basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

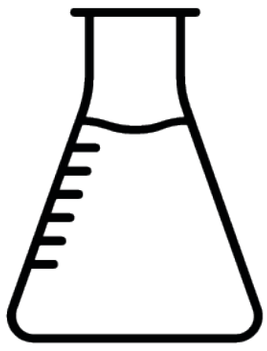
NATIONAL EDUCATION COLLABORATION TRUST

2030 NDP

Read to Lead
A Reading Nation is a Leading Nation

Planner & Tracker for Recovery ATP

Natural Sciences & Technology



Grade 6 Term 1

Table of Contents

Introduction

Dear Natural Sciences & Technology Teachers,

The COVID-19 Pandemic has left us with an enormous challenge in education. As we return to 'normal schooling', we all have to work smarter and harder to ensure that our system recovers.

This document is designed to help you achieve this. By systematically working through this plan, we are confident that you can address the loss of teaching and learning time, and bring your learners to the level where they need to be in terms of NS & Tech.

We thank you in advance for the commitment, dedication and hard work that is required of you.

You are truly building our nation.

With very best wishes for the term ahead,

The DBE / NECT Recovery ATP Trackers Team

Overview

Please continue to keep the following key principles in mind throughout the recovery journey:

- The development of **Science Process Skills** is key to the teaching and learning of the subject. Focussing on these skills is critical.

- Learners should be given as many opportunities as possible to **write regularly and read for meaning** in Natural Science and Technology, in order to develop **language skills** as well. Due to learning losses, as a result of the Covid pandemic, it is the responsibility of every educator to develop these literacy skills.

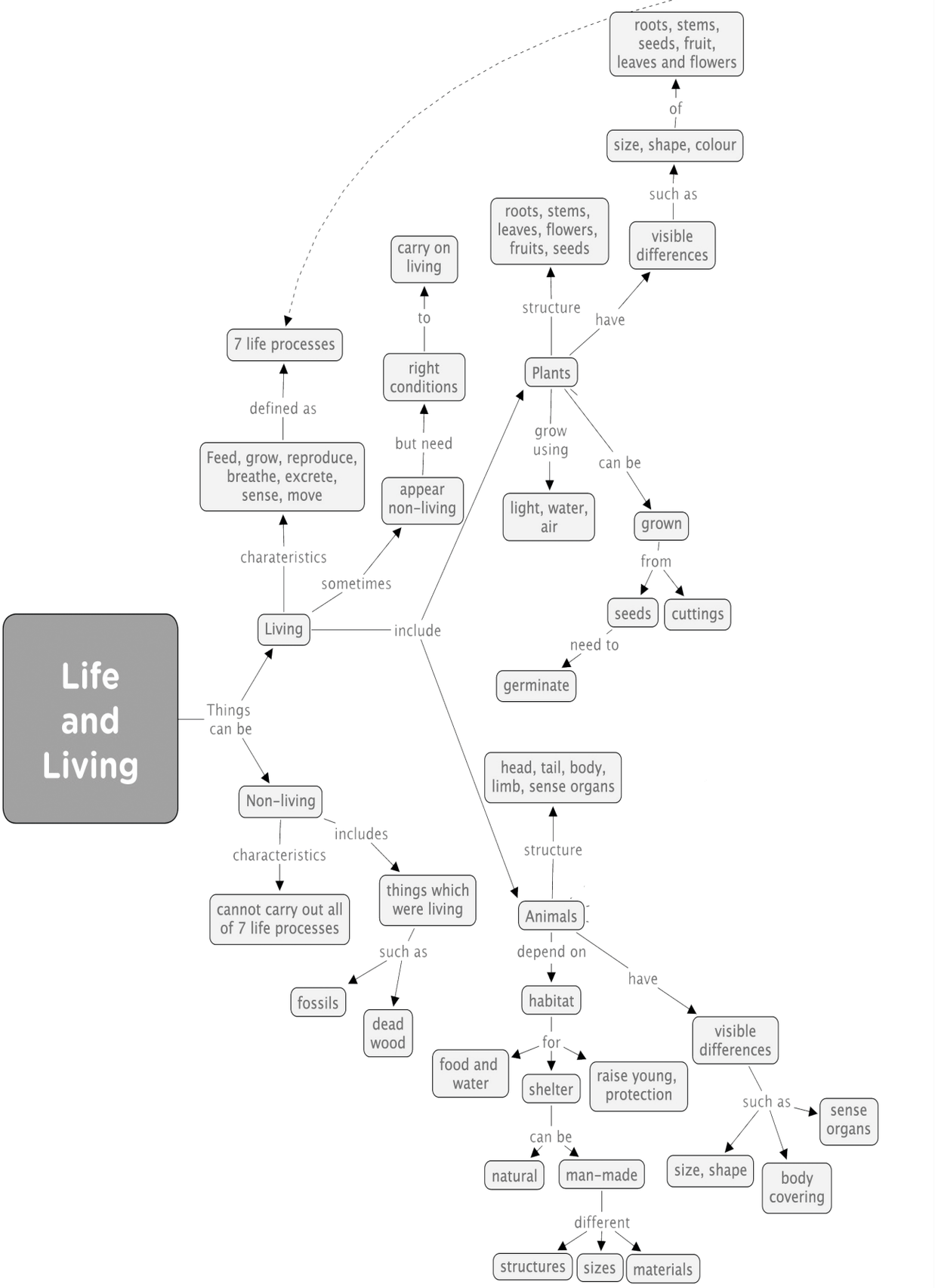
- It is very important to give learners a sense of **how science applies to their daily lives**, and of **the value that science adds to their lives**. Hold a brief discussion on this point when introducing a new topic, and invite learners to contribute their ideas on the uses and value that this topic has.

- At the end of every topic, come back to the topic overview, and **reflect on what has been learnt and taught**. In particular, it is important to note your challenges and ideas for future improvement, so that you can improve your teaching the next year.

- At the core of all scientific activities is the need to **ask questions**. These questions help us seek answers through observation and experimental design. The results of these questions should raise more questions. It is this natural curiosity that all teachers, and especially science teachers, should be encouraging in their classrooms. **Encourage curiosity** and **questions that investigate, inquire and probe.**

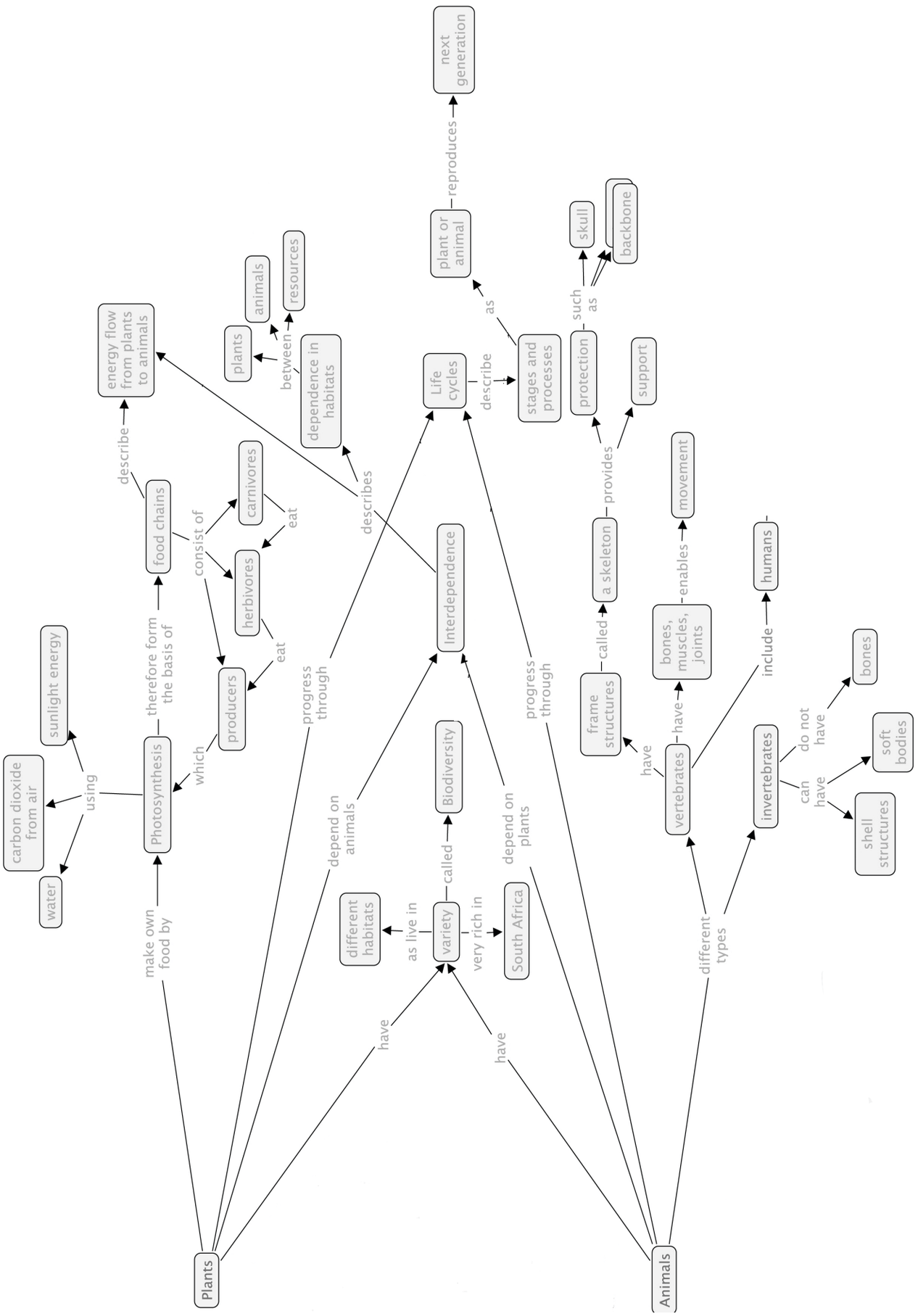
- **Build a solid conceptual foundation** for learners. A **conceptual chain** for the phase is provided at the start of this document. It is important for all NS & Tech teachers to work cohesively to ensure that learners are equipped with a solid understanding of the required concepts, by the time they leave the phase.

- Using the **CONCEPTUAL CHAIN** provided, **work together** as a department to:
  a. Check that all **concepts for the phase are covered** in your school's recovery plan.
  b. **Check for overlaps** across the grades.
  c. **Identify the weak links in the conceptual chain** - points where learners struggle and may be the source of misconceptions or common errors.
  d. Decide how to **emphasise critical concepts from previous grades,** especially where topics have moved from a different grade in the revised ATP.

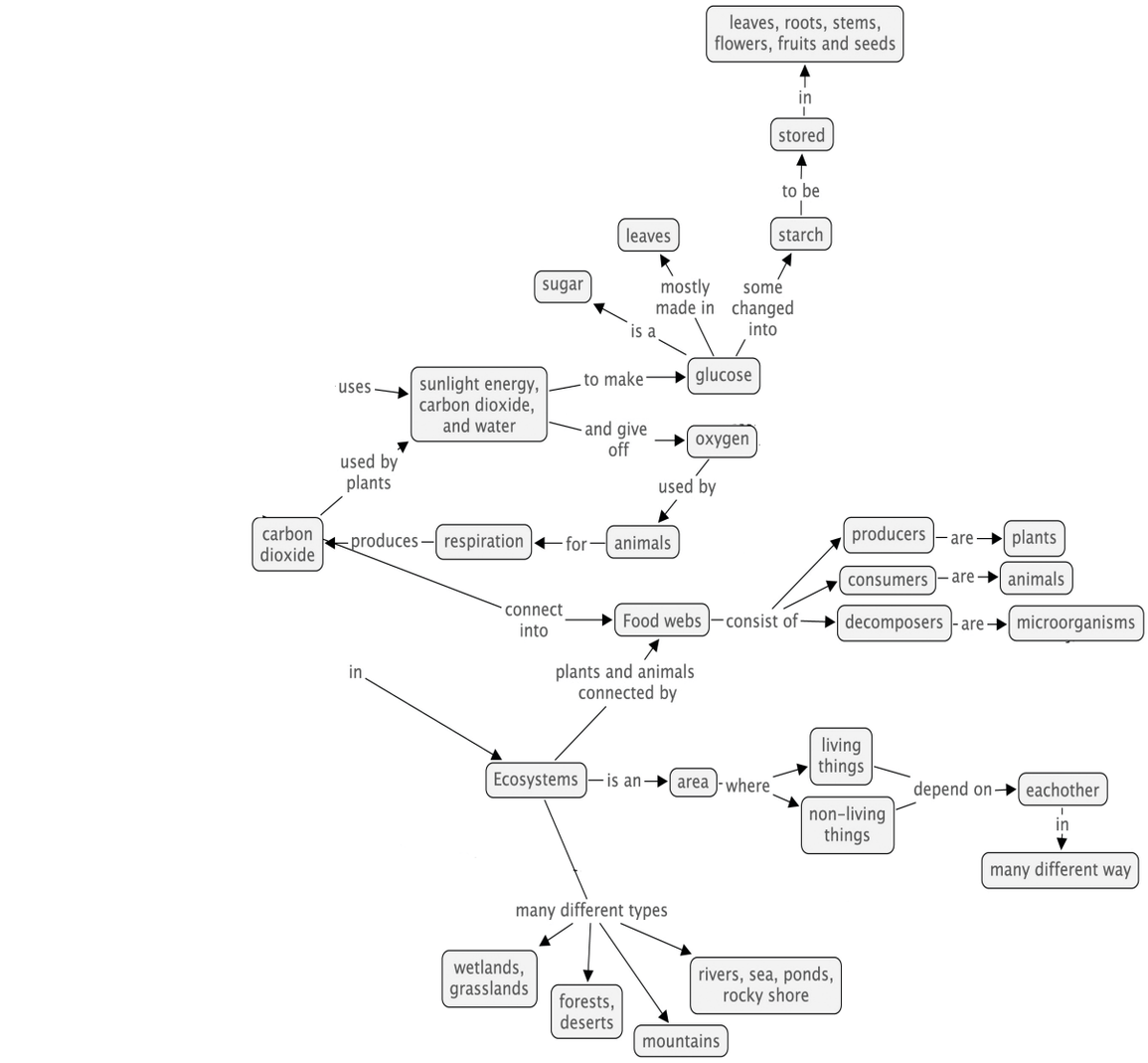


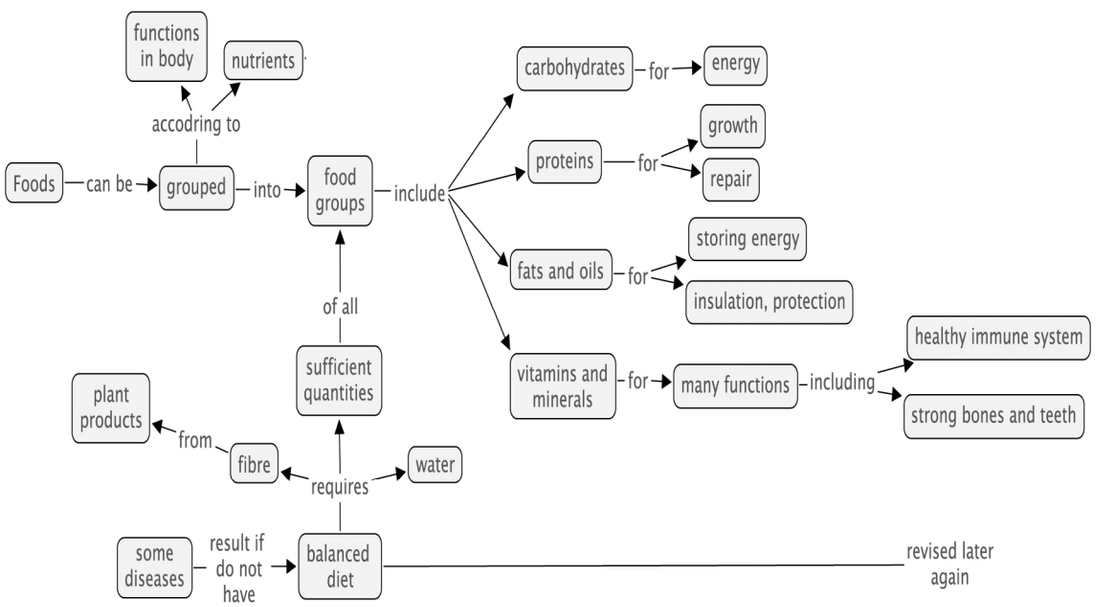
*The concept maps in this section have been adapted from **Thunderbolt Kids resources** published by **Siyavula.***

Intermediate Phase Conceptual Chain: Grade 5



*The concept maps in this section have been adapted from **Thunderbolt Kids resources** published by **Siyavula.***





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Amendments to the Annual Teaching Plan

The Recovery ATP for Natural Sciences & Technology has the **same content as in CAPS**, however, this content has been arranged as follows for Term 1:
Some **topics from Grade 5** have been **included/recovered**.
Some topics have been **increased in time** and some **topics** have been **removed completely**.

- **Some topics have been recovered from Grade 5**
  1. Life cycles (1 week)
  2. Food chains (1,5 weeks)
- **Some topics remain:**
  1. Nutrients in food (1,5 weeks)
  2. Nutrition (1,5 weeks)
  3. Ecosystems and food webs (2 weeks)
- **Some topics have been increased in time**
  1. Photosynthesis (2,5 weeks)
- **Some topics have been removed completely**
  1. Food processing

Directions on how to cover all required topics are provided in the Tracker that follows.

Amendments To The Programme Of Assessment

- The Programme of Assessment is aligned to the *Revised Section 4 of CAPS.*
- Both formal and informal assessment should continue as normal.
- Recording of the informal assessment is left to the discretion of the teacher.
- The 2022 formal assessment tasks for Grade 6 are as follows:

	TERM 1	TERM 2	TERM 3	TERM 4
Practical Task/Investigation	20 marks	20 marks	20 marks	-
Test	40 marks	60 marks	40 marks	60 marks

Sample Assessment Tasks and Memoranda / Rubrics for Grade 6 Term 1 are included in this document.

ATP / NECT Lesson Plan / Textbook Alignment: Grade 6 Term 1

Notes:

- **Column 1** shows the **time allocation** per topic.
- **Column 2** shows the **Recovery ATP requirements** for Grade 6 Term 1.
- **Column 3** explains any **changes** that have been made to the teaching plan.
- **Column 4** shows **where in the NECT lesson plans** this is covered.
- **Column 5** shows **where in the approved textbooks** this is covered.
- Finally, if, for any reason, the **Term 1 teaching time** for NS & Tech **is reduced,** please ensure that the **KEY CONCEPTS** listed below each table are thoroughly covered.

Key To Approved Textbook Abbreviations:	
S&M	Study & Master Natural Science and Technology Grade 5 Cambridge University Press
VIVA	Viva Natural Sciences and Technology Grade 5 Vivlia
PLAT	Platinum Natural Sciences and Technology Grade 5 Maskew Miller Longman
SFA	Solutions for All Natural Sciences and Technology Grade 5 MacMillan
DbD	Day by Day Natural Sciences and Technology Grade 5 Maskew Miller Longman
OX	Oxford Successful Natural Sciences and Technology Grade 5 Oxford University Press
SO	Spot On Natural Sciences and Technology Grade 5 Pearson
TC	Top Class Natural Sciences and Technology Grade 5 Shuter and Shooter
SIBB	Sasol Inzalo Bk B Natural Sciences and Technology Grade 5 Sasol

ATP / NECT Lesson Plan / Textbook Alignment: Grade 6 Term 1

Key To Approved Textbook Abbreviations:	
S&M	Study & Master Natural Science and Technology Grade 6 Cambridge University Press
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TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS		DATE COMPLETED
Weeks 1	Life Cycles 1. Growth and development	This topic has been recovered from Grade 5 Term 1	**Grade 5 Term 1 Lesson Plans** Lesson 8C: Plants and animals grow and develop Lesson 9A: Stages and processes of animals Lesson 9B: Stages and processes of plants Lesson 9C: Life cycle of a vertebrate	S&M Gr 5	51 - 64	
				VIVA Gr 5	39 - 46	
				PLAT Gr 5	47 - 55	
				SFA Gr 5	59 - 67	
				DbD Gr 5	43 - 52	
				OX Gr 5	36 - 43	
				SO Gr 5	22 - 28	
				TC Gr 5	34 - 41	
				SIBB Gr 5	98 - 115	

Scaling down

If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key content and concepts:

Life Cycles

- Describe the processes and stages of the growth and development throughout a plant or animal's life.
- Describe reproduction, death, and caring for young animals.
- Describe what a life cycle is and understand the purpose of a life cycle.
- Describe the different stages in the life cycle of plants, from seeds to fruit, and put the stages into the correct order.
- Describe the different stages in the life cycle of vertebrates, from birth to death, and put the stages into the correct order.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS		DATE COMPLETED
Weeks 2 - 4	Photosynthesis 1. Plants and food 2. Plants and air	This topic has been increased in time from 2 to 2,5 weeks.	**Gr6 Term 1 Lesson Plans** LLesson 1A: Plants and food Lesson 1B: Plants and food Lesson 1C: Plants store food Lesson 2A: Testing for starch Lesson 2B: Plants and air Lesson 2C: Plants and air	S&M Gr 6	10 -14	
				VIVA Gr 6	2 – 12	
				PLAT Gr 6	2 – 9	
				SFA Gr 6	2 – 5	
				DbD Gr 6	1 – 8	
				OX Gr 6	10 – 15	
				SO Gr 6	1 – 5	
				TC Gr 6	1 – 10	
				SIBB Gr 6	4 – 18	

If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

Photosynthesis

- Describe the process of photosynthesis, draw a flow diagram of the process. Know that photosynthesis is the process where plants make their own food – glucose sugar.
- Plants need sunlight, water and carbon dioxide for photosynthesis.
- Know the difference between starch and sugar, understand that glucose sugar is changed to starch, describe the function of glucose sugar – food that is a good source of energy for plants and animals.
- Plants store their food in their leaves, stems, roots, flowers, fruits and seeds.
- Understand the process where plants use carbon dioxide and give off oxygen.
- Describe the oxygen-carbon dioxide cycle, understand how plants and animals are inter-dependent.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS		DATE COMPLETED
Week 4 - 5	Nutrients in food 1. Food groups		**Grade 6 Term 1 Lesson Plans** Lesson 3A: The main food groups Lesson 3B: Food groups Lesson 3C: Food groups Lesson 4A: Food groups Lesson 4B: Food groups	S&M Gr 6	15 – 22	
				VIVA Gr 6	13 – 20	
				PLAT Gr 6	12 – 20	
				SFA Gr 6	14 – 25	
				DbD Gr 6	11 – 18	
				OX Gr 6	16 – 21	
				SO Gr 6	6 – 7	
				TC Gr 6	11 - 18	
				SIBB Gr 6	22 - 29	

If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

Nutrients in food

- Identify and understand the functions of the 4 different food groups: carbohydrates, proteins, fats and oils, vitamins and minerals.
- Know which foods belong to which group. Able to give examples of food products for each group.
- Know the differences between natural and processed foods, understand additives.
- Be able to read a food label to know the nutritional value of food products. Identify nutrients and additives in food from labels.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS		DATE COMPLETED
Week 6 - 7	Nutrition 1. Balanced diets		**Grade 6 Term 1 Lesson Plans** Lesson 4C: Balanced diets Lesson 5A: Balanced diets Lesson 5B: Balanced diets Lesson 5C: Balanced diets	S&M Gr 6	23 – 29	
				VIVA Gr 6	21 – 27	
				PLAT Gr 6	21 – 25	
				SFA Gr 6	30 – 39	
				DbD Gr 6	20 – 26	
				OX Gr 6	22 – 27	
				SO Gr 6	10 – 11	
				TC Gr 6	19 – 26	
				SIBB Gr 6	36 – 37 47 - 54	

If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

Nutrition

- Identify which food groups certain foods belong to.
- Understand the functions of different food groups.
- Know that a balanced diet means choosing the right amount of foods from the 4 different food groups, each day. It must contain the right amount of nutrients to keep your body healthy. The importance of drinking lots of water.
- The dangers of junk food. Why it is unhealthy. Diet related diseases – tooth decay, kwashiorkor, diabetes, scurvy, malnutrition.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS		DATE COMPLETED
Weeks 7 - 8	Food Chains 1. Food and feeding	This topic has been recovered from Grade 5 Term 1	***Grade 5 Term 1 Lesson Plans*** Lesson 7B: Green plants make their own food Lesson 7C: Animals need food / food and life processes Lesson 8A: Food chains Lesson 8B: Food chains continued	S&M Gr 6	44 - 50	
				VIVA Gr 6	30 - 37	
				PLAT Gr 6	38 - 43	
				SFA Gr 6	47 - 53	
				DbD Gr 6	33 - 42	
				OX Gr 6	30 - 35	
				SO Gr 6	18 - 21	
				TC Gr 6	28 - 33	
				SIBB Gr 6	78 - 94	

If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

Food chains

- Know what plants need to make food: sunlight (energy), water, nutrients from the soil, carbon dioxide from the air.
- Understand the process of photosynthesis. Plants give off oxygen when they make food – living things need oxygen to breathe.
- Compare the need for animals to eat, with the need for plants to make their own food.
- Explain how animals need food to carry out the life processes.
- Categorise animals into carnivores, herbivores and omnivores and how all animals depend on plants for food..
- Understand and draw food chains with correct sequences and order.
- Understand energy transformation in the food chain.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS		DATE COMPLETED
Weeks 9 - 10	Ecosystems and food webs 1. Different ecosystems 2. Living and non-living things in ecosystems 3. Food webs		**Grade 6 Term 1 Lesson Plans** Lesson 8A: Ecosystems and what they are Lesson 8B: Different ecosystems: rivers, sea, rocky shore, ponds and wetlands Lesson 8C: Different ecosystems: mountains, grasslands, forests, deserts Lesson 9A: Relationships between living and non-living things Lesson 9B: Feeding relationships Lesson 9C: What makes a food web	S&M Gr 6	40 – 54	
				VIVA Gr 6	42 – 52	
				PLAT Gr 6	39 – 49	
				SFA Gr 6	67 – 84	
				DbD Gr 6	42 – 52	
				OX Gr 6	36 – 43	
				SO Gr 6	18 – 29	
				TC Gr 6	40 – 50	
				SIBB Gr 6	78 - 91	

If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

Ecosystems and Food webs

- Know that an ecosystem is made up of living and non-living things that interact with each other. Identify the different ecosystems.
- Identify relationships between living and non-living things in the different ecosystems. Draw diagrams to show relationships.
- Describe different ecosystems and identify living things that are found in those ecosystems.
- Draw and label a simple food web. Identify the producers and consumers in food webs. Understand the levels in a food chain.
- Know that herbivores are animals that eat only plants, carnivores are animals that eat other animals, omnivores are animals that eat both plants and animals.
- Able to draw and label the components of a food web and identify the different parts of a food web.

Below is a sample assessment test and memorandum. Please feel free to use this task as is, or to adapt for your context. It is important to ensure that learners are only assessed on work that has been taught.

Natural Sciences & Technology
Grade 6
Term 1
Practical Task
Marks: 20
Time allocation: 60 minutes (20 minutes preparation, 40 minutes task time)

NOTE TO THE TEACHER:

1. This practical activity will be completed as part of Section E of lesson 2B.
2. This practical will take place during the lesson after the teaching component in Section D, “Accessing Information”.
3. The first 20 minutes will be used to teach section D and prepare learners for the practical task.
4. The next 40 minutes will be used to complete the practical activity as outlined in Section E.
5. The instructions and content of the practical task should be written on the chalkboard for the learners.
6. The memorandum for assessing the practical task is provided.
7. The learners will need to have 2 small bunches of leaves per group to complete the task. If they are unable to collect these from the school grounds, you will need to provide them.
8. Other equipment required is listed in the outline of the practical task in Section E of Lesson 2B.
9. The learners should complete the drawings with a sharp pencil if possible and the written answers should be completed in pen.

1. To do this activity, each group will need the following:
   - a clear glass jar filled with warm water
   - 2 small bunches of freshly picked green leaves
   - a sunny spot to put their jars
   - a hammer/ stone/ heavy object for hammering
2. Ensure you have these materials prepared for each group before the lesson starts.
3. Tell the learners that they are going to be doing an investigation to see what happens during photosynthesis.
4. Divide the learners into groups of four or six.
5. Write the following onto the chalkboard (always try to do this before the lesson starts):

PRACTICAL TASK

METHOD

a. Take one small bunch of green leaves (3 or 4) and put them into the glass jar with the water.

b. Make sure they are completely covered by the water.

c. Place the jar in a sunny spot.

6. Make sure the learners understand what they have to do.
7. Now ask the learners to copy the questions for the task into their workbooks.
8. This will need to be written onto the chalkboard:

Task 1: **(6 marks)**

a. Draw a LABELLED diagram of your investigation with the following labels:
   - leaves
   - jar
   - water
   - sunlight

b. Discuss in your group what you think might happen in this investigation. Write down your prediction.

Task 2: **(5 marks)**

a. Using a leaf from the second bunch of leaves, draw a detailed diagram of the leaf. Pay attention to the leaf shape, the veins and the leaf edges.

b. Label the following on the diagram:
   - leaf edge
   - veins
   - leaf stem

c. Mark any openings or holes visible on the back of the leaf

Task 3: **(3 marks)**

Take another leaf from the second bunch. Place it on the surface of your page.
Hit the surface gently with a hammer or other heavy object. Answer the following:
Label the following on the diagram:

a. What colour has the leaf stained the page? _____

b. What is absorbed, from the air, by this green part of plant?

c. Plants make their own food. What do we call this process?

Task 4: **(6 marks)**

It is now time to check on your leaves in the jar. Answer the following:

a. What can you see on the undersides of the leaf?

b. What do you think these are?

c. Why do you think the leaves needed to be placed in a sunny spot?

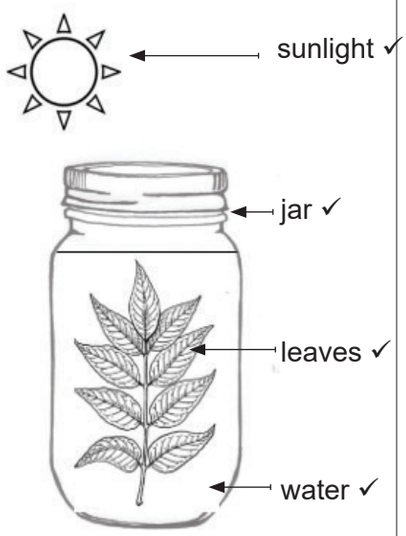
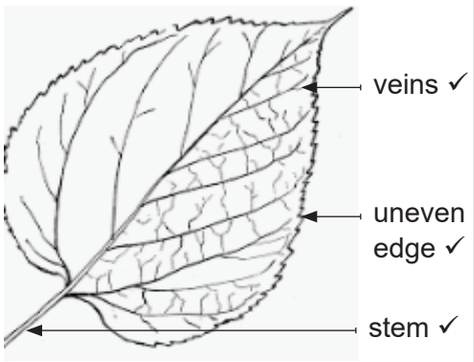
d. During photosynthesis, what do plants absorb and release?

e. A big tree will release about 100kg of oxygen every year. Knowing this: How can we increase the amount of oxygen in the air

TOTAL 20

9. Allow learners time to complete the task.
10. Supervise them and assist whilst they are completing the activity.

PRACTICAL – MEMORANDUM
Grade 6
Term 1
Practical Task
Marks: 20

Topic	Task	Expected answer/outcome	Marks
	1		
Photosynthesis	1a	Diagram is neatly drawn ✓  	5
Photosynthesis	1b	We will see that the leaf has given off oxygen in the form of oxygen bubbles ✓	1
	2		
Photosynthesis		Drawing is neat and clear ✓ Care has been taken in getting shape of leaf accurate ✓  	5

	3		
Photosynthesis	3a	Green ✓	1
Photosynthesis	3b	carbon dioxide ✓	1
Photosynthesis	3c	photosynthesis ✓	1
	4		
Photosynthesis	4a	little bubbles ✓	1
Photosynthesis	4b	oxygen ✓	1
Photosynthesis	4c	Energy from the sun is needed for photosynthesis to take pace ✓	1
Photosynthesis	4d	Absorb darbon dioxide ✓ Release oxygen ✓	2
Photosynthesis	4e	Plant more trees or plants ✓	1
		TOTAL	**20**

Below is a sample assessment test and memorandum. Please feel free to use this task as is, or to adapt for your context. It is important to ensure that learners are only assessed on work that has been taught.

Natural Sciences & Technology
Grade 6
Test
Term 1
40 Marks - 60 Minutes

NOTE TO THE TEACHER:

If possible, photocopy this test for each learner. If this is not possible, write the test on the chalkboard.

INSTRUCTIONS TO THE LEARNERS

1. Answer all questions in blue or black ink.
2. Read each question carefully before answering it.
3. Pay attention to the mark allocations.
4. Plan your time carefully.
5. Write your answers in the spaces provided.
6. Write neatly.

PRACTICE QUESTION

Read the question and circle the letter that shows the correct answer.

e.g. Which of the following is <u>not</u> needed by plants to make food?

a. water
b. wind
c. sunlight
d. food

You have answered correctly if you have circled (b)

Ns & Tech Grade 6
Term 1
Test

QUESTION 1: MULTIPLE CHOICE **[3]**

Read each question and circle the letter that shows the correct answer.

1a. Which one of these is NOT one of the four food groups? (1)

a. protein
b. carbohydrates
c. fats and oils
d. fruit and vegetables

1b. Which of these statements is TRUE? (1)

a. Plants don't need food
b. Plants only need energy from the sun during photosynthesis
c. Plants are a the only living things that can make their own food
d. Plants absorb air through their leaves

1c. Which of these statements is FALSE? (1)

a. A balanced diet should include all four of the food groups
b. Sugar is the most important part of a balanced diet
c. Drinking enough water is an important part of keeping healthy
d. Meat is an example of protein

QUESTION 2: Match the columns **[4]**

Instructions:

Match the sentences in COLUMN A with the words in COLUMN B.

Draw a line to join the sentence in COLUMN A with the correct word in COLUMN B.

Do this as shown in the example below.

COLUMN A	
example	The time when the sea is at its highest on the beach
2a.	Water that does not move and stands still
2b.	Where two or more things react to each other
2c.	Wetland
2d.	Micro-organisms

COLUMN B
A. Interact
B. Ecosystem
C. Stagnant
D. Bacteria
E. High tide

QUESTION 3 **[5]**

Complete the following sentences using words in the block below.

iodine, photosynthesis, sunlight, glucose, carbon dioxide

Rewrite the sentences and underline your your answers.

3a The process in which plants make their own food is called _____.

3b. Plants need water, sunlight and _____ to make food.

3c. We use _____ to test for starch.

3d. We call the sugar made by plants, _____.

QUESTION 4 **[4]**

Write the word or term that is being described in the sentence.
Only write the answer.

4a. Something that is added to food to make it last longer.

_____

4b. A disease that occurs when the body cannot process high levels of glucose sugar.

_____

4c. To rot or decompose.

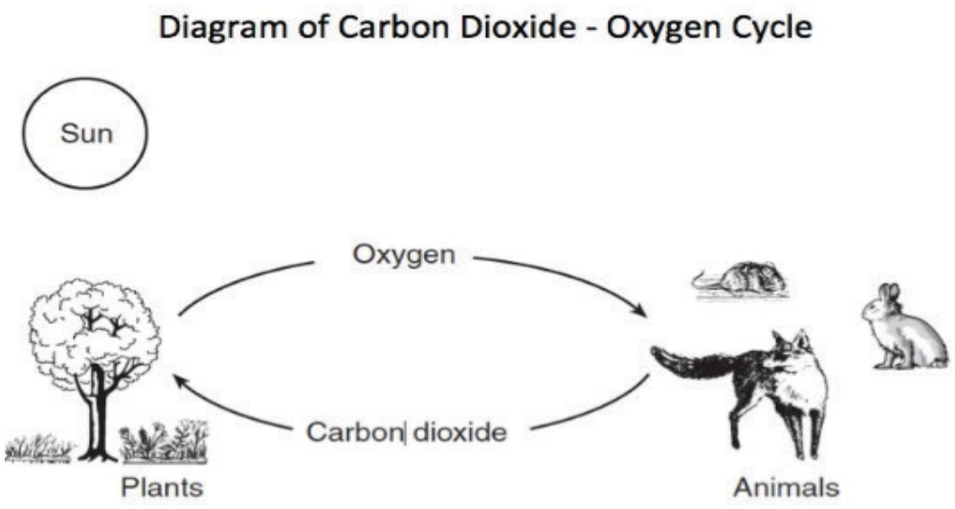
_____

4d. Government does not charge tax on these foods.

_____

Question 5 **[5]**

The diagram below shows the oxygen-carbon dioxide cycle.



(Note to teacher: Copy this picture or use Term 1, Resource 7)

animals, plants, carbon dioxide, oxygen, breathe, photosynthesis, cycle, life processes, live

Using this diagram and the words above, write 5 sentences to explain how plants make their own food.

_____

_____

_____

_____

_____

_____

QUESTION 6 **[5]**

Look carefully at the nutritional label below. It is the label from a can of Cola. Answer the questions that follow.

Serving Size 1 can (12 fl oz)	
Serving Per Container: 1	
Amount Per Serving	
Calories 140	
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 45mg	2%
Total Carbohydrate 39g	13%
Dietary Fibre 0g	0%
Sugars 39g	
Protein 0g	0%

6a. What percentage of the Daily Value of carbohydrates does this one can of cola give?

_____.

6b. Which three food groups do you not get from a can of cola?

_____

_____

_____

6c. We should be drinking at least 8 glasses of _____ every day?

QUESTION 7 **[6]**

Look at the diet below.
This is Zweli's diet for a day.

BREAKFAST

Bowl of pap, amasi and two spoons of sugar
Tea with milk and sugar

LUNCH

Two slices of brown bread with margarine and polony
Fanta orange

SUPPER

Samp and beans
Cabbage
Coffee with sugar

Answer the following questions.

7a. What is a balanced diet? _____

7b. Is Zweli's diet completely balanced? Give a reason for your answer.

_____

_____

7c. Name one carbohydrate from this diet: _____

7d. Name one protein from this diet: _____

7e. Why is it not always possible for someone to follow a balanced diet?

_____

_____

QUESTION 8 **[6]**

Complete the following table to show your understanding of ecosystems

	Mountain ecosystem	Forest ecosystem	Grassland ecosystem
Describe the plants found in this ecosystem			
An example of an animal found in this ecosystem			

QUESTION 9 **[3]**

There are many levels in food webs.

9a. What do food webs start with? _____

9b. All animals are called consumers. Which type of consumer is at the top of the food web?

_____

9c. Draw a food chain showing the relationship between the following living organisms :

locust, bird, lizard, grass

TOTAL 40

Term 4 Test Memorandum

CAPS Topic	Questions	Expected answer(s)	Marks
PART A: Energy and Change			
	1		
Nutrition	1a	D ✓	1
Photosynthesis	1b	C ✓	1
Nutrition	1c	B ✓	1
	2		
Ecosystems and food webs	2a.	C ✓	1
Ecosystems and food webs	2b.	A✓	1
Ecosystems and food webs	2c.	B ✓	1
Ecosystems and food webs	2d.	D ✓	1
	3		
Photosynthesis	3a.	photosynthesis ✓	1
Photosynthesis	3b.	carbon dioxide ✓	1
Photosynthesis	3c.	iodine ✓	1
Photosynthesis	3d.	glucose ✓	1
	4		
Nutrition	4a.	preservative✓	1
Nutrition	4b.	diabetes✓	1
Nutrition	4c.	decay✓	1
Nutrition	4d.	staple foods✓	1

	5		
Photosynthesis	5a.	Any 5 sentences correctly explaining the process. e.g. Animals need to breathe oxygen to live✓ and carry out the seven life processes.✓ They get oxygen from the air.✓ Animals breathe in oxygen and breathe out carbon dioxide.✓ During photosynthesis plants take in carbon dioxide and let off oxygen.✓ Animals breathe in this oxygen and let out carbon dioxide.✓ This cycle continues and is called the oxygen-carbon dioxide cycle.✓	5
	6		
Nutrition	6a.	13% ✓	1
Nutrition	6b.	protein✓ fats✓ vitamins✓	3
Nutrition	6c.	water✓	1
	7		
Nutrition	7a.	A diet that has all the four food groups in the right amounts✓	1
Nutrition	7b.	No.✓ Reasons may vary ✓ (Not enough fruit and vegetables/ Not enough healthy carbohydrates/ Too much sugar)	2
Nutrition	7c.	Pap/sugar/bread/samp✓	1
Nutrition	7d.	amasi/milk/polony/beans✓	1
Nutrition	7e.	Families sometimes don't have a lot of money to buy a variety of foods✓	1

<table>
<tr><td></td><td>8</td><td></td><td></td></tr>
<tr><td>Ecosystems and food webs</td><td>8</td><td>
<table>
<tr><td></td><td>Mountain</td><td>Forest</td><td>Grassland</td></tr>
<tr><td>Plants</td><td>Small with hard leaves ✓</td><td>Trees ✓</td><td>Many grass types and few trees ✓</td></tr>
<tr><td>Animals</td><td>Eagle/ Duiker ✓</td><td>Monkeys/ Snakes ✓</td><td>Zebra/ elephant/ termite ✓</td></tr>
</table>
(Note: Examples may vary)
</td><td>6</td></tr>
<tr><td></td><td>9</td><td></td><td></td></tr>
<tr><td>Ecosystems and food webs</td><td>9a.</td><td>producers ✓</td><td>1</td></tr>
<tr><td>Ecosystems and food webs</td><td>9b.</td><td>carnivores✓</td><td>1</td></tr>
<tr><td>Ecosystems and food webs</td><td>9c.</td><td>grass → locust → lizard → bird✓</td><td>1</td></tr>
<tr><td colspan="3">TOTAL</td><td>40</td></tr>
</table>