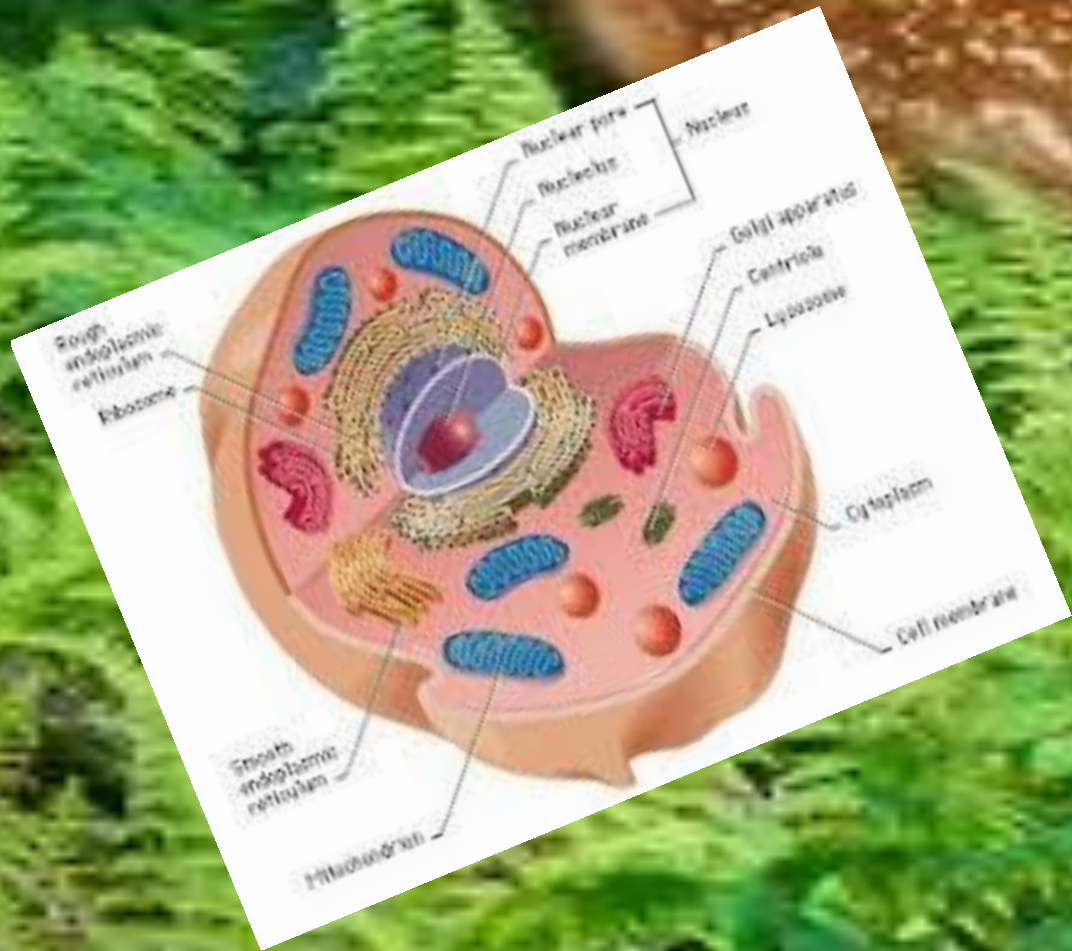
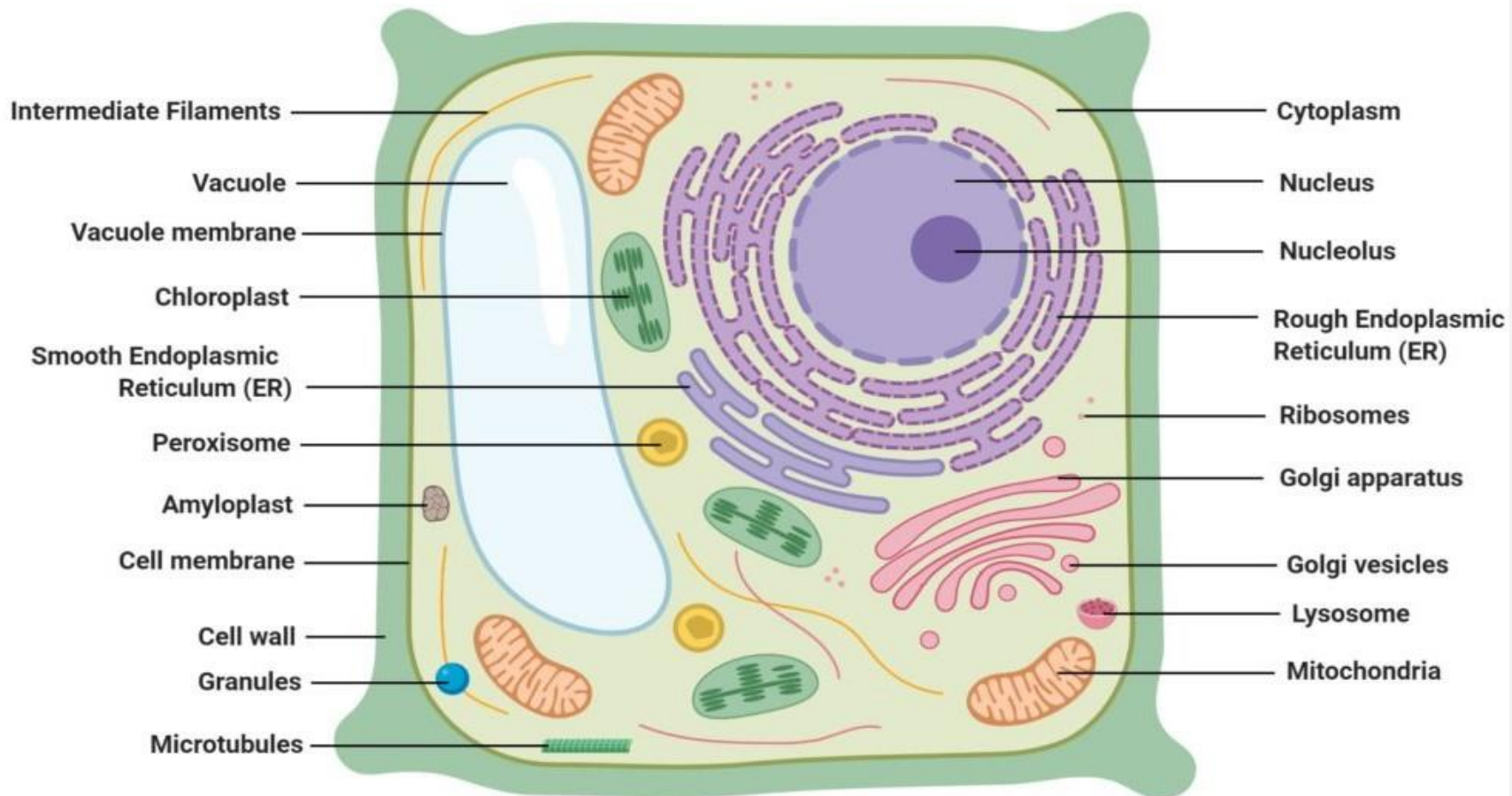


# Comparison of plant cell & animal cell



# PLANT CELL –AN OVERVIEW

## Plant Cell Structure



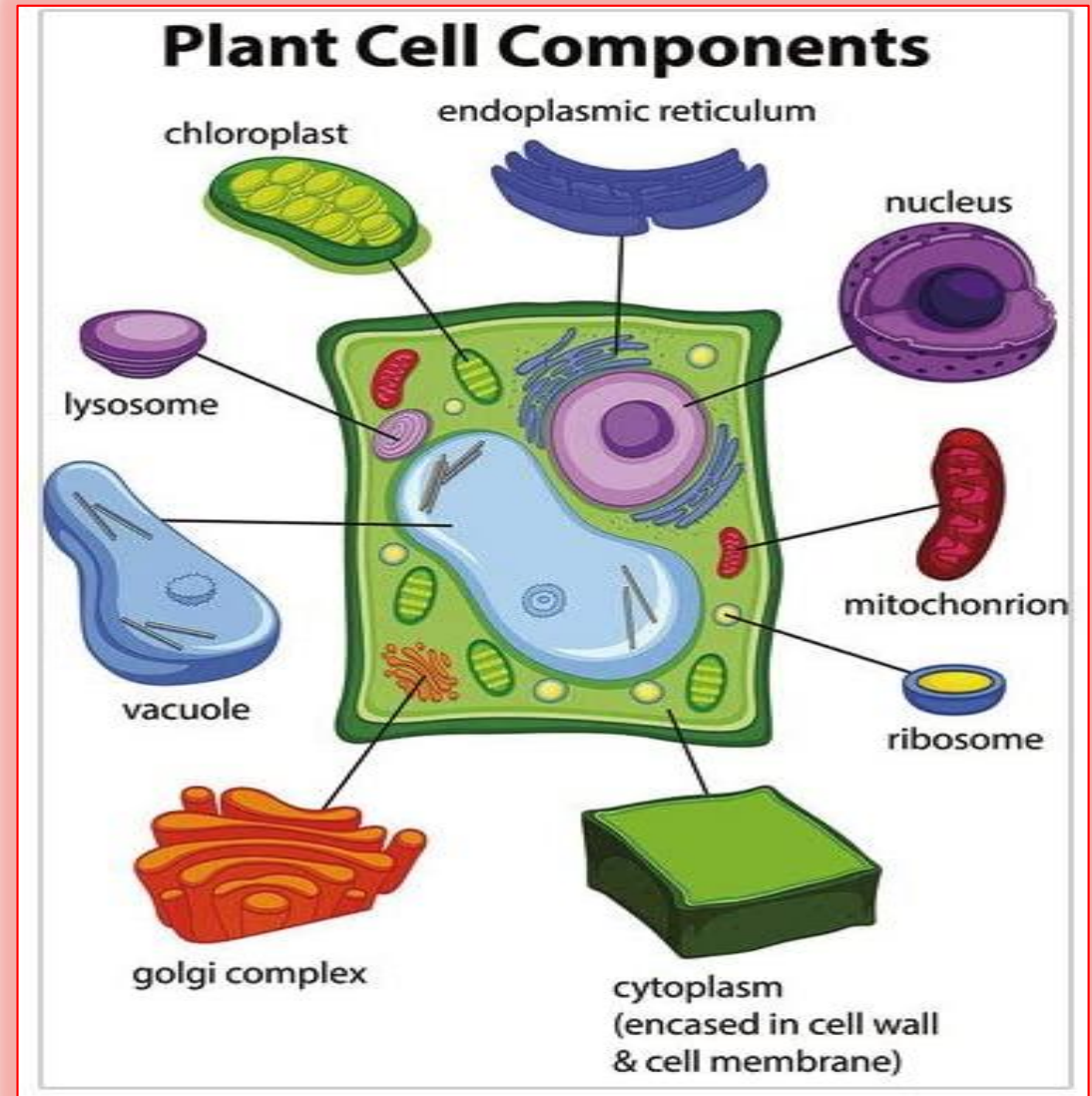
# PLANT CELL

Basic components of a plant cell are:

- Cell wall
- Cell membrane
- Nucleus
- Cytoplasm

Cytoplasm has the following organelles

- Mitochondria
- Golgi bodies
- Ribosomes
- Plastids
- Vacuoles
- Lysosomes
- Endoplasmic reticulum



# ***HOW DO WE OBSERVE THE BASIC COMPONENTS OF A PLANT CELL***

## **LAB ACTIVITY**

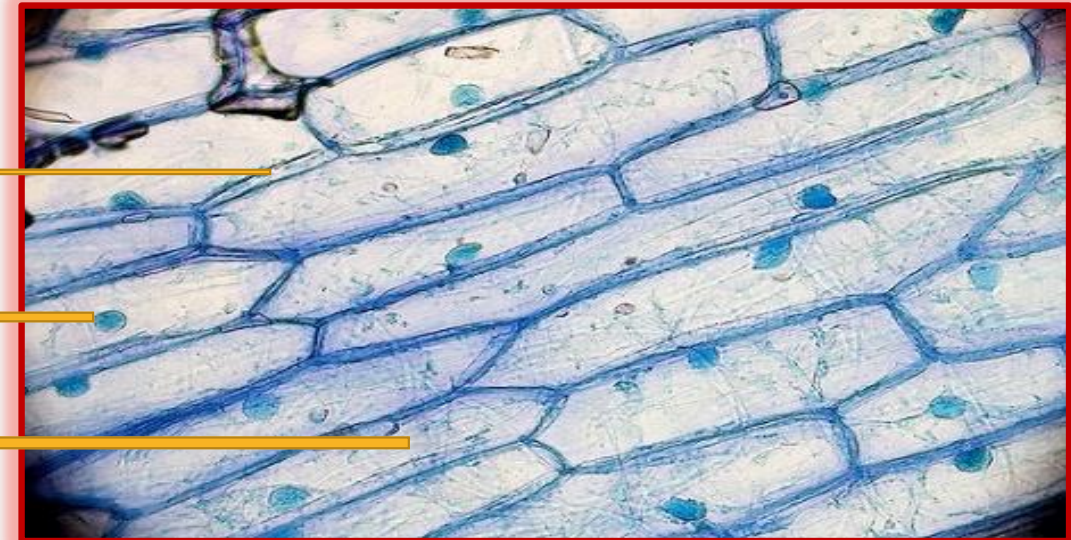
### **Temporary stained mount of onion peel**

1. Take an onion bulb and cut it into small pieces. Remove the dry pink coverings.
2. Peel off the fleshy white layers with the help of forceps or with hand .
3. With the help of blade cut the peel into small pieces
4. Place a small piece in a drop of water on a glass slide.
5. Add a drop of methylene blue solution to the layer
6. Cover the peel gently with the coverslip. While placing the cover slip ensure that there are no air bubbles under the coverslip.
7. Observe the slide under the microscope

Cell wall

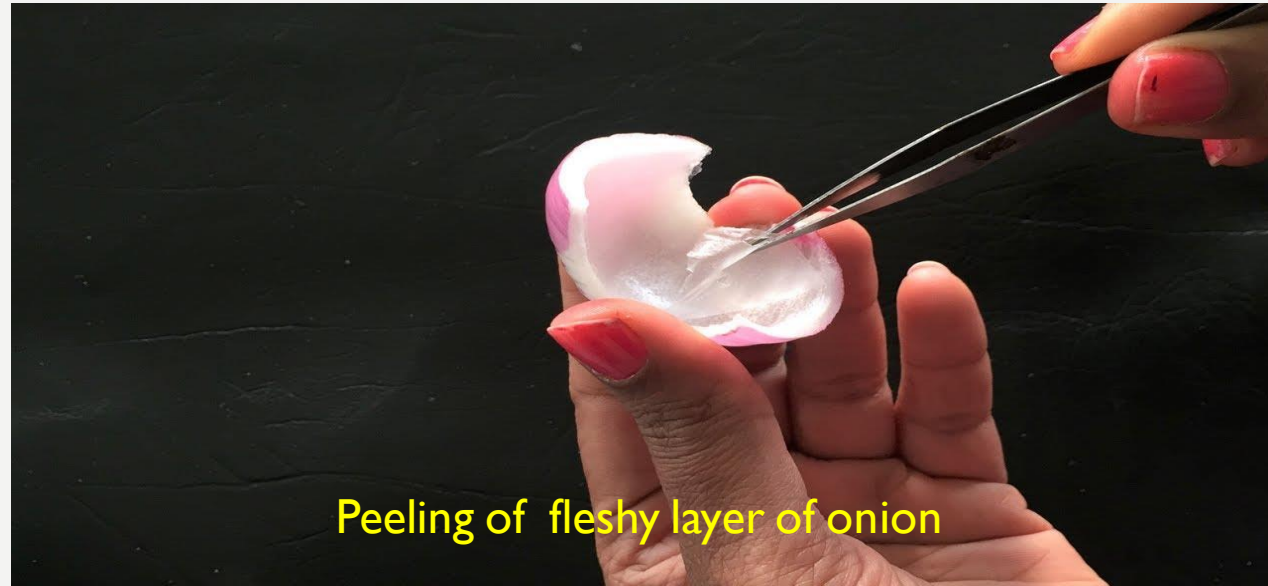
nucleus

cytoplasm

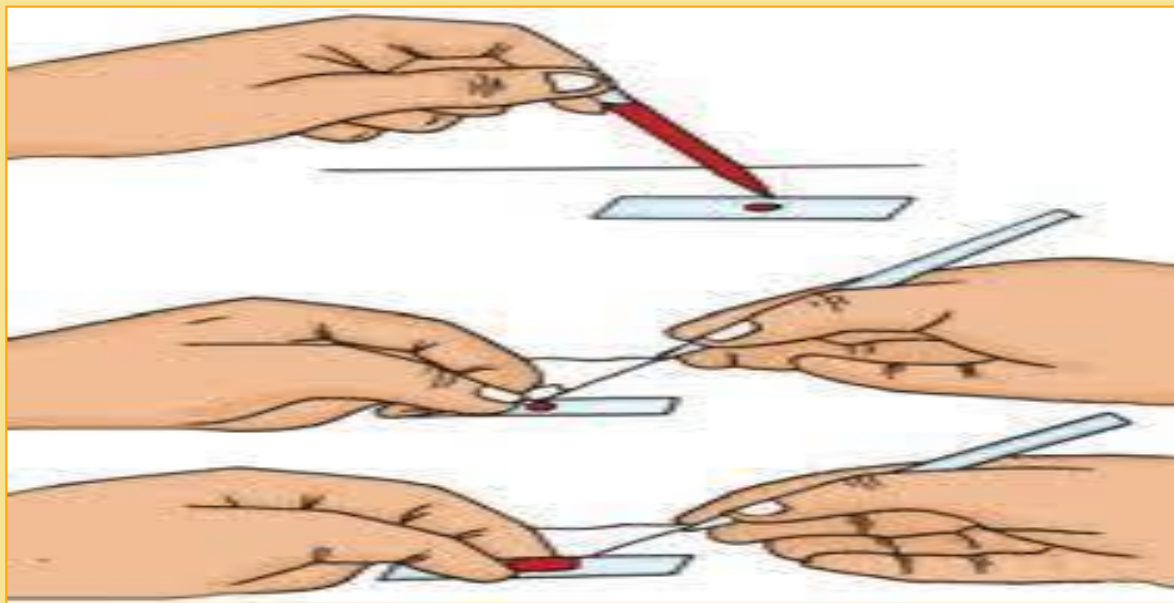


Cells observed in an onion peel

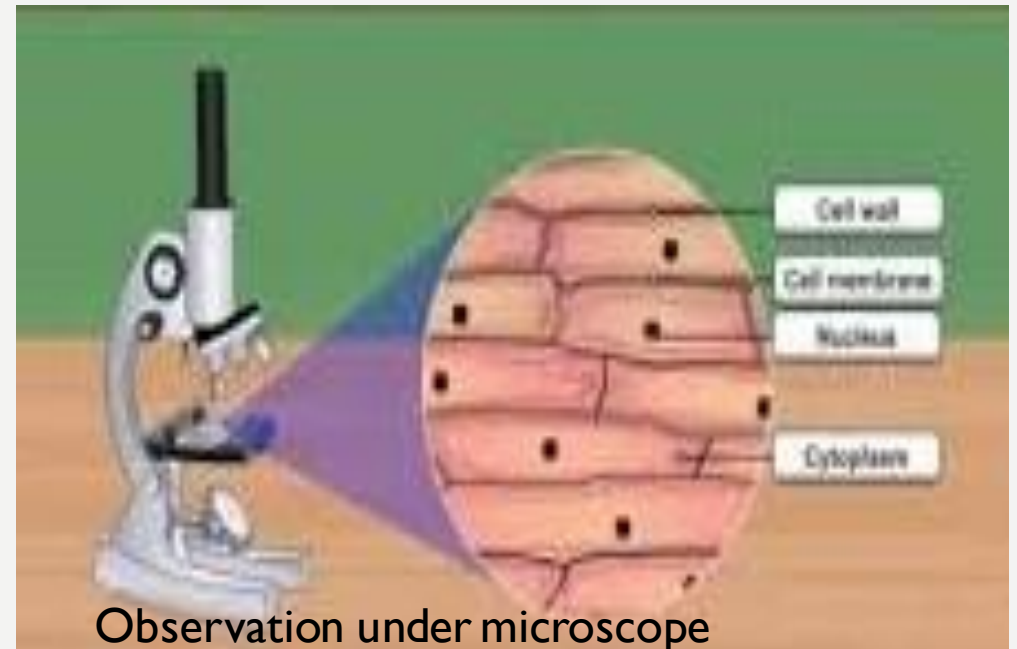
# Preparation of temporary stained mount of onion peel- Steps



Peeling of fleshy layer of onion

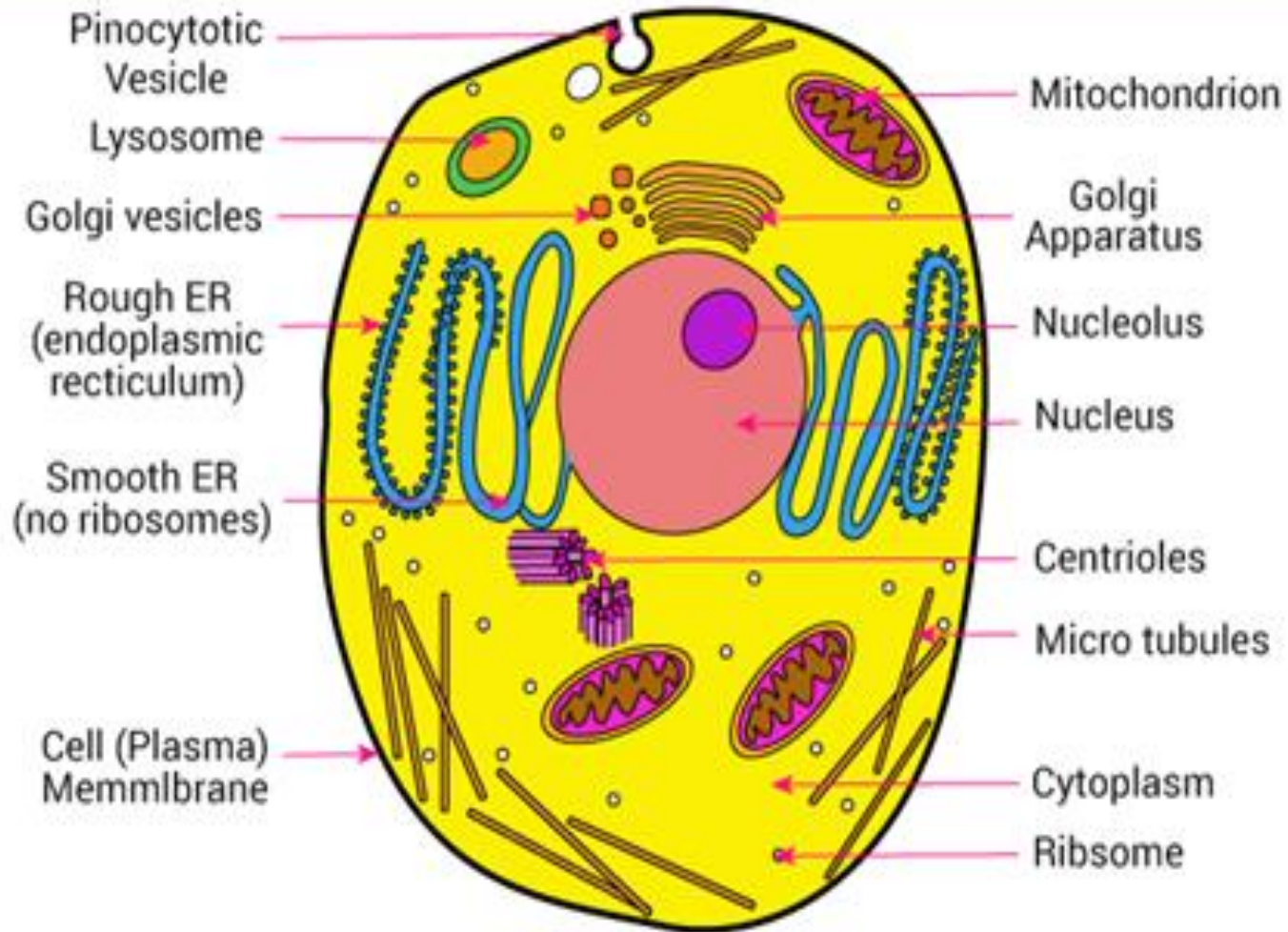


Mounting of onion peel

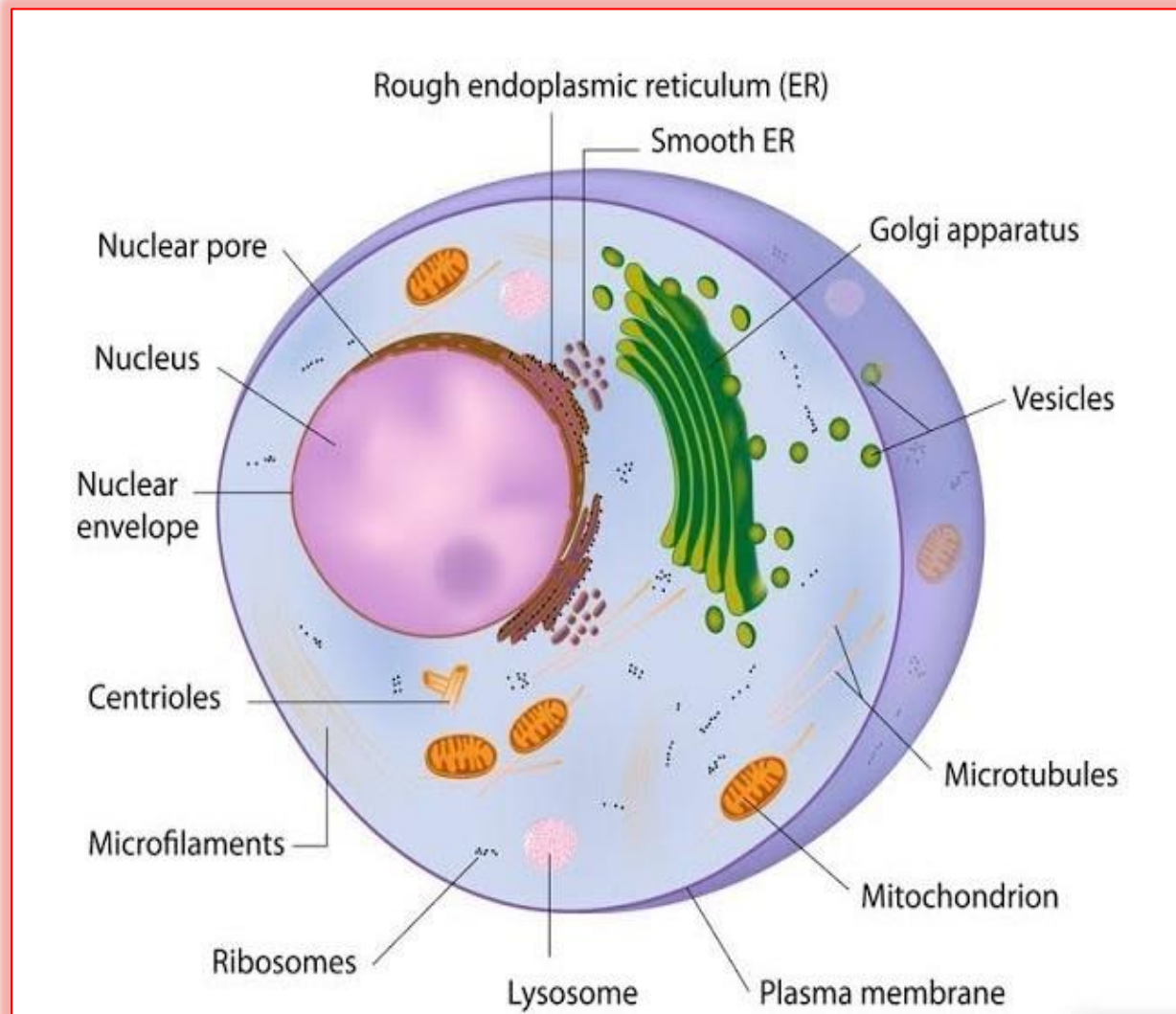


Observation under microscope

# ANIMAL CELL –AN OVERVIEW



# ANIMAL CELL



Basic components of an animal cell are:

- Cell membrane
- Nucleus
- Cytoplasm

Major cell organelles in the cytoplasm are:

- Mitochondria
- Golgi bodies
- Ribosomes
- vacuole
- Lysosome
- Endoplasmic reticulum

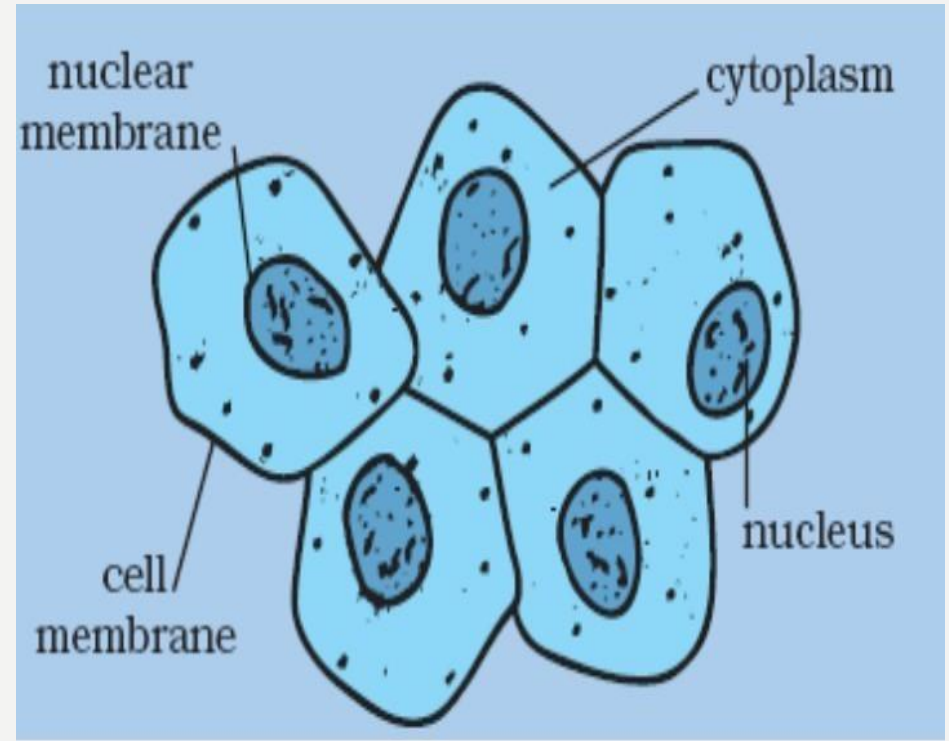
# HOW DO WE OBSERVE THE BASIC COMPONENTS OF AN ANIMAL CELL

## LAB ACTIVITY

### Temporary stained mount of human cheek cell

- Scrape inside of the mouth by using a clean tooth pick.
  - Place it in a drop of water on a glass slide
  - Add a drop of iodine and place a coverslip over it
  - Observe it under microscope

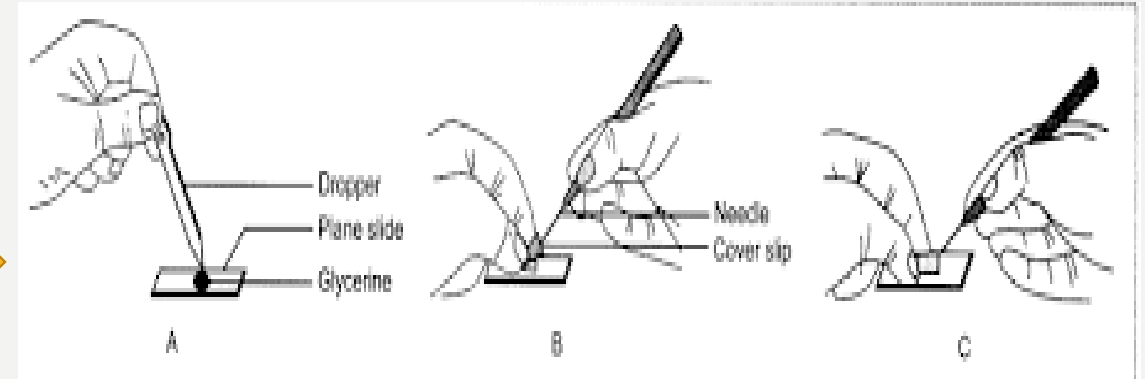
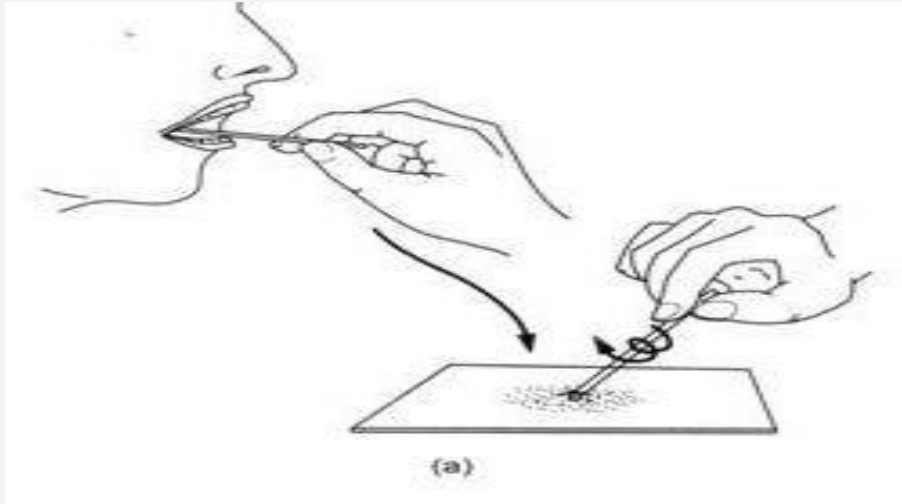
Several cells can be seen with distinct cell membrane, cytoplasm and nucleus.



Human cheek cells



# Preparation of temporary stained mount of human cheek cell - Steps

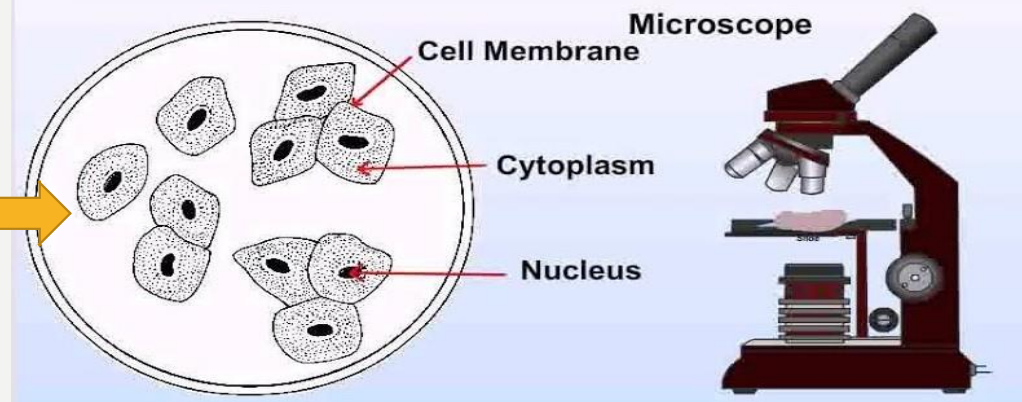


Stages to show mounting procedure

## Microscopic view of cheek cell

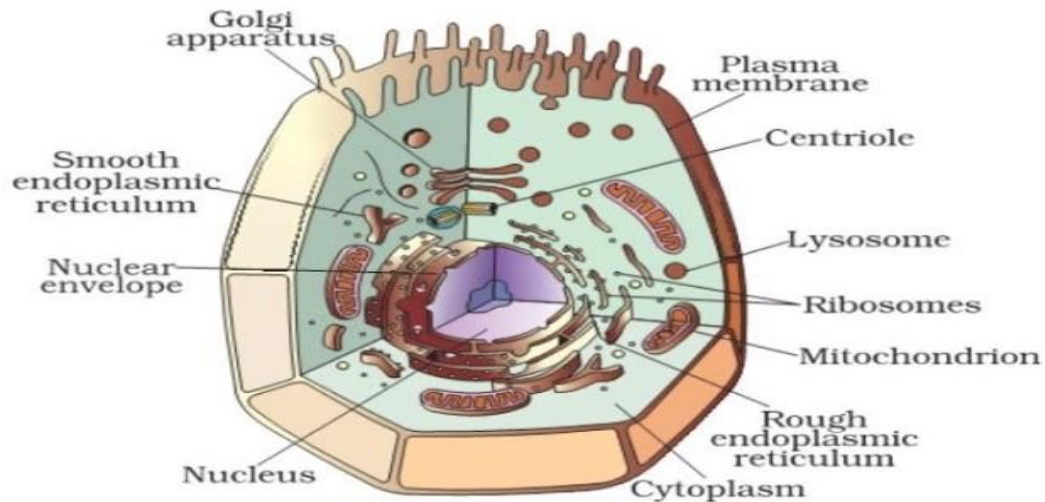


Gently press the coverslip with the needle so as to spread the cells uniformly under the coverslip. Examine the slide under the microscope. Sketch the diagram as observed under the microscope and label its parts.

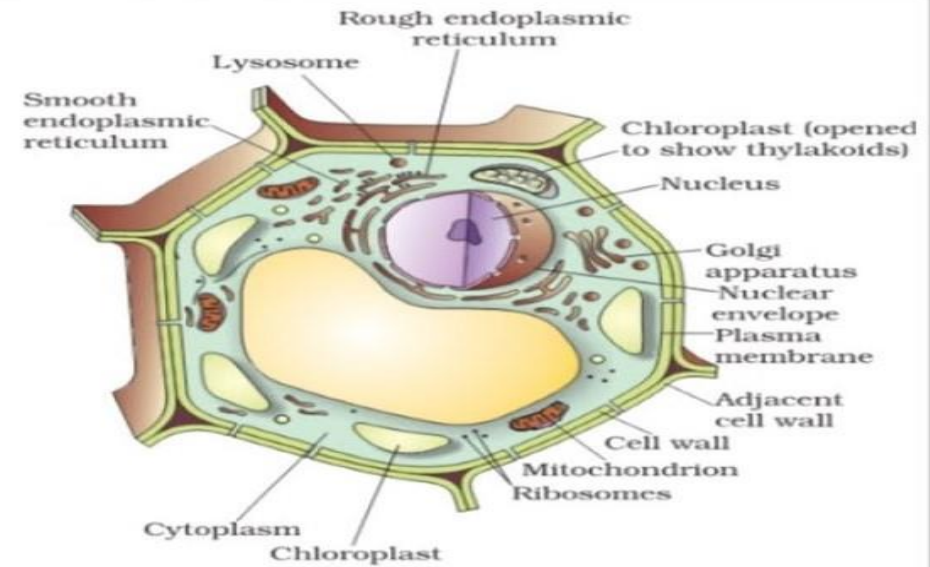


Slide observing under microscope

# COMPARISON OF PLANT AND ANIMAL CELLS



**Fig. 5.5: Animal cell**



**Fig. 5.6: Plant cell**

| Sl. No | Part             | Plant cell            | Animal cell         |
|--------|------------------|-----------------------|---------------------|
| 1      | Cell membrane    | Present               | Present             |
| 2.     | Cell wall        | Present               | Absent              |
| 3      | Nucleus          | Present               | Present             |
| 4      | Nuclear membrane | Present               | Present             |
| 5      | Cytoplasm        | Present               | Present             |
| 6      | Plastids         | Present               | Absent              |
| 7      | Vacuole          | Present(Large,single) | Present(Small,many) |

Plant Cell

VS

Animal Cell



*Animal cells are very similar to plant cells except for the following major differences:*

- Animal cells are not surrounded by cell walls
- Animal cells do not contain chloroplasts
- The vacuoles in plants are much larger than those of animals

*Thank you*

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TGT (CHE/BIO)  
AETS Mysore*