

# WBCS MAINS 2022



SCIENCE

# PART-2













#### **Eukaryotes**

Prokaryotes

(bacteria, etc.)

Plant and animal cells are both Eukaryotic (which means that the cells contain a nucleus), and have many structures and functions in common. Compare this animal cell to the plant cell in the diagram below.

Fungi

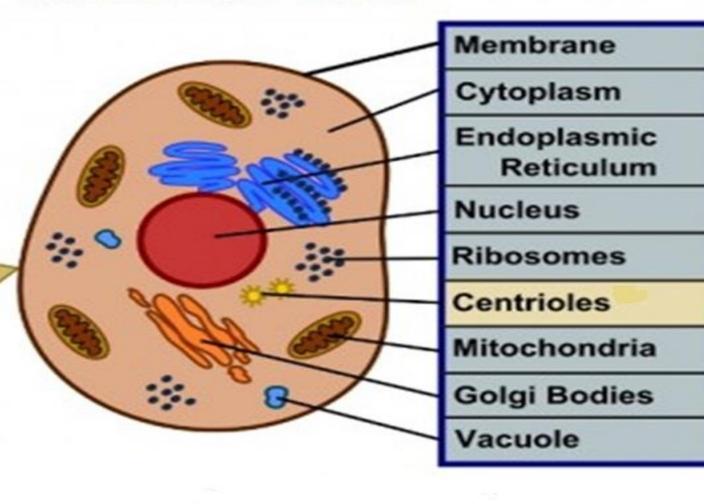
Common Ancestor

**Animals** 

Eukaryotes

**Plants** 

# **Animal Cell**

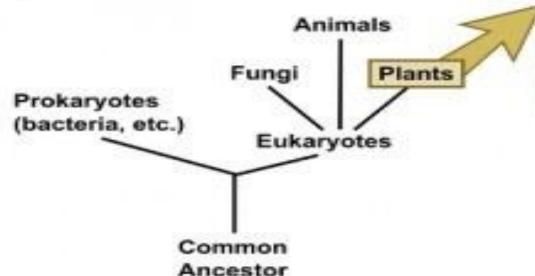


#### **Primary Differences**

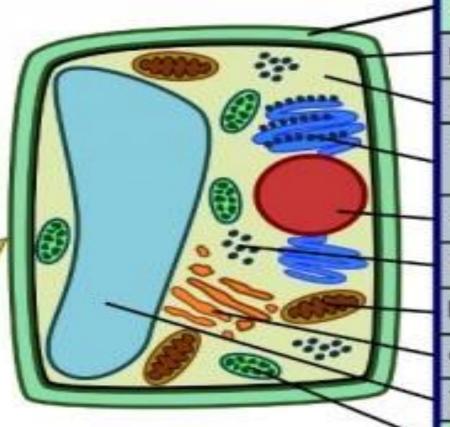
Plant cells need to perform two functions not performed by animal cells:

- 1. produce their own food
- 2. support their own weight

These account for the primary differences between plant and animal cells.



# **Plant Cell**



Cell Wall \*

Membrane

Cytoplasm

Endoplasmic Reticulum

Nucleus

Ribosomes

Mitochondria

Golgi Bodies

Vacuole

Chloroplast

# MITOSIS **MEIOSIS**





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Mitosis is a process of asexual reproduction in which the cell divides in two producing a replica, with an equal chromosomes in each resulting diploid cell.

Meiosis is a type of cellular reproduction in which the number of chromosomes are reduced by half through of homologous chromosomes, producing two haploid



Remains the same

Reduced by half

# Differences

7. Chromosome

Number

	<u>Mitosis</u>	<u>Meiosis</u>
1. Type of Reproduction	Asexual	Sexual
2. Genetically	Similar	Different
3. Number of Divisions	One	Two
4. Pairing of Homologus	No	Yes
5. Mother Cells	haploid or diploid	Always diploid
6. Number of Daughter Cells	2 diploid cells	4 haploid cells



