

Inside a Cell

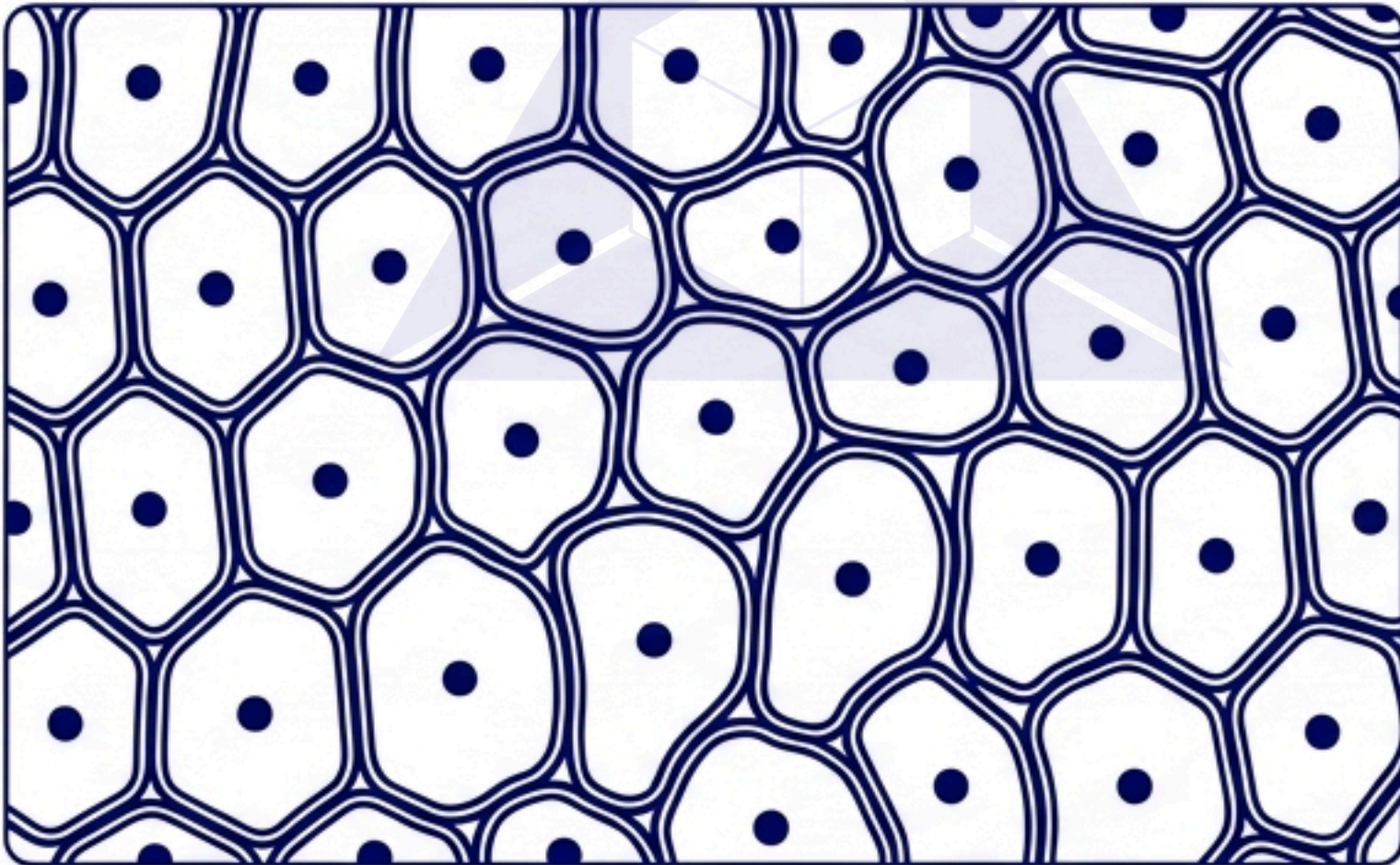
An Overview of the Fundamental Unit of Life

Observing the Basics

PLANT TISSUE

Onion Peel Cell

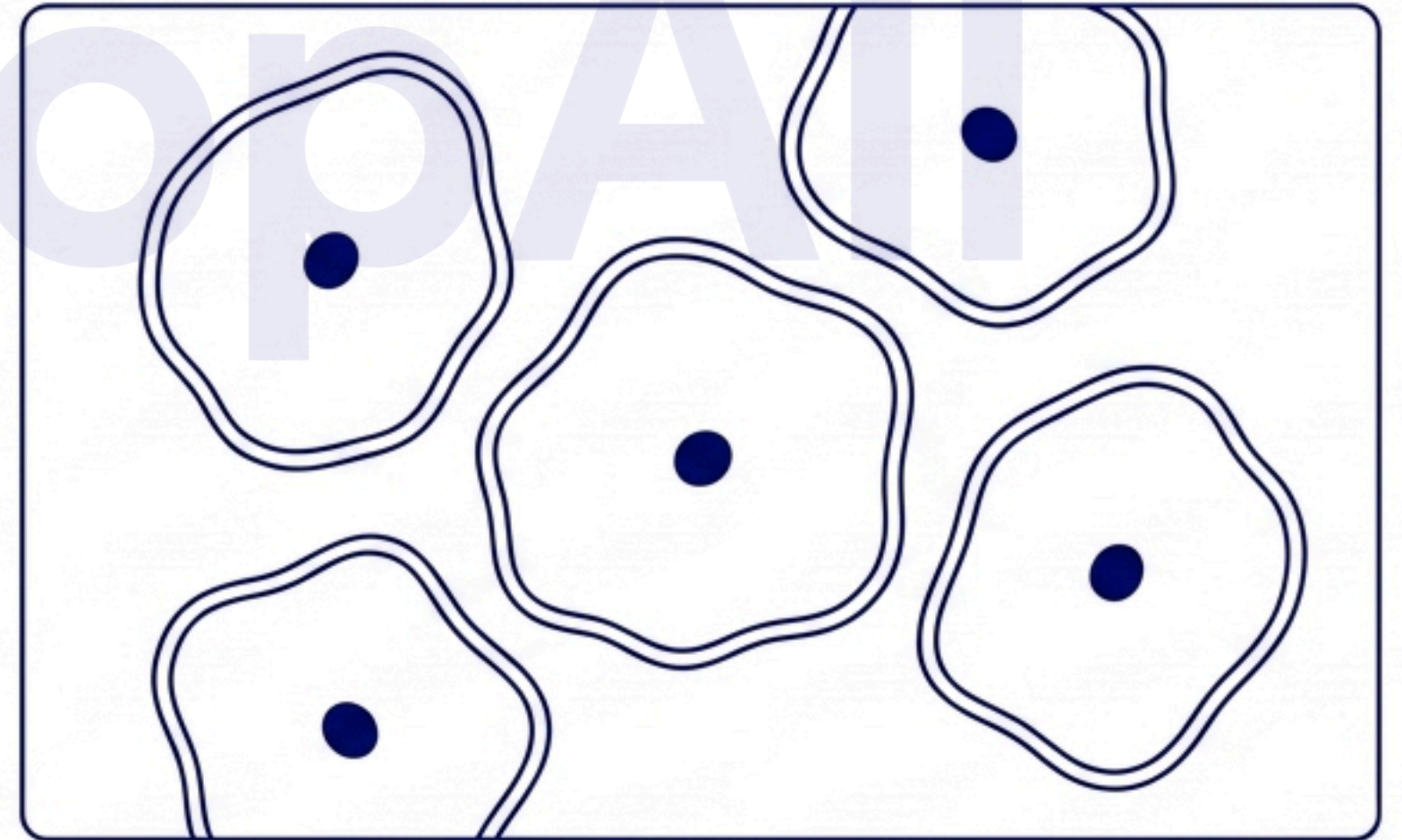
Typical plant cell. Defined by a distinct, rigid outer boundary.



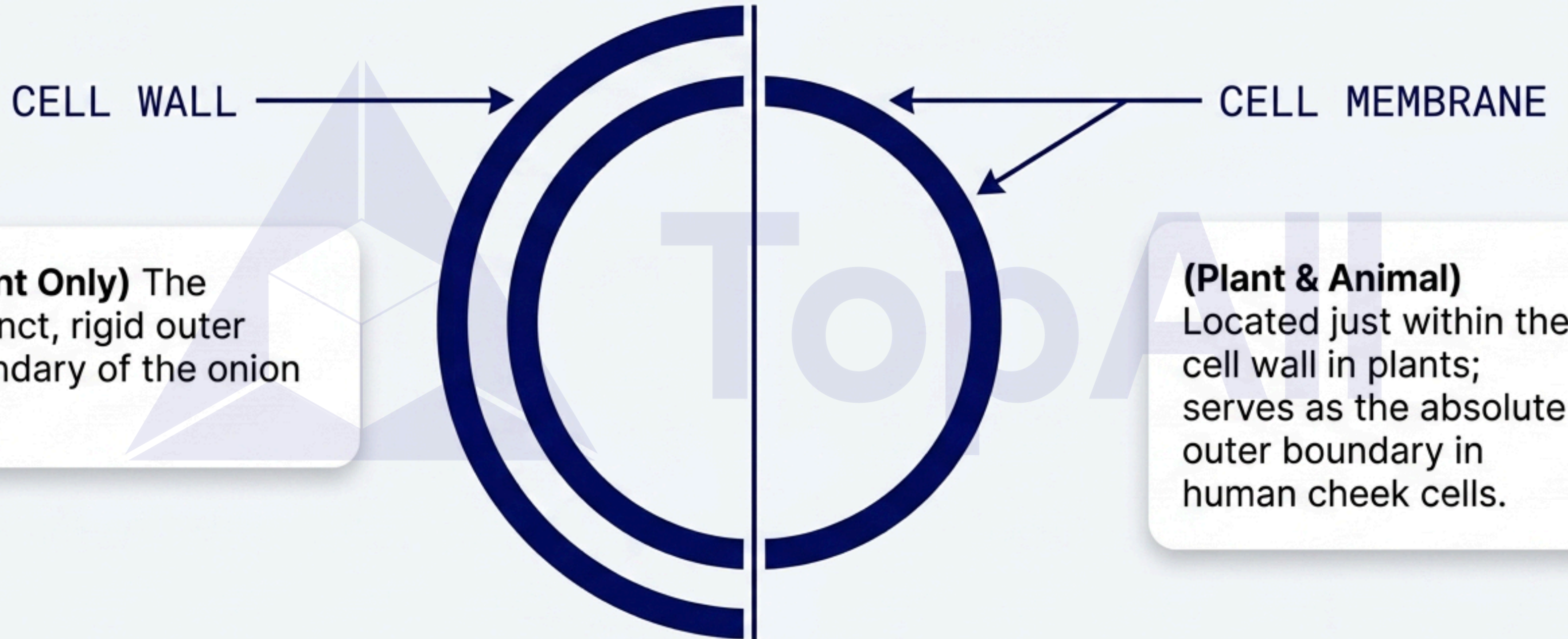
ANIMAL TISSUE

Human Cheek Cell

Typical animal cell. Defined by a flexible, singular outer limit.

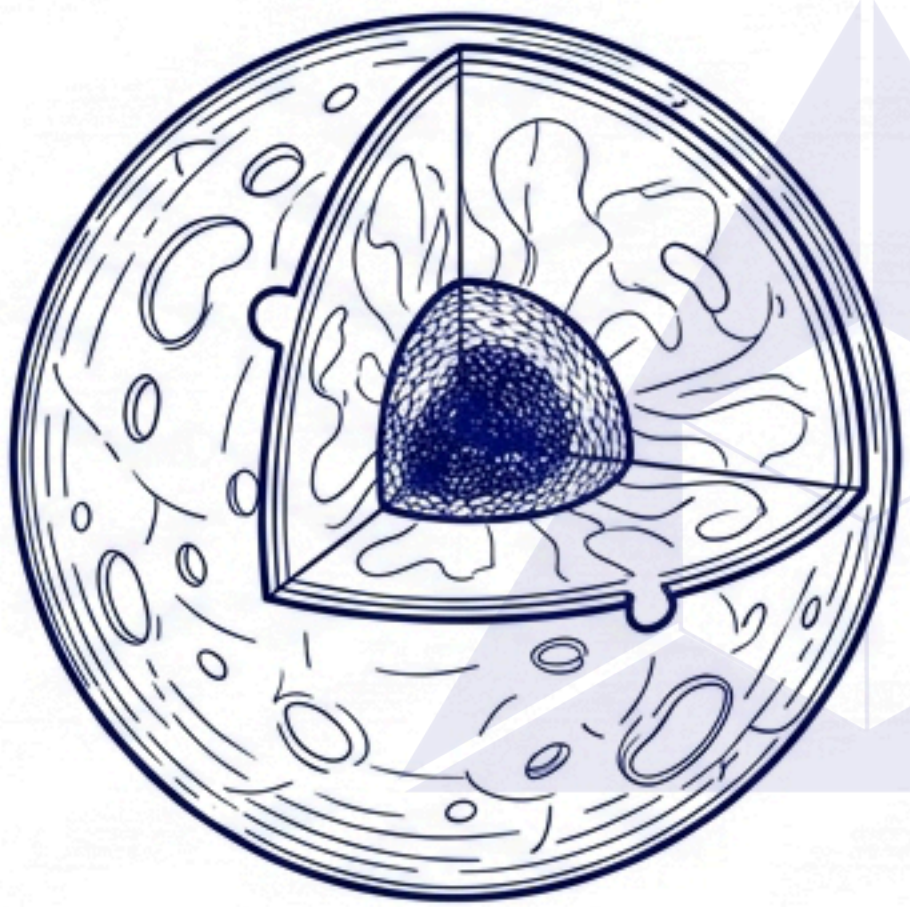


The Delimiting Structures



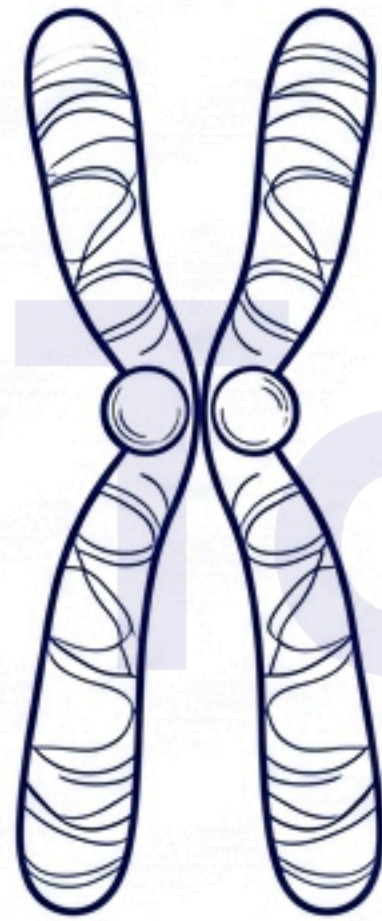
Note: The cell membrane acts as the primary interactive boundary for all cells.

The Command Center



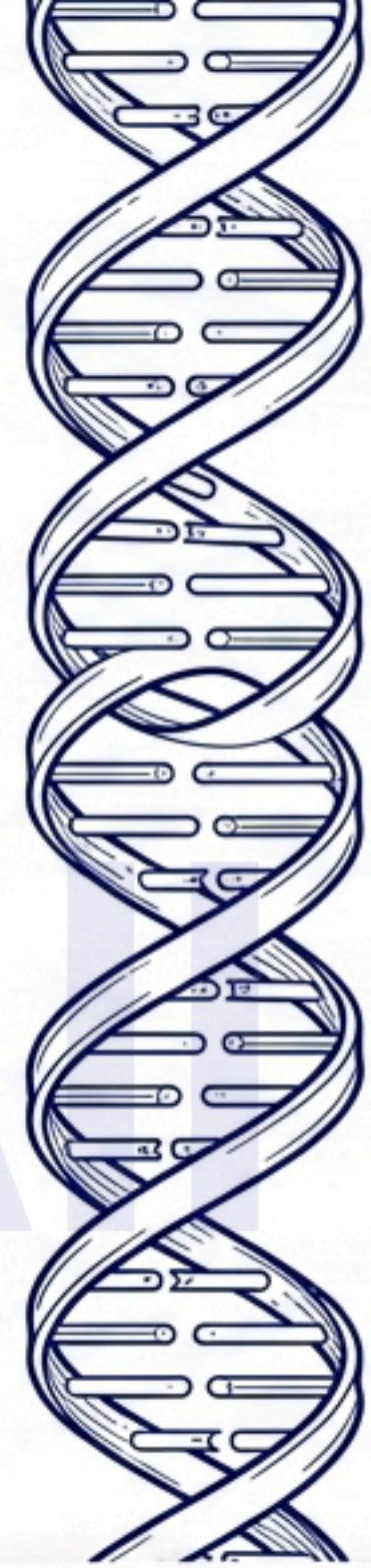
Nucleus

A dense, membrane-bound structure located inside the cell.



Chromosomes

Thread-like structures housed entirely within the nucleus.



DNA

The raw genetic material that makes up the chromosomes.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



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Practice Now



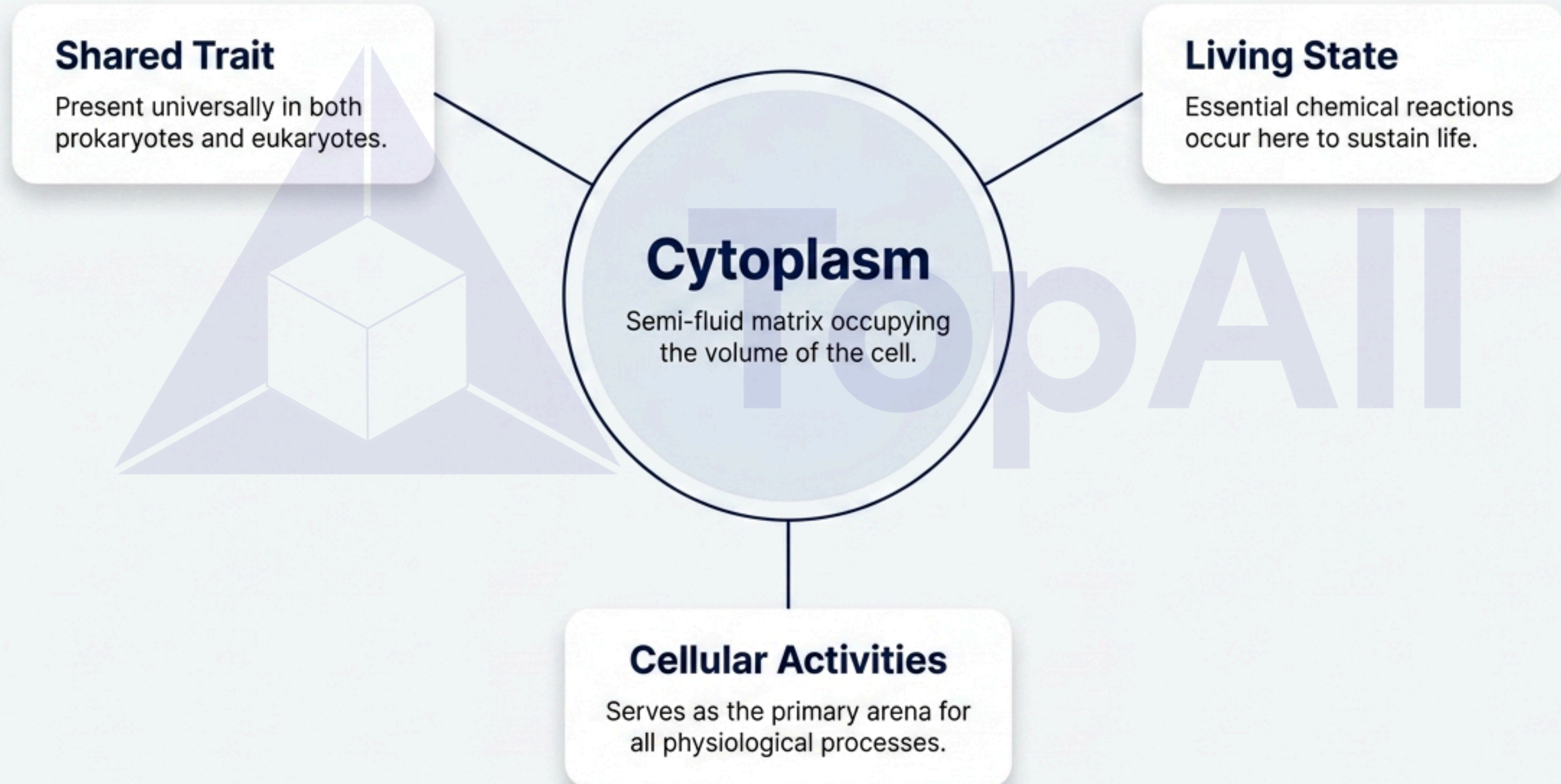
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Key Highlights

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The Arena of Activity



Architectural Classifications

	Eukaryotic Cells	Prokaryotic Cells
NUCLEUS	Membrane-bound nucleus present.	Lacks membrane-bound nucleus.
ORGANELLES	Distinct, membrane-bound machinery.	Lacks membrane-bound organelles.
MATRIX	Cytoplasm present.	Cytoplasm present.

Eukaryotic Machinery

Distinct membrane-bound structures operating within the cytoplasm.

Endoplasmic
Reticulum (ER)



Golgi Complex



Lysosomes



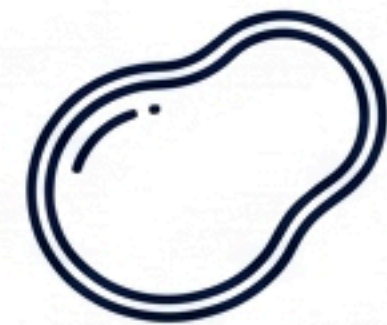
Mitochondria



Microbodies



Vacuoles



Note: Ribosomes (found in all cells) and centrosomes (found in animal cells) are vital, but non-membrane bound organelles.

Key Takeaway

The cell is the fundamental structural and functional unit of all living organisms.

Whether observing a simple prokaryote or a complex eukaryotic system, every organism relies on this microscopic arena to sustain the chemical reactions of life.



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