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□ LECTURE: (١)

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- Subject: Microscope
 - Level: first
 - Lecturer: MSc. Amna shaker shahad



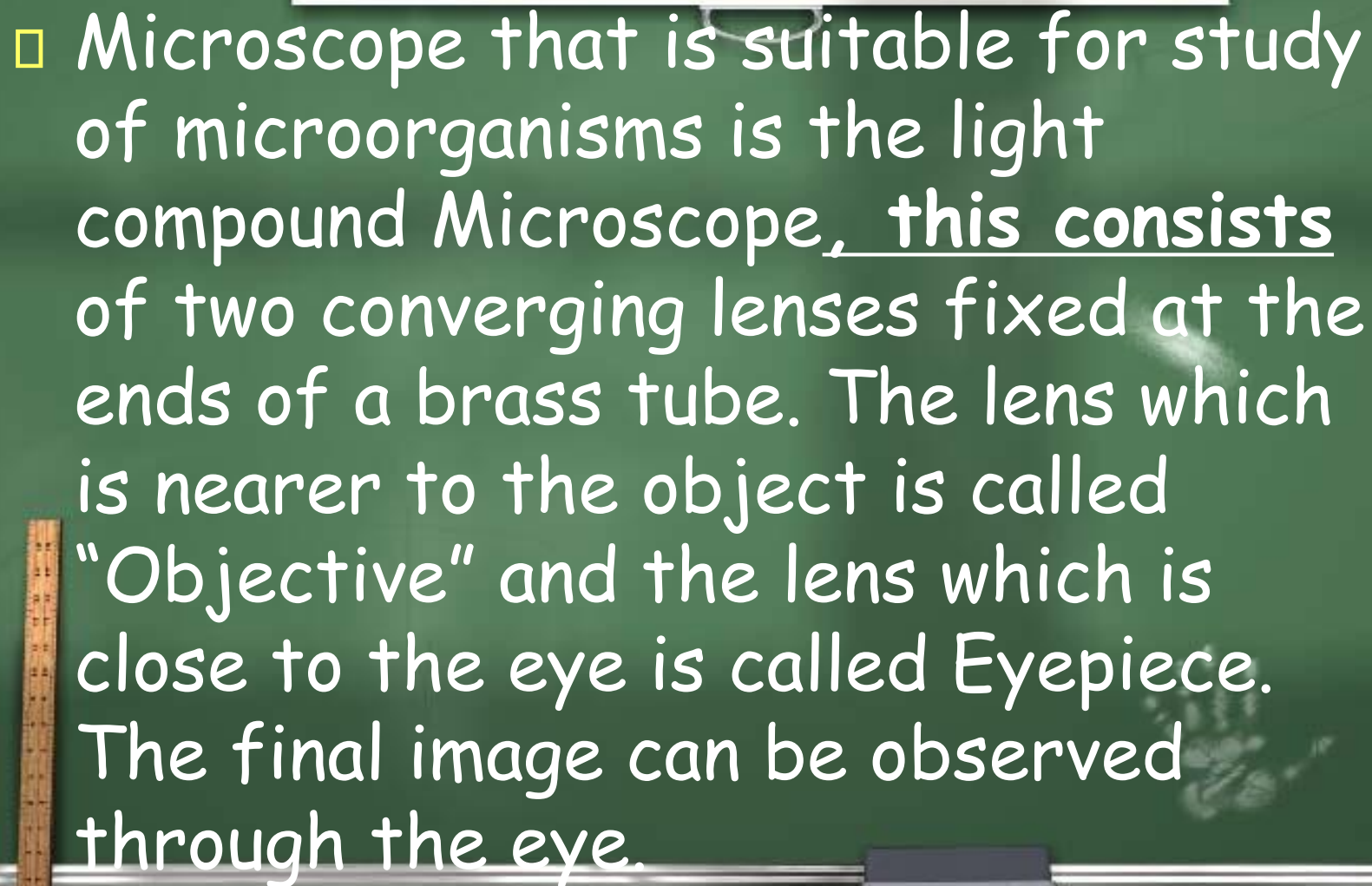
Microscope

- Microscope was invented by Antony Van Leeuwenhoek. Microscope is an essential optical instrument of Microbiology laboratory, it consists of combination of lenses which will give a magnified micro organisms like Bacteria, Fungi, and Protozoaetc.



Types of Microscopes:

- 1. Simple microscope
- 2. Compound microscope
- 3. Ultraviolet microscope
- 4. Fluorescent microscope
- 5. Polarizing microscope
- 6. Dark ground microscope

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- Microscope that is suitable for study of microorganisms is the light compound Microscope, this consists of two converging lenses fixed at the ends of a brass tube. The lens which is nearer to the object is called "Objective" and the lens which is close to the eye is called Eyepiece. The final image can be observed through the eye.



Parts of the Microscope and Their Function

Parts of a microscope

□ Eyepiece



Parts of a microscope

- Body tube



Parts of a microscope

□ Nosepiece



Parts of a microscope

- Objectives
 - Low power (short)
 - High power (long)



Parts of a microscope

□ Arm



Parts of a microscope

□ Stage



Parts of a microscope

- Stage clips



Parts of a microscope

□ Diaphragm



Parts of a microscope

- Coarse and fine adjustment knobs



Parts of a microscope

- Light source



Parts of a microscope

□ Base





Magnification

- Multiply the eyepiece magnification (10X) by the objective magnification (4X, 10X, 40X)
 - Example: $4 \times 10 = 40X$ total



How to use a microscope

- Place the slide on the stage
- Use stage clips to secure slide
- Adjust nosepiece to lowest setting
 - (Lowest = shortest objective)
- Look into eyepiece
- Use coarse focus knob



Rules of using a microscope

- Always carry with 2 hands
- Only use lens paper for cleaning
- Do not force knobs
- Always store covered
- Be careful of the cords