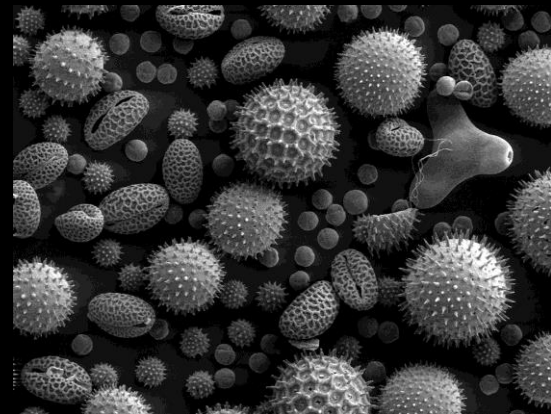


Microscope Notes



YouTube

Amazing Microscopic Images

What's in your pillow?



Learning Objectives

- Identify various microscope parts and state the function for each part.
- Demonstrate the proper way to carry a microscope.

Robert Hooke (1665)



Described the cellular structure of cork.
First to describe the structures as “**cells**”

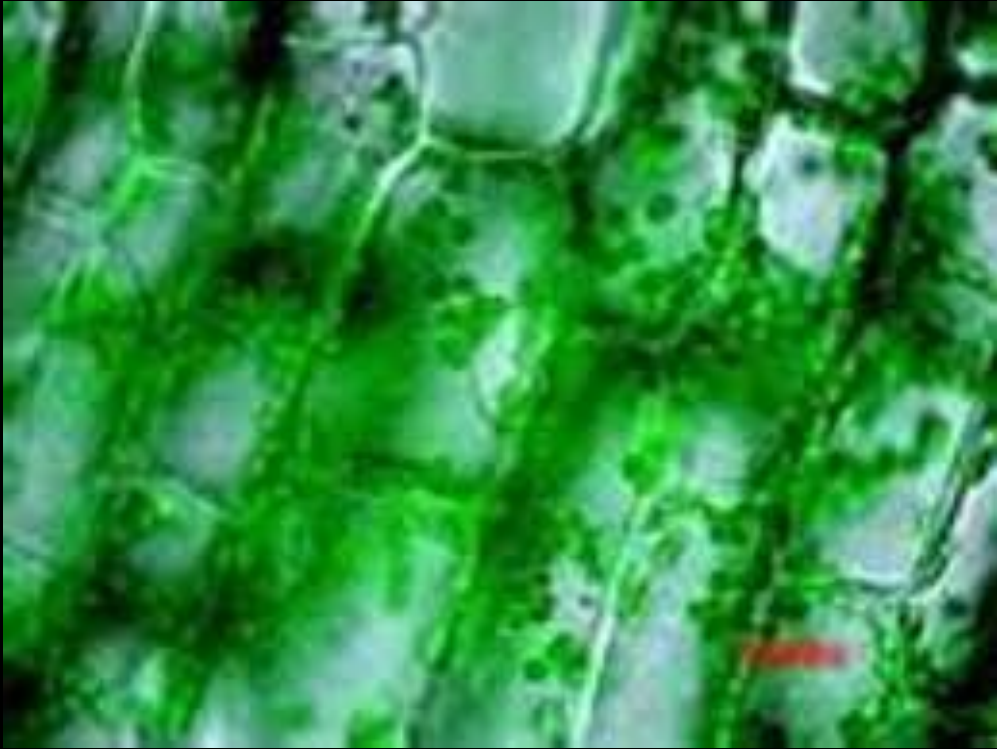
Anton van Leeuwenhoek

(late 1600s)



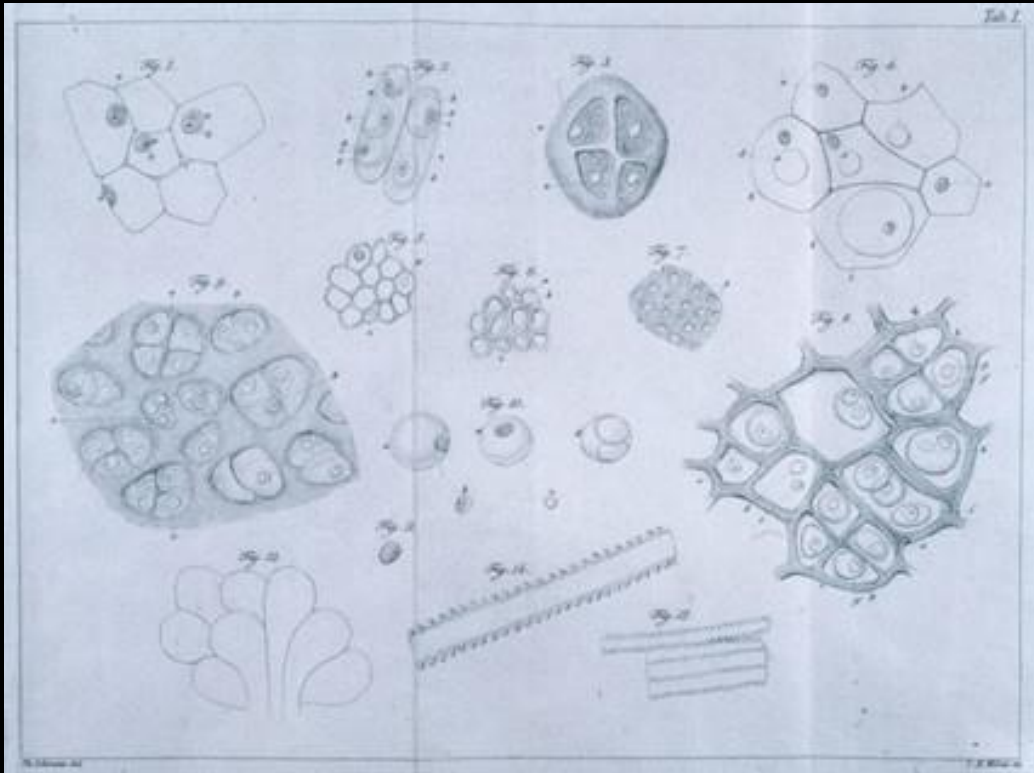
Improved lenses, discovered “animacules”
and bacteria

Matthias Schleiden (1838)



Discovered that plant parts are made of cells

Theodor Schwann (1839)



Discovered that animal parts are made of cells

Rudolph Virchow (1855)



All cells arise from
pre-existing cells

Microscope



An instrument with one or more lenses that makes an enlarged image of an object.

Calculating Total Magnification



Ocular Lens
Magnification

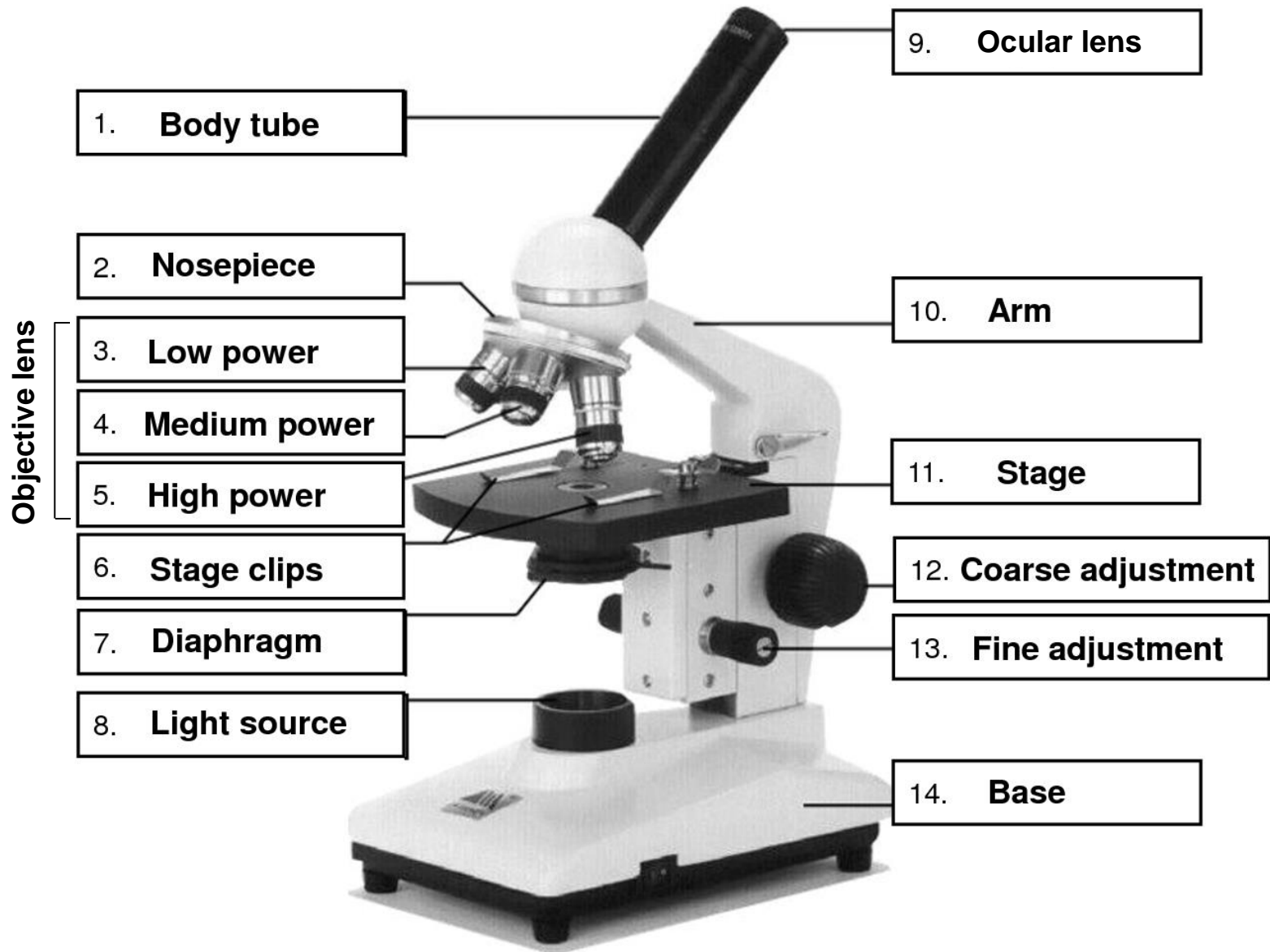
X

Objective Lens
Magnification

YouTube

How to Focus a Microscope

Microscope Parts



Demo

How to Carry a Microscope

Steps for Focusing the Microscope

1. Place slide under the stage clips on stage
2. Turn to lowest (4X) objective lens
3. Turn on light
4. First, focus with coarse adjustment
5. Second, focus with fine adjustment
6. Change to middle (10X) objective lens
7. Repeat step 5 only
8. Change to high (40X) objective lens
9. Focus with fine adjustment

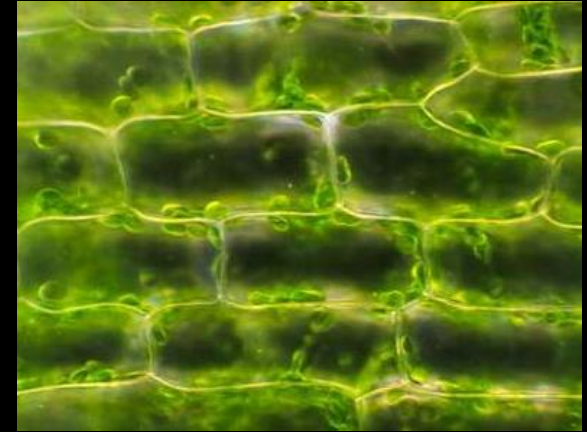
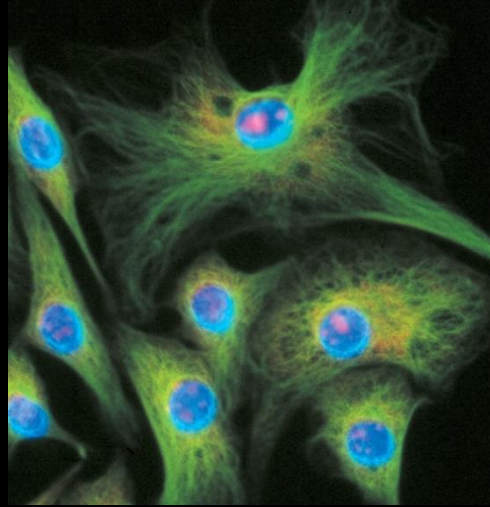
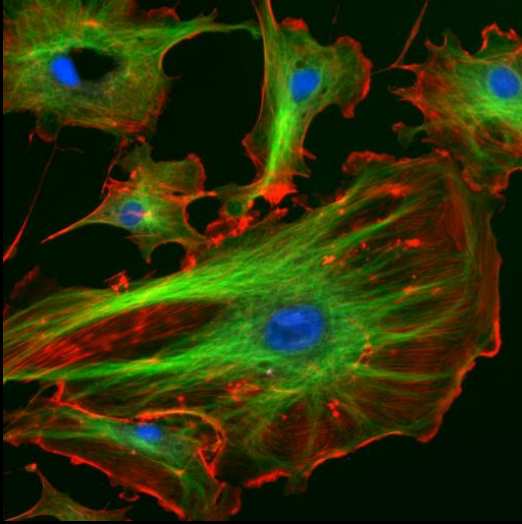
Stop Here



Important Cell Scientists

| <u>Scientist</u> | <u>Acheivement</u> |
|-----------------------------|--|
| Hooke (1665) | Cellular nature of cork |
| Van Leewenhoek (late 1600s) | Lenses, bacteria |
| Schleiden (1838) | Plant cells |
| Schwann (1839) | Animal cells |
| Virchow (1858) | All cells arise from preexisting cells |

Cell Theory



- All living things are made up of cells
- Cells are the basic units of structure and function
- All cells arise from preexisting cells