

# LESSON PLAN

**CLASS: IX**

**SUBJECT: Biological Science**

**Name of the Teacher: Shaik Mohammad Gouse**

**Name of the School: S.T.Z.P.H.S, Kotappakonda**

Name of the Lesson/Unit	Topic	No. of Periods Required	Time line for teaching		Any specific Information
			From	To	
<b>CELL ITS STRUCTURE AND FUNCTION</b>	Typical Cell	1	01/08/2022	01/08/2022	
	Cell Membrane / Plasma membrane	1	02/08/2022	02/08/2022	
	Cell wall, Nucleus	1	03/08/2022	03/08/2022	
	Cytoplasm, Cell Organelles	4	04/08/2022	11/08/2022	
	Are Cells Flat?, Where Do Cell Come From	1	12/07/2022	12/08/2022	

**Prior Concept/Skills:** 1. Organisms are made of cells.  
 2. Cell is the basic unit of life.  
 3. Size and shape of a cell depends on its function.  
 4. Organisms with larger size do not posses large sized cells. Number of cells matters.  
 5 Thin membrane surrounds cell is cell membrane, cytoplasm, a jelly like substance present inside cell and Nucleus, a prominent structure is present within the cell.

**Learning Outcomes:**

Pupil

- identifies Specific cell organelles in plant and animal cells.
- compares plant and animal; prokaryotic and eukaryotic cells.
- explains structure and function of cell organelles.
- explains Cell theory.
- utilises microscope skills and observes cell organelles in microscope.
- appreciates role of cellular organization in maintaining life.
- differentiates plant and animal cells.

**No. of Periods: 08**

## TEACHING LEARNING PROCESS

**Induction / Introduction :** Posing questions by displaying pictures of various cells Amoeba, animal cell, plant cell and a bacterial cell.

1. What similarities do you observe among the cells?  
In shape:  
In components:
2. What differences do you observe among the cells?  
In shape:  
In components:
3. *Name organisms made of single cell. Pick those organisms from these pictures.*
4. *Name organisms made of many cells. Which of these cells build up them?*

**(The questions help to draw out the concept of typical cell - Apart from having similarities and differences in shape, composition and constitution of organism, every cell has basic structural and functional components)**

**Experience and Reflection :** Observation of Compound Microscope and remember its parts and their utility in observation of specimens.

Explicit Teaching/ Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)
<ol style="list-style-type: none"> <li>1. Roll of cell wall in plant cell.</li> <li>2. Differences between Prokaryotic and Eukaryotic cell.</li> <li>3. Protoplasm vs. Cytoplasm.</li> <li>4. Structure of mitochondria.</li> <li>5. Types and functions of plastids.</li> <li>6. Function of vacuole.</li> <li>7. Are cell flat?</li> </ol>	<ol style="list-style-type: none"> <li>1. Observation of cell membrane and cell wall.</li> <li>2. Observation of nucleus.</li> <li>3. Observation of Mitochondria.</li> <li>4. Observation of vacuoles.</li> <li>5. Observation of chloroplasts.</li> </ol>	<ol style="list-style-type: none"> <li>1. Functions of cell membrane.</li> <li>2. Structure and functions of ER.</li> <li>3. Functions of Golgi bodies.</li> <li>4. Where do cells come from?</li> <li>5. Plant and animal cell – Comparison.</li> </ol>

<b>Check For Understanding Questions</b>	<b>TLMs (Digital+Print)</b>
<p><b>1. Factual:</b></p> <ol style="list-style-type: none"> <li>1. What is the basic unit of life?</li> <li>2. What are the structures present in plant cell and absent in animal cells?</li> <li>3. Why Lysosomes are called suicidal bags of the body?</li> <li>4. What are called as power houses of the cell?</li> </ol> <p><b>2. Open Ended / Critical Thinking:</b></p> <ol style="list-style-type: none"> <li>1. Plant cells are more rigid than animal cells. What may be the reason?</li> <li>2. If the organization of cell is destroyed due to physical and chemical influence what will happen?</li> <li>3. Can cells live without nucleus? What will happen if nucleus is not present in a cell?</li> <li>4. What would happen to the life of cell if Golgi complex is absent in a cell?</li> </ol> <p><b>3. Student Practice Questions &amp; Activities:</b></p> <ol style="list-style-type: none"> <li>1. Draw structure of mitochondria and describe its structure.</li> <li>2. Did you observe tiny pore like structures on leaf mount? What are they? Draw the picture of them and write their functions.</li> <li>3. Why do plant cells possess large vacuole?</li> <li>4. Prepare a model of plant, animal or bacterial cell.</li> </ol>	<p><a href="https://www.diksha.gov.in/play/content/do_31332720024403148813369">https://www.diksha.gov.in/play/content/do_31332720024403148813369</a></p> <p><a href="https://www.diksha.gov.in/play/content/do_31332720040089190413370">https://www.diksha.gov.in/play/content/do_31332720040089190413370</a></p> <p><a href="https://www.diksha.gov.in/play/content/do_31332720054595584013371">https://www.diksha.gov.in/play/content/do_31332720054595584013371</a>  <a href="https://www.diksha.gov.in/play/content/do_31320682291820953618152">https://www.diksha.gov.in/play/content/do_31320682291820953618152</a>  introduction to cell</p> <p><a href="https://www.diksha.gov.in/play/content/do_431343628465357619212474">https://www.diksha.gov.in/play/content/do_431343628465357619212474</a>  nucleus</p> <p><a href="https://www.diksha.gov.in/play/content/do_431343628465358438412475">https://www.diksha.gov.in/play/content/do_431343628465358438412475</a>  description of cell organelles</p> <p><a href="https://youtu.be/5039OG3uByQ">https://youtu.be/5039OG3uByQ</a> Nucleus &amp; Cell wall,  Pictures of various cells,  Compound microscope, slides and other material like needle, brush, watch glass etc. for observation of cells,  Stains like Methylene blue, safranine, Janus green B.</p>
<p><b>Assessment.</b></p> <ol style="list-style-type: none"> <li>1. Differentiate Animal cell and Plant cell.</li> <li>2. Compare Prokaryotic cell with Eukaryotic cell.</li> <li>3. Make a list of cell organelles and their functions in cell.</li> <li>4. Explain the salient features of cell theory. Who Proposed it and when did they propose?</li> <li>5. How do you appreciate the function of a tiny cell in a large body?</li> </ol>	

**SIGNATURE OF THE TEACHER**

**SIGNATURE OF THE HEAD MASTER**

**VISITING OFFICER WITH REMARK**