

# **SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES**

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai  
Approved by Pharmacy Council of India, New Delhi. Coimbatore -  
641035



**COURSE NAME: HUMAN ANATOMY & PHYSIOLOGY(BP301 T)**

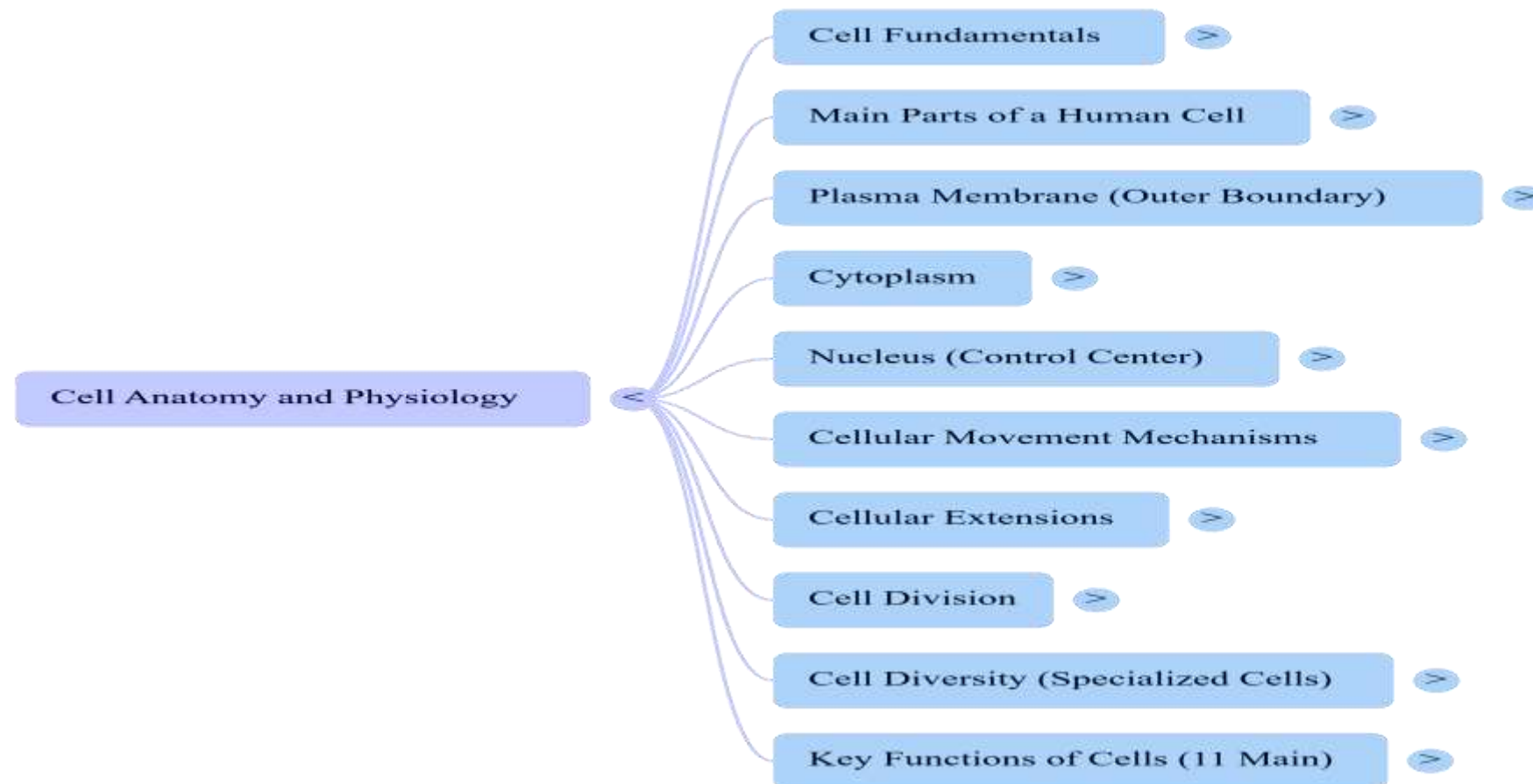
**YEAR : I SEM/I YEAR**

**TOPIC 6 : STRUCTURE AND FUNCTION OF CELL**

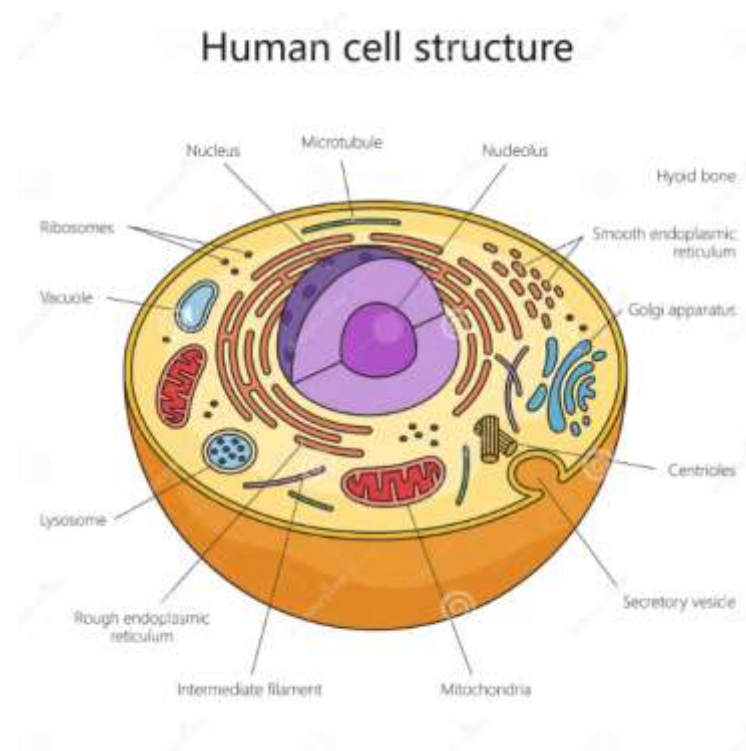
## DESIGN THINKING IN STRUCTURE OF CELL

- **Empathize:** Deeply understand the learner's or student's challenges, needs, and experiences.
- **Define:** Reframe the problem based on insights from the empathize phase and establish clear context. This involves synthesizing data to pinpoint the core issue, such as defining the need for a more interactive way to visualize cell components.
- **Ideate:** Brainstorm and explore a wide range of ideas and potential solutions, including innovative models or simulations for cell structures.
- **Prototype:** Simulate and build cell models or diagrams to enhance learning and comprehension.

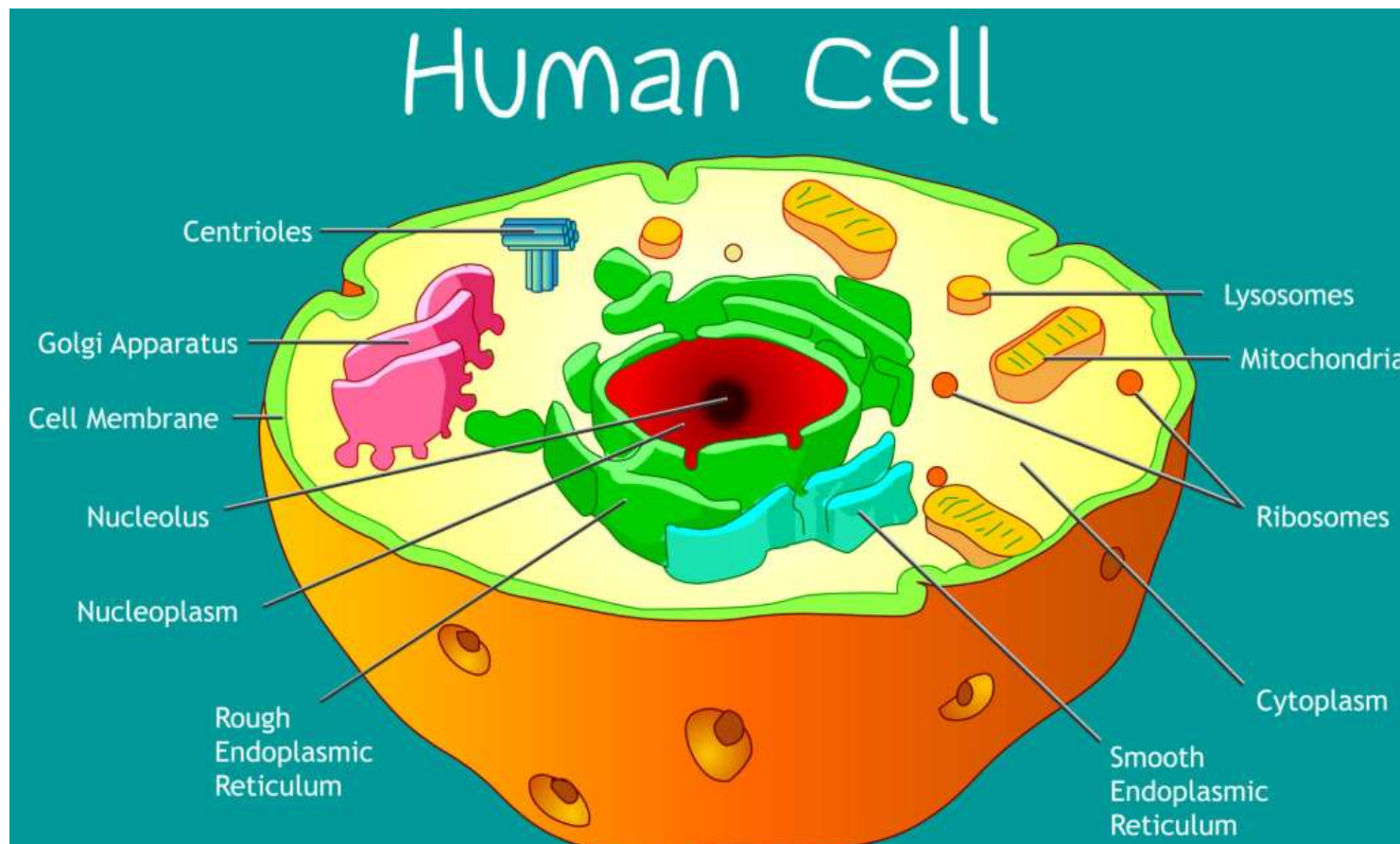
# MINDMAP



# INTRODUCTION



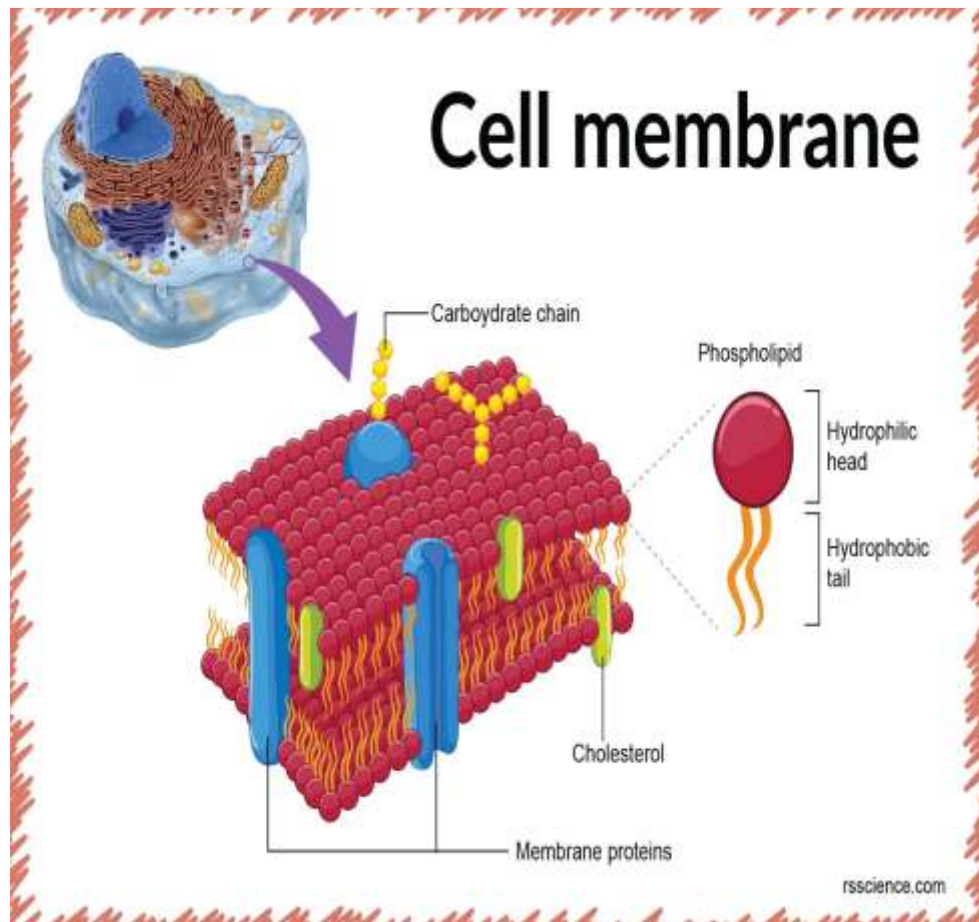
# FUNCTIONS OF CELL



# TERMINOLOGY USED IN CELL BIOLOGY

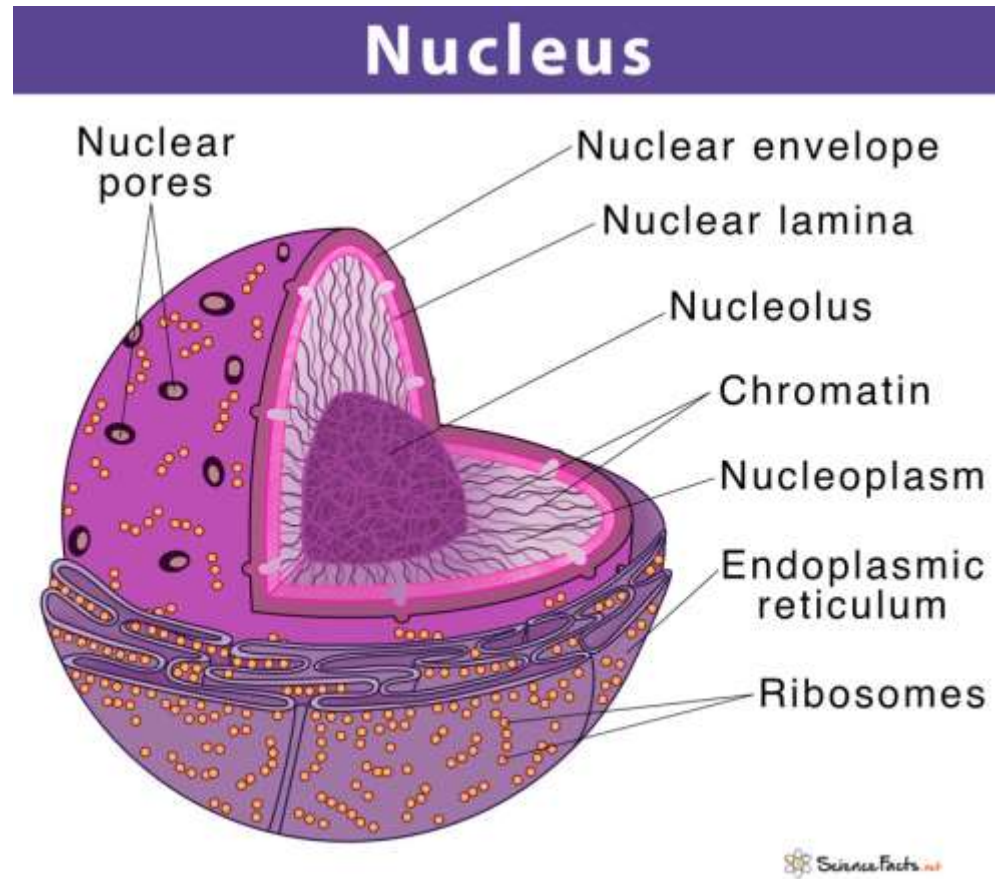
Cell Part	Function
Cell membrane	Controls what enters and leaves the cell
Nuclear membrane	Controls what enters and leaves the nucleus
Nucleus	Control center of the cell
Chromosomes	Genetic information in the nucleus
Endoplasmic Reticulum	Transport system in cell
Ribosome	Organelle makes proteins
Golgi Body	Organelle packages proteins
Vacuole	Stores water and/or waste
Lysosome	Breaks down old cell parts
Mitochondria	Organelle for cellular respiration – provides energy

# CELL COMPONENTS





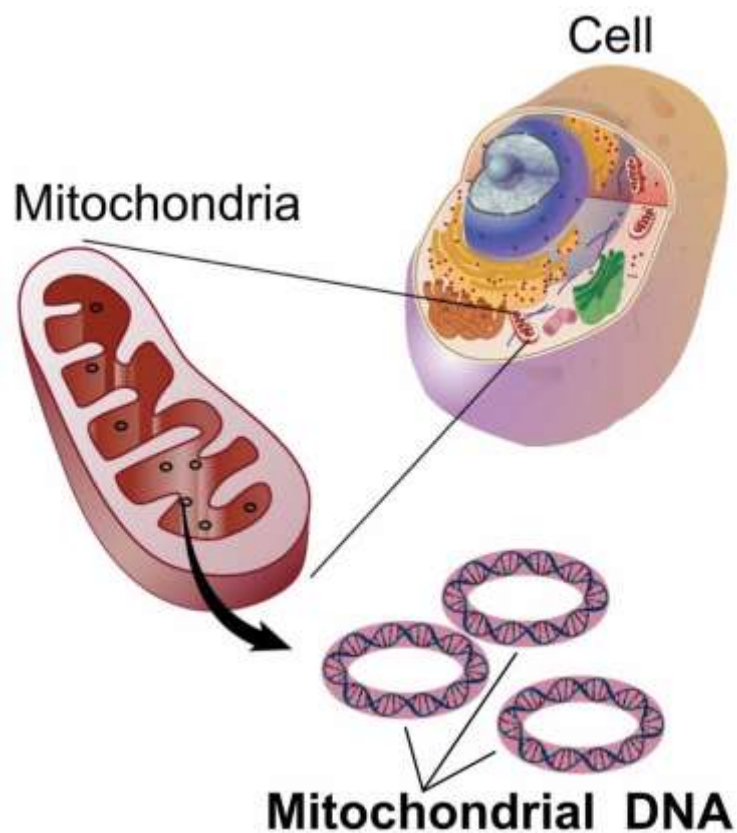
## CELL COMPONENTS





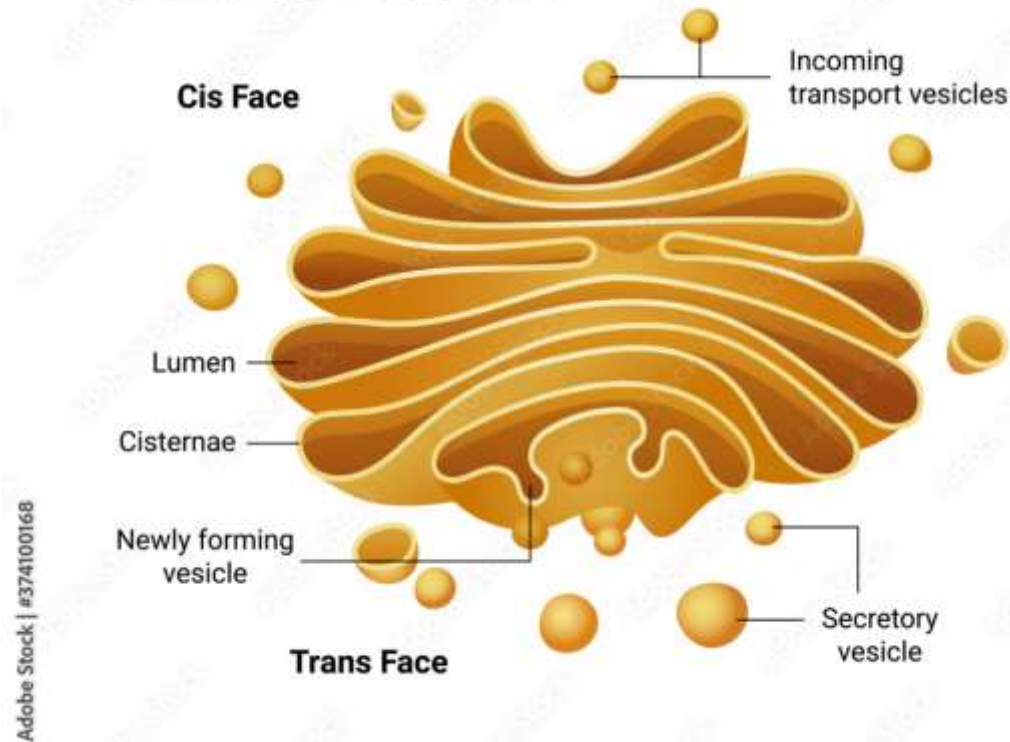
# CELL COMPONENTS

## CYTOPLASM CONSTITUENTS



# CELL COMPONENTS

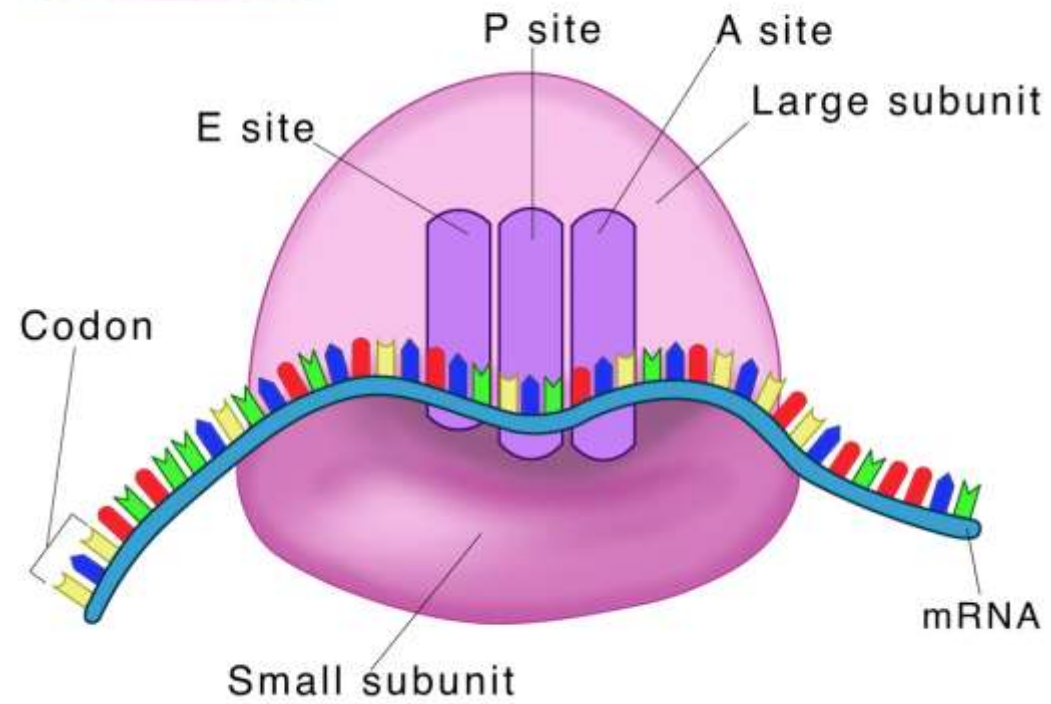
## GOLGI APPARATUS








# CELL COMPONENTS

## Ribosome

Science Facts .net



# CLASS ASSESSMENTS

Name of Organelle	Shape of Organelle
	
	
	
	
	

## SUMMARY

- Cells are fundamental units with membrane, cytoplasm, and nucleus.
- Key functions: Metabolism, reproduction, homeostasis.
- Design thinking enhances teaching by empathizing with learners and prototyping models.

## REFERENCES

- ✓ Essentials of Medical Physiology, K. Sembulingam & P. Sembulingam (Jaypee Brothers Medical Publishers)
- ✓ A Textbook of Human Anatomy and Physiology-I, SIA Publishers
- ✓ Human Anatomy & Physiology Gerard J. Tortora & Bryan H. Derrickson (Wiley)
- ✓ Ross and wilson anatomy and physiology in health and illness, Anne Waugh & Allison Grant.
- ✓ Tortora GJ, Derrickson B: Principles of Anatomy and Physiology, 15th Edition, Wiley, 2017.
- ✓ Marieb EN, Hoehn K: Human Anatomy & Physiology, 11th Edition, Pearson, 2019.



