

## Types of Cells

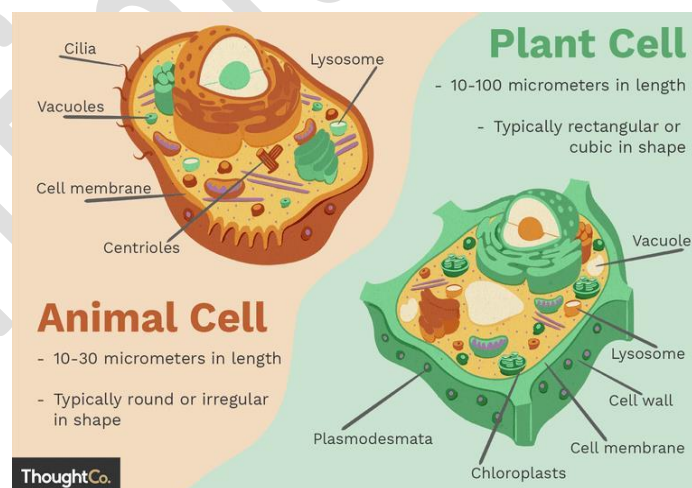
### Table of Contents

- Plant Cell and Animal Cell - Differences
- Classification of Cells
- Summary
- What's Next?

In the previous segment of the chapter 'Cell - The Fundamental Unit of Life', we learnt about the cell organelle, **Plastid**. In this segment, let us get acquainted with The different types of cells.

### What are the Differences between plant cell and animal cell?

- Presence and absence of the cell wall.
  - Plant cells have a proper, well-defined cell wall which gives them a defined shape.
  - Animal cells do not have a cell wall and thus they lack a proper shape. They just have the cell membrane which is also present in plant cells.
- Presence and absence of chloroplast.
  - Plant cells perform photosynthesis so they show the presence of chloroplast.
  - Animal cells do not possess chloroplast.
- Number and size of vacuoles.
  - In the plant cells, the vacuole is large and located at the centre. This central vacuole can occupy the majority of the cell space pushing other organelles to the periphery.
  - In animal cells, there are numerous small-sized vacuoles and they are scattered throughout the cytoplasm.



### How are cells classified?

Cells are broadly classified into two major types:

- **Prokaryotic cell**
  - They do not have a proper well-defined nucleus.

- They show some thread-like structures scattered in the cytoplasm called **Nucleoid** which is analogous to the nucleus in our cells.
  - It has strands of DNA, RNA, and carries the genetic information of the cell.
  - The only difference is that the nucleoid does not have a compact shape and lacks a proper membrane for the different organelles.
  - Cells of lower organisms like various bacteria have this type of cells.
- **Eukaryotic cell**
    - It has well-defined membranes for nucleus as well as for other organelles.
    - Both plant and animal cells can be included in the category of eukaryotic cells.



## Summary

<b>Differences between Plant and Animal Cells</b>	<ul style="list-style-type: none"> <li>● Plant cells have a cell wall while animal cells do not.</li> <li>● Plant cells have chloroplast while animal cells do not.</li> <li>● Plant cells have large and single vacuole while animal cells have many and small vacuoles.</li> </ul>
<b>Classification of Cells</b>	<ul style="list-style-type: none"> <li>● Prokaryotic cell</li> <li>● Eukaryotic cell</li> </ul>

## What's next?

In our next chapter of Class 09 Science, we will learn about **Tissues**.