

# GRADE 10 BIOLOGY SCHEMES OF WORK TERM 1

SCHOOL..... TEACHER'S NAME..... TSC NO.....

Wk	Ln	Strand	Sub-strand	Specific learning outcome	Learning experiences	Key inquiry question	Learning resources	Assessment Methods	Refl
1	1	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson, the learner should be able to: a) Search for information on the meaning of biology in everyday life and share with peers. b) Discuss the meaning of biology. c) Appreciate the meaning of Biology	In groups, learners to search for information on the meaning of biology in everyday life and share with peers.  Learners to discuss the meaning of biology.	What is Biology?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Teachers observation, Experiments, Projects	
	2	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson, the learner should be able to: a) Explain the application of Biology in everyday life. b) Search for information on the application of biology in everyday life and share with peers. c) Value the application of Biology in everyday life.	In pairs, Explain the application of Biology in everyday life. In pairs, Search for information on the application of biology in everyday life and share with peers.	How is biology applied in day to day life?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	3	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson, the learner should be able to: a) Search for information from print and non-print media on fields of study in Biology. b) Discus findings and write down the fields of study in Biology. c) Acknowledge the fields of study in Biology	In groups, learners to Search for information from print and non-print media on fields of study in Biology.  Learners to discuss findings and write down the fields of study in Biology.	Which fields of study are in Biology?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	

	4	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson, the learner should be able to: a) Identify career opportunities related to the study of Biology. b) Find out more on career opportunities in the study of biology and share findings with peers. c) Appreciate career opportunities related to the study of Biology.	In pairs, learner to identify career opportunities related to the study of Biology.  Learners to find out more on career opportunities in the study of biology and share findings with peers.	Which career opportunities are related to the study of Biology?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Discussion, Observation, Demonstration	
	5	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson, the learner should be able to: a) Relate fields of study in Biology to career opportunities. b) Write down the relationship between fields of study in Biology to career opportunities. c) Value the relationship between fields of study in Biology to career opportunities.	In groups, learners to discuss the different modes of nutrition.  Learners to find out examples of animals under each mode of nutrition from textbooks or internet.	How do fields of study in Biology relate to career opportunities?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
2	1	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson the learner should be able to: a) Brainstorm on what a career wheel is and share their ideas in class. b) Use digital devices to find out and view pictures of a career wheel. c) Appreciate learning about the career wheel.	In groups, Learners to brainstorm on what a career wheel is and share their ideas in class.  Learners to use digital devices to find out and view pictures of a career wheel.	What is a career wheel?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson the learner should be able to: a) Research on the importance of a career wheel and share findings. b) Identify and collect locally available materials that can be used to design a career wheel. c) Acknowledge the importance of a career wheel	In groups, Research on the importance of a career wheel and share findings.  Learners to identify locally available materials that can be	How can we design a career wheel using local materials?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	

					used to design a career wheel.				
3	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson the learner should be able to: a) Use locally available materials to design a career wheel to relate fields of study in biology to careers. b) Make presentations of their careers wheels in class. c) Appreciate own and others work.	In groups, learners to use locally available materials to design a career wheel to relate fields of study in biology to careers.  Learners to make presentations of their careers wheels in class.	What is the use of a career wheel?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration		
4	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson the learner should be able to: a) Discuss the factors that influence career choices. b) Write down factors that influence career choices. c) Acknowledge factors that influence career choices.	Learners are guided to discuss the factors that influence career choices.  Learners to write down factors that influence career choices.	Which factors influence career choices?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration		
5	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson the learner should be able to: a) Discuss factors that should not influence career choices. b) Reinforce on factors that should not influence career choices by interacting with resource persons whose careers are related to biology. c) Embrace factors that should not influence career choices.	In groups, Learner to discuss factors that should not influence career choices.  Learners to reinforce on factors that should not influence career choices by interacting with resource persons whose careers are related to biology.	Which factors should not influence career choices?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration		

3	1	Cell Biology and Biodiversity	Introduction to Biology	By the end of the lesson, the learner should be able to: a) Use fishing games or other available materials to present information on fields and careers related to Biology. b) Write a summary and illustrate the careers related to fields of study in Biology. c) Appreciate the importance of Biology in everyday life.	In groups, learner to use fishing games or other available materials to present information on fields and careers related to Biology. Learners to write a summary and illustrate the careers related to fields of study in Biology.	Why is it important to study biology?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Observe pictures or photo or videos on apparatus and materials used for collecting specimens. b) Identify apparatus and materials used for collecting specimens. c) Acknowledge apparatus and materials used for collecting specimens.	In pairs, Observe pictures or photo or videos on apparatus and materials used for collecting specimens.  Learners to identify apparatus and materials used for collecting specimens.	Which apparatus are used for collecting specimens?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	3	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Search for information on apparatus and materials for collecting specimen and share findings with peers. b) Draw and label apparatus and materials for collecting specimen. c) Enjoy drawing and labeling apparatus and materials for collecting specimen	Learner to search for information on apparatus and materials for collecting specimen and share findings with peers. Learners to draw and label apparatus and materials for collecting specimen.	Why do we need apparatus for collecting specimens?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Discussion, Observation, Demonstration	
	4	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Observe pictures or photo or videos on apparatus and materials used for processing specimens.	In groups, learner to observe pictures or photo or videos on apparatus and materials used for processing specimens.	Which apparatus are used for processing specimens?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital	Oral questions, written tests, Discussion, Observation, Demonstration	

				<p>b) Identify apparatus and materials used for processing specimens.</p> <p>c) Acknowledge apparatus and materials used for processing specimens.</p>	Learners to identify apparatus and materials used for processing specimens.		<p>devices, Curriculum Design Biology Grade 10</p>		
	5	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Search for information on apparatus and materials for processing specimen and share findings with peers.</p> <p>b) Draw and label apparatus and materials for processing specimen.</p> <p>c) Enjoy drawing and labeling apparatus and materials for processing specimen.</p>	<p>Learner is guided to search for information on apparatus and materials for processing specimen and share findings with peers.</p> <p>Learners to draw and label apparatus and materials for processing specimen</p>	Why do we need apparatus for processing specimens?	<p>Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>	
4	1	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Observe pictures or photo or videos on apparatus and materials used for preserving specimens.</p> <p>b) Identify apparatus and materials used for preserving specimens.</p> <p>c) Acknowledge apparatus and materials used for preserving specimens.</p>	<p>In groups, observe pictures or photo or videos on apparatus and materials used for preserving specimens.</p> <p>Learners to identify apparatus and materials used for preserving specimens.</p>	Which apparatus are used for preserving specimens?	<p>Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>	
	2	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able:</p> <p>a) Search for information on apparatus and materials for preserving specimens and share findings with peers.</p> <p>b) Draw and label apparatus and materials for preserving specimens.</p> <p>c) Enjoy drawing and labeling apparatus and materials for preserving specimens.</p>	<p>In groups, Search for information on apparatus and materials for preserving specimens and share findings with peers.</p> <p>Learners to draw and label apparatus and materials for preserving specimens.</p>	Why do we need apparatus for preserving specimens?	<p>Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>	
	3	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able:</p> <p>a) Watch videos using digital devices on how to collect, process and preserve specimens for biological studies.</p>	<p>In groups, Learners to watch videos using digital devices on how to collect, process and</p>	How are specimens collected and preserved?	<p>Laboratory apparatus and equipment, Textbooks, digital media, print</p>	<p>Oral questions, written tests, Discussion, Observation,</p>	

				<p>b) Discuss own and others observations.</p> <p>c) Value the process of collecting, processing and preserving specimens.</p>	<p>preserve specimens for biological studies.</p> <p>Learners to discuss own and others observations.</p>		<p>media, Digital devices,</p> <p>Curriculum Design Biology Grade 10</p>	<p>Demonstration</p>	
	4	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Find out ways of improvising apparatus and materials for collecting, processing and preserving specimens from digital or print media.</p> <p>b) Share and discuss findings with peers.</p> <p>c) Embrace ways of improvising apparatus and materials for collecting, processing and preserving specimens</p>	<p>In groups, Learner to find out ways of improvising apparatus and materials for collecting, processing and preserving specimens.</p> <p>Learners to share and discuss findings with peers.</p>	<p>How can we improvise apparatus and materials for collecting, processing and preserving specimens?</p>	<p>Laboratory apparatus and equipment,</p> <p>Textbooks, digital media, print media, Digital devices,</p> <p>Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>	
	5	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able</p> <p>a) Identify locally available materials for collecting, processing and preserving specimens.</p> <p>b) Collect locally available materials for collecting, processing and preserving specimens.</p> <p>c) Appreciate locally available materials for collecting, processing and preserving specimens.</p>	<p>In groups, Identify locally available materials for collecting, processing and preserving specimens.</p> <p>Learners to collect locally available materials for collecting, processing and preserving specimens.</p>	<p>Which local materials can we use to improvise apparatus for collecting, processing and preserving specimens?</p>	<p>Laboratory apparatus and equipment,</p> <p>Textbooks, digital media, print media, Digital devices,</p> <p>Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>	
5	1	Cell Biology and Biodiversity	Specimen collection and Preservation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Improvise apparatus from locally available materials for collecting, processing and preserving specimens.</p> <p>b) Display and discuss own and others apparatus.</p> <p>c) Appreciate own and others apparatus.</p>	<p>In groups, Learner to improvise apparatus from locally available materials for collecting, processing and preserving specimens.</p> <p>Learners to display and discuss own and others apparatus.</p>	<p>Which apparatus did you improvise?</p>	<p>Laboratory apparatus and equipment,</p> <p>Textbooks, digital media, print media, Digital devices,</p> <p>Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>	

2	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Practice using the improvised apparatus to collect, process and preserve specimen for biological studies. b) Display and talk about their work in the biology laboratory. c) Have fun collecting, processing and preserving specimen for biological studies.	In groups, Learner to practice using the improvised apparatus to collect, process and preserve specimen for biological studies.  Learners to display and talk about their work in the biology laboratory.	Which challenges did you encounter when improvising apparatus to preserve specimens?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Discussion, Observation, Demonstration
3	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Identify a suitable area for collecting specimen in the locality. b) Observe the designated road crossing points while collecting specimen for biological studies. c) Value observing safety measures when collecting specimens for biological studies.	Learners to identify a suitable area for collecting specimen in the locality.  Learners to observe the designated road crossing points while collecting specimen for biological studies.	What challenges did you encounter when collecting specimens?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration
4	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Discuss the importance of collecting, processing and preserving specimens in Biology. b) Collect small animals using appropriate apparatus c) Enjoy collecting small animals for biological studies.	Learner to discuss the importance of collecting, processing and preserving specimens in Biology.  Learners to collect small animals using appropriate apparatus	What is the importance of collecting, processing and preserving specimens in Biology?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration
5	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Search for information on how to make a herbarium to preserve specimens and hare findings in class. b) Discuss things to consider when preserving specimens in a herbarium. c) Appreciate learning how to make a herbarium for preserving specimens.	In groups, learner to search for information on how to make a herbarium to preserve specimens and hare findings in class.  Learners to discuss things to consider when	What should we consider before preserving specimens in a herbarium?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration

					preserving specimens in a herbarium.				
6	1	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Make a herbarium to preserve specimens. b) Press, dry, mount, label, store well and protect the specimens. c) Have fun making a herbarium to preserve specimens.	In groups, learner to make a herbarium to preserve specimens.  Learners to press, dry, mount, label, store well and protect the specimens.	What is a herbarium?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Search for information on preservatives used in preservation of specimens. b) Discuss findings with peers. c) Acknowledge the use of preservatives in preserving specimens.	In groups, learner to search for information on preservatives used in preservation of specimens.  Learner to discuss findings with peers.	Are preservatives used in preserving specimens for biological studies?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	3	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Discuss and plan for a project on collecting, processing and preserving specimens in Biology. b) Carry out a project on collecting, processing and preserving specimens in Biology. c) Embrace carrying out a project on collecting, processing and preserving specimens in Biology.	In groups, learner to discuss and plan for a project on collecting, processing and preserving specimens in Biology.  Learners to carry out a project on collecting, processing and preserving specimens in Biology.	Where did you get the finances to carry out the project from?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	4	Cell Biology and Biodiversity	Specimen collection and Preservation	By the end of the lesson, the learner should be able to: a) Keep a portfolio to document the progress of the project and make presentations.	In groups learner to keep a portfolio to document the progress of the project and make presentations.	Which challenges did you encounter when carrying out the project?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices,	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	

				<p>b) Discuss whether the project was successful and recommend where improvements can be done.</p> <p>c) Appreciate each other's efforts towards making the project a success.</p>	Learners to discuss whether the project was successful and recommend where improvements can be done.		Curriculum Design Biology Grade 10		
5	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Search for information using print and non-print media on the differences between light and electron microscope.</p> <p>b) View pictures or photos showing a light microscope and electron microscope.</p> <p>c) Have fun viewing photos showing a light microscope and electron microscope.</p>	<p>Learner to search for information using print and non-print media on the differences between light and electron microscope.</p> <p>Learners to view pictures or photos showing a light microscope and electron microscope.</p>	Which type of microscopes do you know?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration		
7	1	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Discuss the structural differences between light and electron microscope.</p> <p>b) Draw the structure of light microscope and electron microscope.</p> <p>c) Acknowledge the structural differences between light and electron microscope.</p>	<p>In groups, Learners to discuss the structural differences between light and electron microscope.</p> <p>Learners to draw the structure of light microscope and electron microscope.</p>	What are the structural differences between a light and electron microscope?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Mention the parts of light microscope.</p> <p>b) Find out and write down the functions of the parts of a light microscope.</p> <p>c) Appreciate the functions of the parts of a light microscope.</p>	<p>In groups, learners to mention the parts of light microscope.</p> <p>Learners to find out and write down the functions of the parts of a light microscope.</p>	What are the functions of light microscope?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	3	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Use digital devices to search for the functions of an electron microscope.</p>	Learner to use digital devices to search for the functions of an electron microscope.	What are the functions of an electron microscope?	Laboratory apparatus and equipment,	Oral questions, written tests, Portfolio,	

				<p>b) Share findings and discuss with peers.</p> <p>c) Value the functions of an electron microscope</p>	Learners to share findings and discuss with peers.		Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Discussion, Observation, Demonstration	
4	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Describe the functional differences between light and electron microscope.</p> <p>b) Write down the functional differences between light and electron microscope.</p> <p>c) Appreciate the functional differences between light and electron microscope.</p>	<p>In groups, learners are guided to describe the functional differences between light and electron microscope.</p> <p>Learners to write down the functional differences between light and electron microscope.</p>	What are the functional differences between light and electron microscope?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration		
5	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Discuss the concept of resolution and magnification in a light and electron microscope.</p> <p>b) Calculate the magnification in a light microscope.</p> <p>c) Acknowledge resolution and magnification in a light and electron microscope.</p>	<p>In groups, Learner to discuss the concept of resolution and magnification in a light and electron microscope.</p> <p>Learners to calculate the magnification in an light microscope.</p>	How do we calculate magnification of an light microscope?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration		
8	<b>MID TERM BREAK</b>								
9	1	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Watch videos on demonstration on how to prepare specimen slides for observation.</p> <p>b) Discuss how to prepare specimen slides for observation.</p> <p>c) Embrace learning how to prepare specimen slides for observation.</p>	<p>In groups, learners are guided to watch videos on demonstration on how to prepare specimen slides for observation.</p> <p>Learners to discuss how to prepare specimen slides for observation.</p>	How do we prepare specimen slides for observation?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p>	<p>In groups, learners are guided to discuss sectioning, staining,</p>	What challenges did you encounter	Laboratory apparatus and equipment,	Oral questions, written tests,	

				<p>a) Discuss sectioning, staining, mounting and fixation in preparation of specimen for observation under a light microscope.</p> <p>b) Practice how to prepare temporary slides for observation under a light microscope.</p> <p>c) Enjoy prepare temporary slides for observation under a light microscope.</p>	<p>mounting and fixation in preparation of specimen for observation under a light microscope.</p> <p>Learners to practice how to prepare temporary slides for observation under a light microscope.</p>	<p>when preparing slides for observation?</p>	<p>Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Portfolio, Discussion, Observation, Demonstration</p>	
3	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Research on how to estimate cell size during microscopy.</p> <p>b) Prepare temporary slides and use them under light microscope to estimate cell sizes.</p> <p>c) Have fun estimating cell sizes of specimens under microscopy.</p>	<p>In groups, learners are guided to research on how to estimate cell size during microscopy.</p> <p>Learners to prepare temporary slides and use them under light microscope to estimate cell sizes.</p>	<p>Were you able to estimate cell sizes appropriately?</p>	<p>Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>		
4	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Use photomicrographs/charts to view the structure of plant cells.</p> <p>b) Identify the parts of a plants cell as observed.</p> <p>c) Appreciate the parts of a plant cell.</p>	<p>In groups, learners are guided to use photomicrographs/charts to view the structure of plant cells.</p> <p>Learners to identify the parts of a plants cell as observed</p>	<p>What is a cell?</p>	<p>Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>		
5	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <ul style="list-style-type: none"> <li>Draw and label the parts of a plant cell as seen under electron microscope.</li> <li>Discuss the functions of a plant cell.</li> <li>Value the functions of a plant cell.</li> </ul>	<p>In groups, learners are guided to draw and label the parts of a plant cell as seen under electron microscope.</p> <p>Learners to discuss the functions of a plant cell.</p>	<p>What are the functions of a plant cell?</p>	<p>Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10</p>	<p>Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration</p>		

10	1	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson, the learner should be able to: a) Use photomicrographs/charts to view the structure of animal cells. b) Identify the parts of an animal cell as observed. c) Appreciate the parts of an animal cell.	In groups, learners are guided to use photomicrographs/charts to view the structure of animal cells. Learners to identify the parts of an animal cell as observed.	Which parts of an animal cell do you know?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson, the learner should be able to: • Draw and label the parts of an animal cell as seen under electron microscope. • Discuss the functions of an animal cell. • Value the functions of an animal cell.	In groups, learners are guided to draw and label the parts of an animal cell as seen under electron microscope. Learners to discuss the functions of an animal cell.	What are the functions of an animal cell?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Discussion, Observation, Demonstration	
	3	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson, the learner should be able to: a) Compare the structure of an animal and plant cell as seen under electron microscope. b) Identify the structural differences between a plant and animal cell. c) Appreciate the structural differences between a plant and animal cell as seen under electron microscope.	In groups, learners to compare the structure of an animal and plant cell as seen under electron microscope.  Learners to identify the structural differences between a plant and animal cell.	What are the structural differences between a plant and animal cell?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	4	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson the learner should be able to: a) Relate the structures of specialized cells in plants and animals to their functions in living things. b) Write a summary on how the structure of specialized cells in plants and animals relate to their functions in living things.	In groups, learners to relate the structures of specialized cells in plants and animals to their functions in living things.  Learner to write a summary on how the structure of specialized cells in plants and	Why are cell important in living things?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	

				c) Appreciate the relationship between the structure of specialized cells to their functions.	animals relate to their functions in living things.				
	5	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson the learner should be able to: a) Identify materials that can be used in modeling the cell structure of a plant and animal cell. b) Model the structure of plants and animal cells as seen under electron microscope. c) Have fun modeling the structure of plants and animal cells as seen under electron microscope.	In groups, learners are guided to identify materials that can be used in modeling the cell structure of a plant and animal cell. In groups, learners to model the structure of plants and animal cells as seen under electron microscope.	Which challenges did you encounter when modeling the structure of plants and animal cells?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
11	1	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson the learner should be able to: a) Identify specialised cells in plants and animals. b) Observe photomicrographs/permanent slides of specialized cells plant and animal cells. c) Acknowledge specialised cells in plants and animals.	In groups, learners to identify specialised cells in plants and animals.  Learners to observe photomicrographs/permanent slides of specialized cells plant and animal cells.	What are specialised cells?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	2	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson the learner should be able to: a) Draw and label specialized cells of plant and animal cells as seen under an electron microscope. b) Discuss the specialised cells in plants and animals. c) Acknowledge the structures specialized cells of plant and animal cells	In groups, Learners are guided to draw and label specialized cells of plant and animal cells as seen under an electron microscope. Learners to discuss the specialised cells in plants and animals.	What is the work of root hair cells?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	3	Cell Biology and Biodiversity	Cell structure and Specialisation	By the end of the lesson, the learner should be able to: a) Discuss the functions of specialised cells in plant and animals.	In groups, learners to discuss the functions of specialised cells in plant and animals.	What is the function of palisade cells?	Laboratory apparatus and equipment, Textbooks, digital media, print	Oral questions, written tests, Portfolio,	

				<p>b) Relate specialised cells in animal ad plants to their functions.</p> <p>c) Value the functions of specialised cells in plat and animals.</p>	Learners to relate specialised cells in animal ad plants to their functions.		media, Digital devices, Curriculum Design Biology Grade 10	Discussion, Observation, Demonstration	
	4	Cell Biology and Biodiversity	Cell structure and Specialisation	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Discuss levels of organization in an organism.</p> <p>b) Write a summary on the levels of organization in an organism illustrating from organelles- cells- tissues- organs and organ systems.</p> <p>c) Appreciate the cell as the basic unit of life.</p>	<p>In groups, learners to discuss levels of organization in an organism.</p> <p>Learners to write a summary on the levels of organization in an organism illustrating from organelles- cells- tissues- organs and organ systems.</p>	Why do we refer to a cell as a basic unit of life?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
	5	Cell Biology and Biodiversity	Chemicals of life	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Brainstorm on what chemicals of life in organisms are and give examples of them.</p> <p>b) Find out from print and non-print media bout the chemicals of life in organisms and share findings with peers.</p> <p>c) Appreciate the chemicals of life in organisms.</p>	<p>In groups, learners to brainstorm on what chemicals of life in organisms are and give examples of them.</p> <p>Learners to find out from print and non-print media bout the chemicals of life in organisms and share findings with peers.</p>	What are chemical of life?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	
12	1	Cell Biology and Biodiversity	Chemicals of life	<p>By the end of the lesson, the learner should be able to:</p> <p>a) Search for information on the composition of the chemical components in cells and share with peers.</p> <p>b) Describe the composition of the chemicals of life in organisms.</p> <p>c) Value the composition of the chemicals of life in organisms.</p>	<p>In groups, learners to search for information on the composition of the chemical components in cells and share with peers.</p> <p>Learners to describe the composition of the chemicals of life in organisms.</p>	What is the composition of the chemical components in cells?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration	

2	Cell Biology and Biodiversity	Chemicals of life	By the end of the lesson, the learner should be able to: a) Search for information on the properties of the chemical components in cells and share with peers. b) Discuss the properties of the chemicals of life in organisms. c) Acknowledge the properties of the chemicals of life in organisms.	In groups, learners to search for information on the properties of the chemical components in cells and share with peers. Learners to discuss the properties of the chemicals of life in organisms.	What are the properties of the chemicals of life in organism?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration
3	Cell Biology and Biodiversity	Chemicals of life	By the end of the lesson, the learner should be able to: a) Search for information on the functions of the chemical components in cells and share with peers. b) Describe the functions of the chemicals of life in organisms. c) Embrace the functions of the chemicals of life in organisms.	In groups, learners to search for information on the functions of the chemical components in cells and share with peers.  Learners to describe the functions of the chemicals of life in organisms.	What are the functions of the chemicals of life in organism?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration
4	Cell Biology and Biodiversity	Chemicals of life	By the end of the lesson, the learner should be able to: a) Discuss how to test for carbohydrates in food substances. b) Watch a demonstration on how to test for carbohydrates in food substances. c) Value learning how to test for carbohydrates in food substances.	In groups, learner to discuss how to test for carbohydrates in food substances.  Learners to watch a demonstration on how to test for carbohydrates in food substances.	In which was can wet test for carbohydrates in food substances?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices, Curriculum Design Biology Grade 10	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration
5	Cell Biology and Biodiversity	Chemicals of life	By the end of the lesson, the learner should be able to: a) Carry out experiments to test for the presence of carbohydrates in food substances. b) Discuss the results of the experiment and write down the conclusion.	In groups, learners to carry out experiments to test for the presence of carbohydrates in food substances. Learners to discuss the results of the experiment	Did you find the presence of carbohydrates in the food substances tested?	Laboratory apparatus and equipment, Textbooks, digital media, print media, Digital devices,	Oral questions, written tests, Portfolio, Discussion, Observation, Demonstration

				c) Have fun carrying out experiments to test for the presence of carbohydrates in food substances.	and write down the conclusion.		Curriculum Design Biology Grade 10		
13	END OF TERM ASSESSMENT								