THIRD TERM
WEEKLY LESSON NOTES
WEEK 1

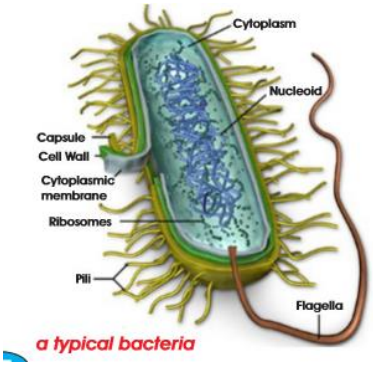
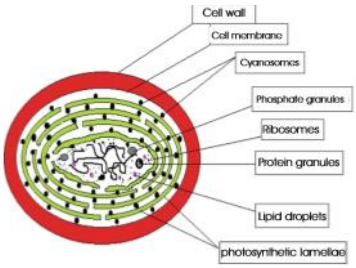
Week Ending: 30-06-2023	**DAY:**	**Subject:** Science
Duration: 100mins		**Strand:** Diversity Of Matter
Class: B8	**Class Size:**	**Sub Strand:** Structure Of Prokaryotic & Eukaryotic Cells

Content Standard: B8.1.2.1 Demonstrate an understanding of the types of cells and their structure in relation to different organisms	**Indicator:** B8.1.2.1.1 Examine and describe the structure of prokaryotic and eukaryotic cells.	**Lesson:** 2 of 2
Performance Indicator: Learners can examine and describe the structure of prokaryotic and eukaryotic cells	**Core Competencies:** DL 5.3: CI 6.8: DL 5.1: CI 6.6:	
References: Science Curriculum Pg. 54		

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share learning indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Revise with learners on the definition of a cell. Guide them to explain the concepts in the learner's book. Brainstorm learners to explain the terms; A prokaryotic cell is a type of cell that lacks a membrane-bound nucleus and other membrane-bound organelles, such as mitochondria, endoplasmic reticulum, and Golgi apparatus. An eukaryotic cell is a type of cell that has a membrane-bound nucleus and other membrane-bound organelles, such as mitochondria, endoplasmic reticulum, and Golgi apparatus. Compare and contrast prokaryotic and eukaryotic cells.	Pictures and charts

Prokaryotes	Eukaryotes
1. Prokaryotic cells are the type old of cells	1. Eukaryotic cells are the cells modern/new which came from the prokaryotic cells
They have do not a definite nucleus	They have a definite shape
The chromatin bodies remain scattered within the cytoplasm	The chromatin bodies are enclosed by a nuclear membrane
Asexual reproduction like binary fission occurs in prokaryotes	Both sexual and asexual reproduction occurs in eukaryotes

Create a table to show a chart or a slideshow depicting images and labels of the types of cells. Identify their differences and similarities after observation.

	Put learners into groups, let them draw and label a prokaryotic cell and a eukaryotic cell and make a presentation on what is observed.  a typical bacteria  a typical cyanobacteria Guide learners to discuss the importance of prokaryotic and eukaryotic cells. • Most enzymes in the digestive system that assist in the breakdown of food are in the form of prokaryotes. • Pathogenic microbes are forms of prokaryotes that from harmful protect us micro-organisms. • Some prokaryotes help our immune system to function properly. • Plants are eukaryotic organisms that provide humans with most of the requirements of life like; oxygen, food, medicine, etc. • Lower class organisms like; worms' termites play active roles in the decay of organic matter into humus; which is ready form of plant food. <u>Assessment</u> Describe briefly how prokaryotes are different from eukaryotes. Name two [2] single bound membrane organelles in eukaryotic cells	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

Week Ending: 30-06-2023	**DAY:**	**Subject:** Science	
Duration: 100mins		**Strand:** Diversity Of Matter	
Class: B8	**Class Size:**	**Sub Strand:** Classification of Organisms	
Content Standard: B8.1.2.1 Demonstrate an understanding of the types of cells and their structure in relation to different organisms	**Indicator:** B8.1.2.1.2 Classify organisms (plants or animals) as prokaryotic or eukaryotic based on the type of cells they are made of	**Lesson:** 1 of 2	
Performance Indicator: Learners can classify organisms as prokaryotic or eukaryotic		**Core Competencies:** DL 5.3: CI 6.8: DL 5.1: CI 6.6:	
References: Science Curriculum Pg. 54			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share learning indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Have learners observe and list examples of organisms; plants and animals as prokaryotic or eukaryotic based on each cell type. *<u>Prokaryotic Organisms</u>:* *1. Bacteria (e.g., Escherichia coli, Streptococcus)* *2. Archaea (e.g., Halobacterium, Methanobacterium)* *3. Cyanobacteria (e.g., Anabaena, Synechocystis)* *<u>Eukaryotic Plants</u>:* *1. Mosses (e.g., Physcomitrium patens)* *2. Ferns (e.g., Pteridium aquilinum)* *3. Flowering plants (e.g., Arabidopsis thaliana, Rosa hybrid)* *Eukaryotic <u>Animals</u>:* *1. Roundworms (e.g., Caenorhabditis elegans)* *2. Insects (e.g., Drosophila melanogaster, Apis mellifera)* *3. Fish (e.g., Danio rerio, Salmo salar)* *4. Reptiles (e.g., Chelonia mydas, Python regius)* *5. Birds (e.g., Gallus gallus, Passer domesticus)* *6. Mammals (e.g., Homo sapiens, Mus musculus, Canis lupus)* Explain the impact of prokaryotes and eukaryotes on humans' health and devise safety measures to protect them. Prokaryotes: *1. Beneficial Impact: Prokaryotes play a crucial role in human health. Beneficial bacteria, such as those in the gut microbiota, help with digestion, nutrient absorption, and the synthesis of vitamins. They also provide protection against harmful pathogens by competing for resources and producing antimicrobial substances.* *2. Pathogenic Impact: Some prokaryotes can cause diseases in humans. Examples include bacteria like Escherichia coli, Streptococcus pneumoniae, and Mycobacterium tuberculosis, which can lead to conditions such as urinary tract infections, pneumonia, and tuberculosis, respectively.*	Pictures and charts

	<u>Safety Measures</u>: *1. Good Hygiene Practices: Practicing good hygiene, such as regular handwashing with soap and water, helps prevent the spread of pathogenic bacteria. This is especially important before handling food, after using the restroom, and when in contact with individuals who are sick.* *2. Vaccination: Vaccines are available for several bacterial infections, such as tetanus, diphtheria, pertussis, and pneumococcal diseases. Ensuring appropriate vaccination helps protect against these pathogens.* Eukaryotes: *1. Beneficial Impact: Eukaryotes have various positive effects on human health. For example, plants provide us with essential nutrients, medicinal compounds, and oxygen through photosynthesis. Additionally, beneficial eukaryotic organisms like fungi contribute to the decomposition of organic matter and the formation of healthy soils.* *2. Pathogenic Impact: Some eukaryotes can cause diseases in humans. Examples include fungi such as Candida albicans, which can cause yeast infections, and parasitic organisms like Plasmodium spp., responsible for malaria, and Trypanosoma cruzi, causing Chagas disease.* <u>Safety Measures</u>: *1. Personal Hygiene: Maintaining personal hygiene, including regular bathing, cleaning of living spaces, and proper handling and storage of food, helps minimize the risk of fungal and parasitic infections.* *2. Vector Control: Controlling vectors like mosquitoes and ticks helps prevent the transmission of diseases caused by parasitic eukaryotes. Measures include using insect repellents, wearing protective clothing, and eliminating breeding sites.* *3. Proper Food Handling: Properly washing, cooking, and storing food helps prevent the growth and spread of eukaryotic pathogens. This includes refrigerating perishable items, avoiding cross-contamination, and following food safety guidelines.* <u>Assessment</u> 1. What is the role of beneficial bacteria in human health? 2. Give an example of a prokaryotic organism that can cause disease in humans. 3. How can good hygiene practices help prevent the spread of pathogenic bacteria? 4. Name a eukaryotic organism that provides essential nutrients to humans. 5. What are some safety measures to protect against fungal infections? 6. How can vector control help prevent the transmission of diseases caused by eukaryotic parasites? 7. What is the importance of proper food handling in relation to eukaryotic pathogens? 8. Which type of cell, prokaryotic or eukaryotic, is found in plants? 9. How do eukaryotic fungi contribute to healthy soils? 10. Name a vaccine-preventable bacterial infection.	

PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	