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	
CELL ITS STRUCTURE AND FUNCTION	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)
1. Roll of cell wall in plant cell. 2. Differences between Prokaryotic and Eukaryotic cell. 3. Protoplasm vs. Cytoplasm. 4. Structure of mitochondria. 5. Types and functions of plastids. 6. Function of vacuole. 7. Are cell flat?	1. Observation of cell membrane and cell wall. 2. Observation of nucleus. 3. Observation of Mitochondria. 4. Observation of vacuoles. 5. Observation of chloroplasts.	1. Functions of cell membrane. 2. Structure and functions of ER. 3. Functions of Golgi bodies. 4. Where do cells come from? 5. Plant and animal cell – Comparison.

Check For Understanding Questions	TLMs *(Digital+Print)*
1. Factual: 1. What is the basic unit of life? 2. What are the structures present in plant cell and absent in animal cells? 3. Why Lysosomes are called suicidal bags of the body? 4. What are called as power houses of the cell? **2. Open Ended / Critical Thinking:** 1. Plant cells are more rigid than animal cells. What may be the reason? 2. If the organization of cell is destroyed due to physical and chemical influence what will happen? 3. Can cells live without nucleus? What will happen if nucleus is not present in a cell? 4. What would happen to the life of cell if Golgi complex is absent in a cell? **3.Student Practice Questions & Activities:** 1. Draw structure of mitochondria and describe its structure. 2. Did you observe tiny pore like structures on leaf mount? What are they? Draw the picture of them and write their functions. 3. Why do plant cells possess large vacuole? 4. Prepare a model of plant, animal or bacterial cell.	https://www.diksha.gov.in/play/content/do_3133272002440314881336 9 https://www.diksha.gov.in/play/content/do_3133272004008919041337 0 https://www.diksha.gov.in/play/content/do_3133272005459558401337 1 https://www.diksha.gov.in/play/content/do_3132068229182095361815 2 introduction to cell https://www.diksha.gov.in/play/content/do_4313436284653576192124 74 nucleus https://www.diksha.gov.in/play/content/do_4313436284653584384124 75 description of cell organelles https://youtu.be/5039OG3uByQ Nucleus & 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.

Assessment.

1. Differentiate Animal cell and Plant cell.
2. Compare Prokaryotic cell with Eukaryotic cell.
3. Make a list of cell organelles and their functions in cell.
4. Explain the salient features of cell theory. Who Proposed it and when did they propose?
5. How do you appreciate the function of a tiny cell in a large body?

SIGNATURE OF THE TEACHER **SIGNATURE OF THE HEAD MASTER**

VISITING OFFICER WITH REMARK