


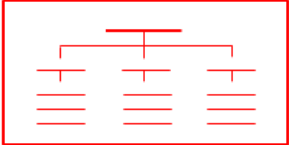
NATURAL SCIENCES AND TECHNOLOGY: PLANNING & PREPARATION





GRADE	5	TERM	1	KNOWLEDGE STRAND	LIFE AND LIVING & STRUCTURES
Term 1 Week 1 and Week 2_2021					
TEACHERS 	Topic / Content / Concepts / Skills (WHAT I am going to teach/guide/support...)		Teaching Methodologies & Classroom Management (HOW I am going to teach/guide/support...)		Resources / LTSM (WHAT I am going to use to teach/guide/support...)
	<p>Topic: Plants and Animals on Earth</p> <p>Introduction: The Seven Life Processes</p> <p>Content:</p> <ul style="list-style-type: none"> Many different plants and animals Inter-dependence Animal types <p>Concepts:</p> <ul style="list-style-type: none"> There are many different plants and animals living in different habitats on Earth. South Africa has a wide variety of indigenous plants and animals and their habitats. Plants and animals depend on each other. They also depend on the resources available (such as air, water, soil, food and places to hide) in their own habitats. There are many different kinds of animals, <ul style="list-style-type: none"> Some do not have bones, and some have hard 'outer skins' or shells (invertebrates). Some have bones (vertebrates). <p>SASOL INZALO/Siyavula Gr 5-A: Teacher's Guide (pp. 4 – 45) Learner's Textbook (pp. 4 – 43)</p> <p>NECT:</p>		<p>PRIOR KNOWLEDGE: Content from grade 4 is revised and the relevance of all the processes is emphasized. <i>(Note to Teacher: As the lesson progresses the vocabulary should be taught to the learners. Break the words that form part of the vocabulary list into the root words. Explain the meaning of the words and the origin of the words to the learners. The learners learn the spelling and the meaning of the words and use them in a sentence. Have a spelling competition in the class and promote good spelling practices.)</i></p> <p>Engage:</p> <ul style="list-style-type: none"> Ask the learners to cut pictures of living and non- living things from magazines or draw it. Ask the learners to group their pictures into groups and to explain to their fellow learners why they grouped their organisms in such a way. Ask the learners if there are any other ways, they can think of to group the organisms and let them explain why they would do that. Lead the learners through questions to think about living and non-living as that is the topic under discussion. <p><i>(Note to teachers:</i> <ul style="list-style-type: none"> If magazines are not available and the learners' ability for drawing is not well developed, prepare a page with a variety of organisms – living and non-living – for the learners to use in this activity. Use this activity to find out what the learners know about living and non-living organisms.) </p> <p>Explore: Watch a short video on the life processes. The seven life processes are introduced using the video of MRS GREN (https://www.youtube.com/watch?v=X5_3BFJFbRE).</p> <ul style="list-style-type: none"> Ask questions to stimulate thinking e.g.: <ul style="list-style-type: none"> Is the following true or false? Give me a reason for your answer using your science knowledge. / Convince me that you are right based on your science knowledge. Can a plant grow? 		<p>TEACHER e-RESOURCES:</p> <ul style="list-style-type: none"> Teachers for Tech and Science: https://teachersfortechandscience.co.za/term1/term-1-plants-and-animals-on-earth/ SASOL Inzalo/Siyavula: https://www.siyavula.com/read NECT: https://nect.org.za/materials/for-teachers Information about the different South African biomes: https://www.hluhluwegamereserve.com/south-african-biomes/#Grassland_Biome <p>VIDEO e-RESOURCES:</p> <ul style="list-style-type: none"> 7 characteristics of living things – Science Song https://www.youtube.com/watch?v=X5_3BFJFbRE 7 characteristics of living things https://www.youtube.com/watch?v=Umg4io_YrTY&t=3s Short Mrs. GREN video on life processes. https://youtu.be/RpZUCo_rKlc How plants and animals depend on each other https://youtu.be/YGxzFBRBwpg <p>PowerPoint:</p> <ul style="list-style-type: none"> Biomes of South Africa

	<p>Natural Sciences Lesson Plan Term 1 (pp. 15 – 57)</p> <p>PRIMARY SCIENCE PROGRAMME (PSP): Learning about Cycads</p> <p>Skills:</p> <ul style="list-style-type: none"> • Accessing and recalling information • Observing • Comparing • Measuring • Sorting and classifying • Identifying problems and issues • Raising questions • Predicting • Hypothesizing • Planning and doing investigations • Recording information • Interpreting information • Communicating <p>LAC:</p> <ul style="list-style-type: none"> • Reading with deeper understanding <ul style="list-style-type: none"> - Reading and interpreting data • Writing with clarity <ul style="list-style-type: none"> - Observation skills: <ul style="list-style-type: none"> o What do I see? o What do I think? o What do I wonder? - Taking notes: <ul style="list-style-type: none"> o Using thinking maps, doodle maps or thinking diagrams to make thinking visible. o Translate information in thinking maps, doodle maps or thinking diagrams into a graph and paragraph. - Using symbols in a diagram as a language to make meaning clear. • Vocabulary: <ul style="list-style-type: none"> - biosphere - habitat - biodiversity - nutrition - excretion - respiration - reproduction - sensitivity to the environment 	<p>- Can a rock hear, smell and taste?</p> <p>Explain: Show the learners different pictures of one of the life processes shown by an animal or plant, e.g.: a person dancing or a sunflower facing the sun. Ask the learners to do the following:</p> <ul style="list-style-type: none"> • Name the life process. • Write a sentence to explain the life process as shown by the picture. <p>Explore:</p> <ul style="list-style-type: none"> • Show the learners pictures of the different types of habitats found on Earth: Tundra, Desert, Grassland, Forest, Rainforest, Mountains, Seas and Oceans, Rivers and Lakes. • Ask them questions such as: <ul style="list-style-type: none"> - What kind of animals do you think will live in this habitat (biome)? - What kind of plants do you think will grow in this habitat (biome)? • South Africa also has many different habitats (biomes). Show the learners a PowerPoint (See the PowerPoint in the resource section) with all the different biomes of the country. Let them guess what kind of animals and plants they will find in the biomes. • Give the learners a page with a variety of organisms printed on it. You can have a page for every biome and give every learner a different biome. <ul style="list-style-type: none"> - The learners study the animals printed on his/her page. - Based on the PowerPoint, they have to guess which biome their organisms represent. - Provide them with an A4 blank page. - The learners need to draw the biome as a background, cut out the pictures of the different organisms and paste it on the biome background. (Homework) - They create a poster of the biome. - They use the poster to tell their classmates about the biome and why the different plants and animals live there. - The teacher and the learners can then discuss the interdependence of the organisms on each other to maintain a healthy habitat. - The learners write a paragraph of about five sentences about the biome they had to develop. • Take the learners outside and have them measure out an area of approximately 2 x 2 m. The learners must observe and jot down the following information: <ul style="list-style-type: none"> - The number of plants they found. - The different types of organisms / animals found in the block. - They choose one of the plants or organisms / animals and have an interview with the living organism. (See the activity sheet below.) - When back in class the learners can compare their information and the teacher can do a pictograph on the board to collect all the information the learners have gathered. - The teacher can explain the use of graphs to collect information to the learners and help them to understand how Scientists collect information. 	<p>https://drive.google.com/file/d/1Yxklhgjprmt4BoVoyN9-c8JDEftDiBzt/view?usp=sharing</p> <p>LAC:</p> <ul style="list-style-type: none"> • Glossary List / Science Dictionary • Flashcards to display new vocabulary <p>Other:</p> <ul style="list-style-type: none"> • Science diary or workbook, stationary • Laptop / tablets / smart phones, projectors, speakers, etc. • Pictures of: <ul style="list-style-type: none"> - Major biomes on Earth - Biomes in South Africa - Living organisms found in the different biomes - Interdependent organisms, e.g.: cycad weevil and the cycad - Interdependence of humans on the different biomes we live in. - Ecosystems - Simple food chains in the ecosystem or biomes. - Vertebrates - Invertebrates - Skeletons of vertebrates <p>Equipment:</p> <ul style="list-style-type: none"> • Measuring tape • Ribbon or any other objects to mark the area
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	<ul style="list-style-type: none"> - organisms - sustain - domains (systems) - interconnected - extinct - ecosystem - vertebrate - invertebrate - consumers - producers - decomposers - endoskeleton - exoskeleton 	<p><u>Evaluate:</u></p> <ul style="list-style-type: none"> • Use the interview activity completed in the previous section to gauge the learners' knowledge, understanding and application of the section of work. • Give the learners feedback and ask them to reflect on their work by doing a 'Two Stars and a Wish' activity. Two stars represent two things, ideas or facts that they enjoyed learning about. The wish represents a section of work they wish they knew more about or something they would like to relearn because they are unsure about it. <p><u>Explore:</u></p> <ul style="list-style-type: none"> • The learners read an activity from the SASOL Inzalo/Siyavula Gr 5 A learner book, p.22-23. • They answer questions based on the reading activity. The teacher guides the learners in interpreting and answering questions. Use this opportunity to show learners how to look for the word in the question that tells them what they have to do. • The learners summarise the story using a Flow Map to explain the interdependence between the animals. <div data-bbox="831 635 1675 775" data-label="Diagram"> <pre> graph LR A[] --> B[] B --> C[] </pre> </div> <ul style="list-style-type: none"> • The learners, with the help of the teacher, think about other examples showing interdependence. Here they can watch the video on YouTube based on how animals and plants depend on each other. See the resource column. • You can now add words such as consumer, producer and decomposer to the learners' vocabulary. <p><u>Elaborate:</u></p> <ul style="list-style-type: none"> • Learners look at the poster of the habitat or biome that they made in a previous activity. • They choose the living organisms that form a food chain. • The learners need to draw three food chains (simple) based on the information on their poster. <p><u>Evaluate:</u></p> <ul style="list-style-type: none"> • The learners show the class their food chains. • They explain how the food chain works. • They have to use the vocabulary learned during the lesson. • Evaluate the learners informally on their knowledge, understanding and application. • Ask the learners to reflect on their learning and say what was difficult, what was easy and what was interesting during this learning phase. 	
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<p>PARENTS</p> 	<p>ACTIVITIES AT HOME: Explore together: 1. The wonderful biodiversity on Earth. 2. How it will impact us as humans if the biodiversity on South Africa is not protected. 3. Looking and talking about how we interact with the world we live in.</p> <p>Support your child with the activities by:</p> <ul style="list-style-type: none"> • Providing support when asked for it. • Guiding their learning through questions. • Showing an interest. • Providing a safe, secure area in which to work. • Allowing for the time it will require to do the activity. • Helping them to acquire the materials they will need to explore and investigate the topic. • Allowing them to make mistakes and seeing it as growth in their thinking and doing (don't give up attitude). • Allowing them to fix their mistakes. <p>The idea is still that the learner should do their own work, but it is very important that they feel that their parents had some input and supported them.</p> <p>This activity will teach fact-finding and problem-solving skills and responsibility as a value.</p> <p>Key Questions:</p> <ul style="list-style-type: none"> • What is the coldest place where animals live? • How deep is the sea? Are there animals and plants down there? • Where is the highest mountain on earth? Do plants and animals live up there? • Do you get living things in the desert? • What are vertebrates and invertebrates? <p>Key Concepts:</p> <ul style="list-style-type: none"> • There are many different plants and animals. • They live in different habitats on Earth. • All the plants and animals and their habitats make up the total biodiversity of the Earth. • South Africa has a rich variety of indigenous plants and animals and their habitats. 	<p>See the resources in the Teacher section above.</p> <p>Any programs on National Geographic Channel</p>
<p>LEARNERS' ACTIVITIES</p> 	<p>See the Learner Activity Worksheet below.</p>	
<p>Informal Assessment</p>	<p>Set an informal test based on the content taught.</p>	
<p>Values taught</p>	<p>See the Global Goals for Sustainable Development.</p>	

Activity: Interview a plant or animal

- Choose any plant or animal from the block you were investigating.
- Draw and record your observations below.

Draw your plant or animal here.

Label the main parts here.



Observations: Do only the plant **OR** the animal.

Plants	Answers	Animals	Answers
How tall and how wide are you (in cm)?		How big are you?	Height: Length:
Describe the texture of your leaves.	<input type="checkbox"/> Smooth <input type="checkbox"/> Hairy <input type="checkbox"/> Prickly <input type="checkbox"/> Waxy <input type="checkbox"/> Fleshy <input type="checkbox"/> Tough	Describe the texture of your body.	<input type="checkbox"/> Smooth <input type="checkbox"/> Hairy <input type="checkbox"/> Prickly <input type="checkbox"/> Scaly <input type="checkbox"/> Slimy <input type="checkbox"/> Hard
Are you an adult plant or are you still growing?		What body parts do you have?	

What is your name? (You may make up a name that suit the plant or you may look it up.)		How do you escape or protect yourself from predators?	
Do any animals eat parts of you?		What kind of teeth or mouth parts do you have?	
Do any animals live on you? (Look for evidence.)		Who do you live with?	
What kind of stem do you have?	<input type="checkbox"/> Soft <input type="checkbox"/> Green <input type="checkbox"/> Rough <input type="checkbox"/> Bendy <input type="checkbox"/> Fleshy <input type="checkbox"/> Woody	What sense organs do you have?	
What kind of flowers or cones do you have? Describe it. Think about the colour, size, smell, number of petals, seeds, etc.		How are your babies born?	
What is the pattern of the leaves on your stem?	<input type="checkbox"/> Opposite <input type="checkbox"/> Alternate <input type="checkbox"/> Bunched <input type="checkbox"/> Spiral	Where do you make a safe place to rear your young?	
		What kind of animal are you?	
		How do you move around?	