start on the lowest magnification
- Do not use the coarse adjustment knob on high magnification .. you will break the slide
- Place slide on stage and lock clips
- Adjust light source/mirror.
- Use fine adjustment to focus

Homework



**Remember the
differences between
the four objective
lenses?**