DOYEN PUBLISHERS
SCHEMES OF WORK TERM II 2025
GRADE 9 INTEGRATED SCIENCE

Week	Lesson	Strand	Sub-strand	Lesson Learning Outcome	Learning Experiences	Key Inquiry Question	Learning Resources	Assessment	Reflection
1	1	Living Things and Their Environment.	Nutrition in Animals: Process of Digestion	By the end of the lesson, the learner should be able to: -State the meaning of digestion in human beings. -Use digital or print resources to search for information on the process of digestion in human beings. -Appreciate the process of digestion in human beings.	In groups,learners are guided to: -brainstorm and present the meaning of digestion. -use the digital or print resources to search for information on the process of digestion in human beings. -identify the organs involved in the process of digestion in human beings. -discuss the process of digestion in human beings and present in class. sketch the human digestive system and label the different organs involved.	What is digestion? Which process are involved in the process of digestion?	Spark Integrated Science pg 77. Charts. Lesson notes. Digital resources.	Written Assessment. Oral questions. Oral discussion. Checklists. Assessment rubrics.	
	2	Living Things and their Evironment	Nutrition in Animals	By the end of the lesson,the learner should be able to: -State the roles of the different	In groups,learners are guided to: -use digital devices to search and watch video clips explaining the process of digestion in human beings.	What are the key steps involved in the process	Spark Integrated Science pg 78 & 80. Digital devices. Video clips. Lesson notes.	Assessment rubrics. Checklists. Oral discussion.	

				organs involved in the process of digestion. -Use digital devices to search and watch video clips on the process of digestion. -Acknowledge the processes involved in digestion.	-individually,take notes on the specific processes and structures involved in each stage of digestion. -discuss the role of the various organs such as mouth, stomach, small intestines and large intestines.	of digestion? What are the roles of the different organs involved in the process of digestion?		Oral questions. Written Assessment.	
	3 & 4	Living Things and their Evironment.	Nutrition in Animals.	By the end of the lesson, the learner should be able to: -Outline the procedure for demonstrating absorption and digestion using an artificial intestines. -Carry out an experiment to demonstrate absorption and digestion using an artificial intestine. -Enjoy carrying out the experiment	In groups,learners are guided to; -identify the requirements for the experiment. -outline and discuss the steps to follow in an experiment to demonstrate absorption and digestion. -collaborate in demonstrating absorption and digestion using an artificial intestine. -observe and record the observations made from the experiment. -discuss their observations and present in class.	How do test for starch and reducing sugars?	Spark Integrated Science pg 78-79. Laboratory. Beakers, Plastic syringes, iodine solution. Benedict's solution, droppers & starch suspension.	Observation schedule. Oral questions. Checklists. Portfolios. Practical Assessment. Oral discussion.	

				while observing safety.					
	5		Nutrition in Animals.	By the end of the lesson, the learner should be able to: -Explain the meaning of propulsion in the process of digestion. -Use digital or print resources to search for information on the mechanisms involved in propulsion. -Value the process of propulsion in digestion of food.	In groups or pairs,learners are guided to; -explain the meaning of propulsion in the process of digestion. -use digital devices to search for information on the mechanisms involved in propulsion: peristalsis, segmentation and sphincters. -take notes on their findings and discuss the findings. -explain the importance of propulsion in the digestion process.	Why is propulsion important in the digestion of food?	Spark Integrated Science pg 80. Digital devices. Lesson notes.	Oral discussion. Written Assessment. Checklists. Assessment rubrics. Oral questions.	
2	1		Nutrition in Animals. Self-Assessment.	By the end of the lesson, the learner should be able to: -Attempt assessment questions on the sub-strand: Nutrition in animals.	In groups,pairs or individually,learners are guided to: -collaborate in answering the assessment questions on the sub-strand; Nutrition in animals.		Spark Integrated Science pg 81. Teacher's Guide.	Assessment rubrics. Written Assessment. Learner's Profile.	

				-Embrace teamwork as they tackle the questions on the sub-strand.					
	2	Living Things and Their Environment.	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Identify the parts of a flower. -Draw and label the parts of a flower. -Appreciate the different parts of a flower.	In groups,learners are guided to: -brainstorm and present the meaning of reproduction. -differentiate between sexual and asexual reproduction. -use digital or print resources to search for pictures of flowers. -study the pictures and identify the parts of a flower. -draw and label the parts of a flower on charts and exercise books and display their drawings in class.	How do plants reproduce?	Spark Integrated Science pg 82. Charts. Drawing materials. Digital devices. Lesson notes.	Assessment rubrics. Checklists. Written Assessment. Oral questions. Oral discussion.	
	3	Living Things and Their Environment.	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Outline the functions of parts of a flower. -Use digital or print resources to search for information on the parts of the flowers. -Acknowledge the functions of the different	In groups or pairs,learners are guided to; -use print materials or digital devices connected to the Internet to find out information on the parts of a flower and their functions. -take notes on the functions of the different parts of a flower. -collaboratively discuss the functions of the parts of a flower. -present their findings to the class.	What are the functions of the different parts of a flower?	Spark Integrated Science pg 82-84. Lesson notes. Digital devices.	Assessment rubrics. Checklists. Oral discussion. Oral questions. Written Assessment.	

				parts of a flower.					
	4 & 5	Living Things and Their Environment.	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Outline the procedure for conducting an experiment on scientific observation of the parts of a flower. -Conduct a practical activity to observe and dissect a flower to find out its parts. -Observe safety as they carry out the experiment.	In groups,learners are guided through the procedure for carrying out an experiment on observation and dissection of the flower to find out its parts. -in groups, learners are guided to gather flowers from the school surrounding. -discuss and identify the various parts of the flowers gathered. -collaborate in examining how the different parts of the flower are connected. -in groups,learners to carefully dissect and observe the different parts of a flower. -record and explain the observations made and then present to the class.	Which part is exposed when the petals are removed?	Spark Integrated Science pg 84-85. Large Whole Flowers. Hand lens. Scissors, razor blades or scapel. Manilla papers. Laboratory.	Checklists. Observation schedule. Practical Activities. Assessment rubrics.	
3	1	Living Things and Their Environment.	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -State the meaning of pollination. -Use digital or print resources	In groups,learners are guided to: -use digital or print resources to search for the meaning of term pollination. -identify the types of pollination in plants. -use digital or print resources to search for information on self-	How does reproduction in plants occur? What is self-pollination ?	Spark Integrated Science pg 85-86. Digital devices. Lesson notes. Pictures.	Assessment rubrics. Checklists. Oral questions. Oral discussions.	

				to search for information on self-pollination. -Appreciate the process of self-pollination in plants.	pollination and examples of plants that self-pollinate. -discuss their findings and take short notes on self-pollination. -study pictures and identify a picture that shows self-pollination. -sketch a diagram showing self-pollination in plants.			Written Assessment.	
	2	Living Things and Their Environment.	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Describe cross-pollination in plants. -Draw a diagram illustrating cross-pollination in plants. -Appreciate the cross-pollination in plants.	In groups,learners are guided to; -use digital and print resources to search for information on cross-pollination. -discuss their findings on cross pollination and make short notes. -study pictures in learner`s book or digital device and identify that shows cross pollination. -sketch a drawing that illustrates cross-pollination in plants.	How does cross-pollination occurs in plants?	Spark Integrated Science pg 85-86. Lesson notes. Digital devices. Pictures.	Assessment rubrics. Checklists. Oral discussions. Oral questions. Written Assessment.	
	3	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Identify the differences between cross-pollination and self-pollination in plants.	In groups,learners are guided to; -brainstorm and share the differences between self-pollination and cross-pollination. -use digital and print resources to search for information on the differences between cross-pollination and self-pollination in plants.	What is the difference between cross-pollination and self-pollination ?	Spark Integrated Science pg 86. Lesson notes. Digital devices. Manilla papers. Rulers and Marker pens.	Assessment rubrics. Checklists. Oral questions. Oral discussion. Written Assessment.	

				-Use digital or print resources to search for information on the differences between self-pollination and cross-pollination. -Acknowledge the differences between cross-pollination and self-pollination.	-discuss the differences between self-pollination and cross-pollination in plants and present to the class. -make a summary table showing the differences between self-pollination and cross-pollination.				
	4		Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Identify the agents of pollination in plants. -Use digital devices to search and watch video clips of the behaviour of the pollinating agents. -Acknowledge the agents of pollination in plants.	In groups,learners are guided to; -brainstorm and share on the agents of pollination in plants. -identify the agents of pollinations. -classify the agents of pollinations as either biotic or abiotic. -use digital devices to search and observe the behaviour of pollinating agents. -take notes on the observed behaviours of the pollinating agents.	What is the difference between biotic and abiotic agents of pollination ? Which agents of pollination do you know?	Spark Integrated Science pg 87-88. Digital devices. Internet. Video clips or animations. Lesson notes. Charts.	Assessment rubrics. Checklists. Oral questions. Oral discussions. Written assessment.	

	5	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Explore pollination agents within the school compound and neighbourhood. -Have fun in exploring pollination agents within the school compound and neighbourhood	-As a class,learners are guided through the aim and steps for the activity. -list the requirements for the practical activity. -in groups,learners to collaborate in observing closely the flowers and any visiting insects,birds or animals using the handlens. -take notes or sketches of what they see. -record their observations about the pollinator`s behaviours. -use digital devices to take photographs to document their observations in a portifolios. -discuss and share their findings.	What types of pollinators did you observe? How did the pollinators interact with the flowers?	Spark Integrated Science pg 89-90. 0bservation sheets. Magnifying glasses. Cameras. Digital devices for capturing videos and photos. School compound.	Observation schedule. Checklists. Portifolios. Practical activity.	
4	1	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Outline the adaptations of flowers to wind pollination. -Use digital or print resources to search for information on adaptations of flowers to wind. -Acknowledge the adaptations of flowers to	In groups,learners are guided to; -brainstorm and present the meaning of adaptations of flowers to wind and insect pollination. -use print materials or digital devices to search for information on the adaptations of flowers to wind. -look for details on how the flowers are structured ,what features they have and how the features help in pollination. -take notes on their findings. -discuss the adaptations of flowers to wind pollination and present to the class. -watch a short clips on wind-pollinated flowers.	How are flowers adapted to wind pollination ?	Spark Integrated Science pg 90-92. Lesson notes. Digital devices. Video clips. Internet.	Assessment rubrics. Checklists. Written Assessment. Oral discussions. Oral questions.	

				wind pollination.					
	2	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Outline the adaptations of flowers to insect pollination. -Use digital or print resources to search for information on adaptations of flowers to insect pollination. -Acknowledge the adaptations of the flowers to insects.	In groups,learners are guided to; -use digital or print media to search for information on the adaptations of flowers to insect pollination. -identify the adaptations of flowers to insect pollination and take short notes in exercise books. -discuss the adaptations of flowers to insect pollination and present to the class. -use digital devices to watch video clips on insect-pollinated flowers.	How are flowers adapted to insect pollination ?	Spark Integrated Science pg 92-93. Lesson notes. Digital devices Internet. Video clips.	Assessment rubrics. Checklists. Oral questions. Oral discussions. Written Assessment.	
	3 & 4	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Study samples of flowers that exhibit adaptations to agents of pollinations.	-As a class ,learners are guided through the aim and steps for the practical activity. -in groups,learners to collaborate in gathering samples of flowers that exhibit adaptations to agents of pollinationnsuch as wind and insect-pollinated flowers. -observe the flowers closely and take note of the structures,shapes,colours and any other outstanding features.	Which adaptations did you notice serve to attract insects I insect-pollinated flowers?	Spark Integrated Science pg 93. Samples of wind-pollinated and insect-pollinated flowers. Laboratory Drawing materials;pencil,papers,manillas and marker pens.	Assessment rubrics. Checklists Oral questions. Oral discussion Observation schedule. Practical activity.	

				-Draw and label wind-pollinated and insect-pollinated flowers. -Show interest and curiousity in studying samples of wind and insect-pollinated flowers.	-discuss the adaptations observed from the samples of flowers. -take turns in drawing diagrams of the flowers observed. -label the different parts of the flowers that are relevant to their adaptations for pollination. -display their drawings in class for assessment and feedback.	Which adaptations did you notice that aid in dispersing pollen through the air?			
	5	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -State the meaning of agrochemicals. -Use digital devices to search for information on the effects of agrochemicals on pollinating agents and reproduction in plants. -Acknowledge the effects of agrochemicals on pollinating agents and	In groups,learners are guided to; -brainstorm and present the meaning of agrochemicals. -give examples of agrochemicals. -use digital devices to search for information on the effects of agrochemicals on pollination agents and its effects on reproduction of plants. -take notes of their findings in books. -discuss the effects of agrochemicals on pollination agents and its effects on reproduction of plants. -present their findings in class.	What are some effects of agrochemicals on pollinating agents? How do agrochemicals impact plant reproduction?	Spark Integrated Science pg 94. Lesson notes. Digital devices. Internet.	Assessment rubrics. Written Assessment. Oral questions. Oral discussion.	

				reproduction in plants.					
5	1	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Describe fertilization and seed formation in flowering plants. -Use digital devices or print resources to search for information on fertilization and seed formation in flowering plants. -Acknowledge the process of fertilization and seed formation in flowering plants.	In groups,learners are guided to; -use digital devices or print resources to search for information on fertilization and seed formation in flowering plants. -discuss the process of fertilisation and seed formation in flowering plants and present their findings in class. -collaboratively study illustrations or clips on fertilization and seed formation.	How does fertilization and seed formation occur in plants?	Spark Integrated Science pg 95-96. Digital devices. Lesson notes. Video clips. Pictures.	Assessment rubrics. Checklists. Written Assessment. Oral discussion. Oral questions.	
	2	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Describe fruit formation in	In groups,learners are guided to; -explain the meaning of fruit formation in flowering plants. -Use digital devices or print media to search for information on the process of fruit formation in flowering plants.	How does fruit formation occur in flowering plants?	Spark Integrated Science pg 97-98. Digital devices. Lesson notes. Video clips.	Assessment rubrics. Written Assessment. Oral discussion.	

				flowering plants. -Use digital or print resources to search for information on fruit formation in flowering plants. -Acknowledge the steps involved in fruit formation in flowering plants.	-discuss the process of fruit formation in flowering plants and present in class. -make short notes on the process of fruit formation in flowering plants. -watch short clips on the process of fruit formation.			Oral questions.	
	3	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Explain the significance of fertilization and fruit formation in flowering plants. -Use digital devices or print media to search for information on significance of fertilization and fruit formation. -Value the process of	In groups,learners are guided to; -brainstorm and share the importance of fertilization and fruit formation in plants. -use digital or print resources to search for information on the significance of fertilization and fruit formation. -discuss the significance of fertilization and fruit formation in plants. -take short notes on the significance of fertilization and fruit formation in plants.	Why is fertilization and fruit formation important?	Spark Integrated Science pg 98. Lesson notes. Digital devices.	Written Assessment. Oral questions. Assessment rubrics. Checklists. Oral discussion.	

				fertilization and fruit formation in plants.						
	4	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Describe the modes of seed and fruit dispersal in plants. -Use digital or print resources to search for information on the wind and water modes of seed and fruit dispersal. -Appreciate the different modes of seed and fruit dispersal.	In groups,learners are guided to; -explain the meaning of fruit and seed dispersal. -identify the modes of fruit and seed dispersal. -discuss the wind and water modes of seeds and fruit dispersal. -search for examples of seeds and fruit dispersed by wind and water modes.	Which modes of seed and fruit dispersal do you know?	Spark Integrated Science pg 100-101. Digital devices. Lesson notes. Flashcards.	Assessment rubrics. Checklists. Written Assessment. Oral questions. Oral discussion.	
	5	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Identify the modes of fruit and seed dispersal. -Use digital or print resources	In groups,learners are guided to; -use digital or print resources to search for information on animal and self-dispersal. -discuss the animal and self-explosion modes of fruit and seed dispersal. -give examples of seeds and fruits dispersed through self-explosion and animal dispersal.	Which seeds and fruits are dispersed by animals and self-explosion?	Spark Integrated Science pg 101-102. Digital devices. Lesson notes.	Assessment rubrics. Written assessment. Oral questions. Oral discussion.	

				to search for information on animal and self-dispersal modes of fruit and seed dispersal. -Appreciate the different modes of seed and fruit dispersal.					
6	1	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson, the learner should be able to: -Collect various fruits and seeds in the locality. -Categorise the fruits and seeds based on their mode of dispersal. -Enjoy categorizing the locally available fruits and seeds based on mode of dispersal.	In groups,learners are guided to; -collect the different fruits and seeds from their locality. -observe the collected the collected fruits and seeds. -discuss and categorise the fruits and seeds collected based on their mode of dispersal. -present their findings in class.	Which fruits and seeds are found in your locality?	Spark Integrated Science pg 103. Fruits and seeds. School and the surrounding environment. Lesson notes.	Assessment rubrics. Practical Activities. Portifolios. Checklists. Observation schedule.	
	2	Living Things and Their	Reproduction in Plants.	By the end of the lesson,the learner should be able to:	In groups,learners are guided to; -brainstorm and present the importance of seed and fruit dispersal in the environment.	What is the importance of fruit and seed dispersal in	Spark Integrated Science pg 100. Lesson notes. Digital devices.	Written Assessment. Checklists.	

		Environment		-State the importance of fruit and seed dispersal in the environment. -Use digital or print resources to search for information on the importance of seed and fruit dispersal in the environment. -Acknowledge the importance of seed and fruit dispersal in the environment.	-use digital devices or print resources to search for information on the importance of seed and fruit dispersal in the environment. -discuss the importance of seed and fruit dispersal in the environment.	the environment?		Assessment Rubrics. Oral questions. Oral discussion.	
	3	Living Things and Their Environment	Reproduction in Plants.	By the end of the lesson,the learner should be able to: -Identify the roles of flowers in nature. -Use digital or print resources to search for information on role of flowers in nature.	In groups,learners are guided to; -brainstorm and present the roles of flowers in nature. -use digital or print resources to search for information on the roles of flowers in nature. -discuss the roles of flowers in nature and present in class. -take a walk around the school compound to observe and appreciate the diverse beauty and role of flowers	What is the role of flowers in nature? What is it important to protect flowers and their pollinators?	Spark Integrated Science pg 102-103. Lesson notes. Digital devices. School environment.	Assessment rubrics. Written Assessment. Checklists. Observation schedule. Oral questions. Oral discussion.	

				-Recognize the role of flowers in nature.					
	4	Living Things and Their Environment	Reproduction in Plants. Assessment.	By the end of the lesson, the learner should be able to: -Attempt assessment questions on the sub-strand.	In pairs or individually,learners are guided to; -answer the assessment questions on the sub-strand.		Spark Integrated Science pg 104. Assessment questions.	Written Assessment. Checklists. Learner`s profile.	
	5	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -State the meaning of biotic components of the environment. -Use digital or print resources to search for information on biotic interrelationship. -Acknowledge the different types of biotic interrelationships.	In groups,learners are guided to; -explain the meaning of biotic components and give examples. -study pictures of different animals and identify how the animals depend on each other. -discuss the meaning of biotic interrelationships. -use digital devices or print resources to search for information on the different types of biotic interrelationships. -describe the herbivory,parasitism,mutualism,saprophytism,predation and competition biotic interrelationships.	What are biotic components of the environment? What is the role of living factors in environment?	Spark Integrated Science pg 105-106. Digital devices. Lesson notes. Pictures.	Assessment rubrics. Checklists. Written assessment. Oral discussion. Oral question.	
7	1	Living Things and	The Interdepen	By the end of the lesson, the	In groups,learners are guided to; -walk around the school environment and observe the biotic factors present.	How do the organisms in the	Spark Integrated Science pg 107. School environment.	Practical Activity.	

		Their Environment	dence of Life.	learner should be able to: -Identify the biotic interrelationship in the environment. -Investigate the interrelationships between biotic factors of the environment in their locality. -Observe safety as they conduct the activity.	-collaborate in investigating the interrelationships between biotic factors of the environment in their environment. -take notes on the interactions and relationships observed between the organisms and their environment. -use digital devices to search for information on the roles of the organisms in the ecosystem and how they interact with one another.	environment interact with one another?	Magnifying glasses. Cameras. Digital devices. Pens & notebooks.	Oral discussion. Oral question. Checklists. Observation schedule.	
	2	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to; -State the meaning of abiotic components of the environment. -Use digital or print resources to search for information on the abiotic components of the environment.	In groups,learners are guided to; -explain the meaning of abiotic components of the environment. -identify the examples of abiotic components of the environment. -use digital or print resources to search for information on the abiotic components of the environment. -discuss the abiotic components of the environment	What are the abiotic components of the environment? What is the role of non-living factors in the environment?	Spark Integrated Science pg 108-109. Lesson notes. Digital devices.	Assessment rubrics. Oral discussions. Oral question. Written Assessment.	

				-Acknowledge the abiotic components of the environment.					
	3	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -Identify the abiotic components of the environment. -Use digital devices to search for information on the effects of abiotic factors on living organisms. -Acknowledge the effects of abiotic factowhrs on living organisms.	In groups,learners are guided to; -mention the abiotic components of the environment. -use digital or print resources to search for information on the effects of abiotic factors on living organisms. -discuss the effects of abiotic factors on living organisms.	What are the effects of abiotic factors on living things?	Spark Integrated Science pg 108-109. Lesson notes. Digital devices.	Written Assessment. Oral question. Oral discussions. Assessment rubrics.	
	4 & 5	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson, the learner should be able to: -Outline the procedure for demonstrating the effects of	In groups,learners are guided to; -identify and prepare the requirements for the experiment. -outline and discuss the procedure for demonstrating the effects of light,wind,temperature and Ph on plants.	What is your conclusion on how light,temperature and wind affect plants?	Spark Integrated Science pg 109-111. Water. Electric bulbs of different colours. Metre rule. Glass funnel.	Demonstrations. Checklists. Observation schedule. Assessment rubrics.	

				light,temperature,wind and pH on plants. -Carry out an experiment to demonstrate the effects of light,temperature,wind and pH on plants. -Embrace teamwork in carrying out the experiment.	-carry out an experiment to demonstrate the effects of light,wind,temperature and pH on plants. -record the observations from the experiment. -discuss their observations and present in class.		Sodium hydrogen carbonate. Text-tubes. Stands & two paper clips. Dilute hydrochloric acid. Sodium hydroxide solution. Water plant. Beaker,thermometer & straw. Source of heat. Laboratory.		
8	**MID-TERM BREAK**								
9	1 & 2	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson, the learner should be able to: -Outline the procedure for demonstrating the effect of light, temperature,wind and humidity on plants. -Carry out an experiment to demonstrate the effect of light, temperature,wind and	In groups,learners are guided through the procedure for demonstrating the effect of light, temperature,wind and humidity on plants. -In groups,learners are guided to prepare the requirements for the experiment and set-up the experiment. -Collaborate in carrying out an experiment to demonstrate the effect of light, temperature,wind and humidity on plants. -Observe and record their observations on the experiment. -discuss their findings and present their conclusions.	What is your conclusion on how light, temperature and wind affect plants?	Spark Integrated Science pg 111-112. Fresh leafy shoot of the herbaceous plant. Potometer. Water, Jelly and Beakers. Scalpel, Rulers. Retort stand. Water trough. Laboratory. Electric bulbs of different colours. Polythene bag.	Assessment rubrics. Checklists. Experiments. Observation schedule. Oral discussion. Oral questions.	

				humidity on plants. -Acknowledge the effect of light, temperature,wind and humidity on plants.					
	3 & 4	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -Outline the procedure for demonstrating for effect of soil pH and fertility on plants. -Carry out an experiment to demonstrate the effect of soil pH and fertility on plants. -Acknowledge the effects of soil pH and fertility on plants.	-In groups, learners are guided through the procedure to demonstrate the effect of soil pH and fertility on plants. -In groups,learners are guided to prepare the requirements and set-up the experiment. -collaborate in carrying out an experiment to demonstrate the effect of soil pH and fertility on plants. -observe and record their observations. -discuss their findings and present their conclusions.	How does deficiency of soil fertility and pH affect plants?	Spark Integrated Science pg 113-114. Bean seeds. Blotting papers or newspapers. Distilled water. Beaker. Measuring cylinder. Laboratory. Potassium Nitrate. Magnesium sulphate. Potassium phosphate. Calcium nitrate. Iron (III) chloride.	Experiments. Checklists. Oral discussion. Oral questions. Observation schedule.	
	5	Living Things and Their	The Interdependence of Life.	By the end of the lesson,the learner should be able to:	-In groups, learners are guided through the procedure for demonstrating the effect of light and humidity on animals.	How does light and humidity	Spark Integrated Science pg 113. Petri dishes. Woodlice.	Experiments. Assessment rubrics.	

		Environment		-Outline the procedure for demonstrating the effect of light and humidity on animals. -Carry out an experiment to demonstrate the effect of light and humidity on animals. -Acknowledge the effect of light and humidity on animals.	-in groups, learners are guided to prepare the requirements and set-up the experiment. -collaborate in conducting the experiment to demonstrate the effect of light and humidity on animals. -observe and record the observations made from the experiment. -discuss their findings and present their conclusions.	affect animals?	Plasticine. Wax. Cellotape. Dark cloth. Wet humus.	Checklists. Observation schedule. Oral questions. Oral discussion.	
10	1	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson, the learner should be able to: -State the meaning of energy flow in an ecosystem. -Use digital or print resources to search for information on living things and what they feed on. -Acknowledge the different	In groups,learners are guided to: -explain the meaning of energy flow. -collaborate in mentioning the different living organisms in the environment. -use digital devices to search and identify what the mentioned living organisms feed on and note down. -use digital devices to search for the meaning of producer, primary consumer, secondary consumer and tertiary consumer in relation to an ecosystem. -discuss the meaning of producer, primary consumer, secondary consumer and tertiary consumer giving relevant examples.	What is energy flow in an ecosystem? What is the meaning of producer, primary, secondary and tertiary consumer in an ecosystem?	Spark Integrated Science pg 117-118. Digital devices. Lesson notes. School environment.	Oral questions. Oral discussion. Written Assessment. Checklists. Assessment rubrics.	

				living organisms and what they feed on.	-walk around the school environment and identify the different living organisms and what they feed on.				
	2	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -Differentiate between food web and food chain. -Identify the producer, primary,secondary and tertiary consumer in food chains and food webs. -Acknowledge the significance of food chains and webs in an ecosystem.	In groups,learners are guided to: -use digital or print resources to search for the meaning of food chain and food web. -discuss the differences between a food chain and food web using a relevant example. -study different pictures from the internet or books and identify those that shows the food webs and food chains. -Guide learners in studying and identifying the producer, primary consumer, secondary consumer and tertiary consumer from the food chains and food webs. -learners to present their findings in class.	What is the difference between food chain and food web?	Spark Integrated Science pg 119-120. Charts with food chains and food webs. Digital devices. Lesson notes. Pictures of food chains and food webs.	Assessment rubrics. Checklists. Written Assessment. Oral questions. Oral discussion. Rating scale.	
	3	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -Outline the steps for constructing a food chain in an ecosystem. -Construct food chains in an ecosystem.	In groups,learners are guided through the steps for constructing simple food chains. -learners to observe keenly as the teacher illustrates how to construct food chains. -in groups, pairs or individually,learners to collaborate in constructing food chains in exercise books and manilla papers.	How do you construct a food chain?	Spark Integrated Science pg 119. Charts showing food chains. Digital devices. Chalkboard and chalks. Lesson notes.	Assessment rubrics. Written Assessment. Oral questions. Oral discussion. Learner's profile.	

				-Enjoy constructing food chains.	-learners to present their constructed food chains in class for assessment and feedback.			Rating scale. Portfolios.	
	4	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson, the learner should be able to: -Outline the steps for constructing a food web. -Construct food webs in the ecosystem. -Enjoy constructing food webs from given ecosystems.	-In groups,learners are guided through the steps for constructing a food web. -Learners to observe the teacher as he/she illustrates how to construct food webs given information from an ecosystem. -in groups or pairs, learners to study information from given ecosystems. -in groups or pairs,learners to collaborate in constructing food webs from the given information on manilla papers and exercise books. -learners to present their constructed food webs in class for assessment.	How do we construct a food web?	Spark Integrated Science pg 119. Charts showing food webs. Lesson notes. Chalkboard and Chalks. Manilla papers.	Assessment rubrics. Checklists. Written Assessment. Oral questions. Illustrations. Portfolios. Rating scales. Oral discussion.	
	5	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -Describe the effects of human activities on the environment. -Use digital or print resources to search for information about the effects of human	In groups,learners are guided to: -brainstorm and present the different human activities that interfere with the ecosystem. -collaborate in searching for information on the effects of human activities on the environment. -learners to individually take notes on their findings. -collaborate in discussing the effects of human activities on the environment and present their findings in class. -outline ways we can reduce the negative effects of human activities on the environment.	What are the effects of human activities on the environment? How can we reduce the negative effects of human activities on the environment?	Spark Integrated Science pg 120. Lesson notes. Digital devices.	Oral questions. Checklists. Assessment rubrics. Written Assessment. Oral discussion.	

				activities on the environment. -Acknowledge the effects of human activities on the environment.					
11	1	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson, the learner should be able to: -Define the term decomposers. -Use digital devices and print resources to research on the role of decomposers in an ecosystem. -Appreciate the role of decomposers in an ecosystem.	In groups,learners are guided to: -brainstorm and present the meaning of decomposers. -search the internet or textbooks for information on the role of decomposers in the ecosystem. -learners to note down their findings. -discuss the role of decomposers in an ecosystem and present their findings.	What is the role of decomposers in an ecosystem?	Spark Integrated Science pg 121-122. Lesson notes. Digital devices	Assessment rubrics. Checklists. Written Assessment. Oral questions. Oral discussion.	
	2	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -State the importance of decomposers in recycling nutrients.	In groups,learners are guided to; -use digital devices to search for information on the importance of decomposers in recycling nutrients. -dicuss the importance of decomposers in recycling nutrients. -learners to present their findings in class.	What is the importance of decomposers in recycling nutrients?	Spark Integrated Science pg 121-122. Lesson notes. Digital devices.	Assessment rubrics. Checklists. Written Assessment. Oral questions.	

				-Use digital or print resources to search for information on the importance of decomposers in recycling nutrients. -Acknowledge the importance of decomposers in recycling nutrients.				Oral discussion.	
	3 & 4	Living Things and Their Environment	The Interdependence of Life.	By the end of the lesson,the learner should be able to: -Outline the steps for carrying out an experiment on identifying role of decomposers in an ecosystem and their importance in recycling nutrients. -Carry out experiments to investigate the role of decomposers in an ecosystem and their	-In groups,learners are guided through the procedure for an experiment to identify the role of decomposers in an ecosystem and their importance in recycling nutrients. -learners are guided to prepare the necessary requirements for the experiment. -In groups,learners to collaborate in conducting the experiments to identify the role of decomposers in an ecosystem and their importance in recycling nutrients. -learners to observe their experiments after a week and two weeks and record their observations. -learners to discuss their observations and present their conclusion.	What happened to the slices of bread and ugali used after the two weeks?	Spark Integrated Science pg 121. Slices of bread. Pieces of ugali. 2 Petri dishes. Hand lenses. Water. Polythene paper.	Practical Activities. Checklists. Oral presentation. Observation schedule.	

				importance in recycling nutrients. -Enjoy carrying out the experiment.					
	5	Living Things and Their Environment	The Interdependence of Life. Assessment.	By the end of the lesson,the learner should be able to: -Attempt Assessment questions on the sub-strand.	In pairs or individually,learners are guided to answer the questions on the sub-strand: The Interdependence of Life.		Spark Integrated Science pg 122-124. Teacher's Guide.	Assessment rubrics. Checklists. Written Assessment.	
12	1	Force and Energy.	Curved Mirrors.	By the end of the lesson, the learner should be able to: -Identify the different types of curved mirrors. -Use digital devices to search for information on the types of mirrors. -Acknowledge the different types of mirrors used in our day to day lives.	In groups,learners are guided to: -brainstorm and present the meaning of mirrors. -identify the types of curved mirrors. -use digital devices or print resources to search for information on the concave mirrors,convex mirrors and parabolic mirrors. -note down their findings in exercise books. -describe the different types of curved mirrors: concave,convex, parabolic mirrors. -use digital devices to watch video clips on the different curved mirrors.	Which types of curved mirrors do you know?	Spark Integrated Science pg 125-126. Digital devices. Video clips. Lesson notes. Pictures. Spoons.	Assessment rubrics. Checklists. Oral discussion. Written Assessment.	

	2	Force and Energy	Curved Mirrors	By the end of the lesson,the learner should be able to: -Identify the terms associated with the curved mirrors. -Use digital or print resources to search for information on the terms associated with the curved mirrors. -Acknowledge the terms associated with the curved mirrors.	In groups,learners are guided to: -use digital devices to search and watch video clips on curved mirrors. -identify the terms associated with the curved mirrors from the video clips. -use digital or print resources to search for information on the meaning of the different terms associated with curved mirrors. -discuss the terms used in the curved mirrors and present in class.	What are the terms associated with the curved mirrors?	Spark Integrated Science pg 127-128. Lesson notes. Digital devices. Video clips.	Assessment rubrics. Checklists. Oral discussion. Oral questions. Written Assessment.	
	3-5	**REVISION**							
13	**END OF TERM 2 ASSESSMENT**								
14	**END OF TERM 2 BREAK.**								