

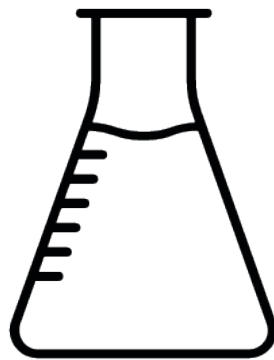


basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



Planner & Tracker for Recovery ATP

Natural Sciences & Technology



Grade 4 Term 1

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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,

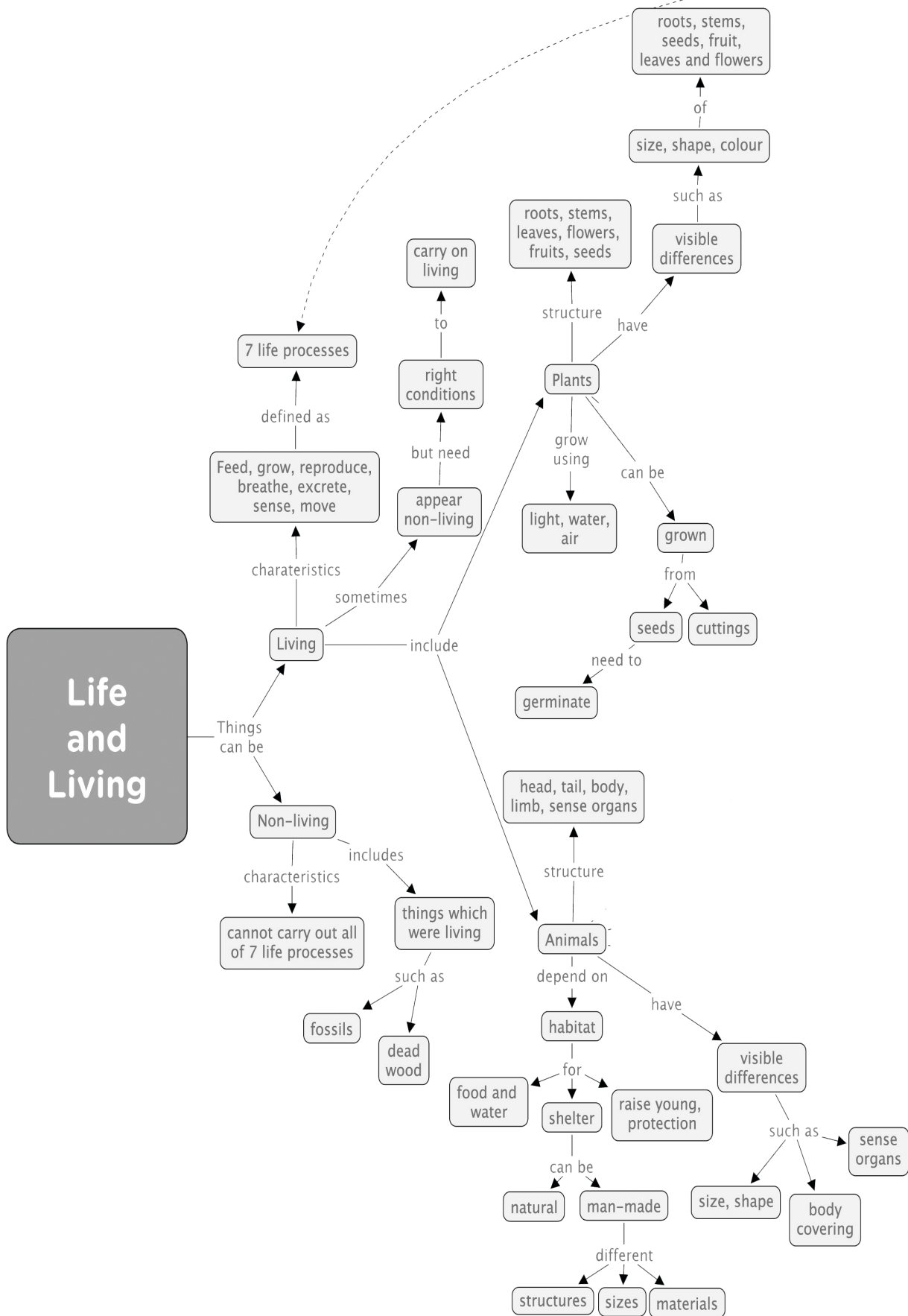
The DBE / NECT Recovery ATP Trackers Team

Overview

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

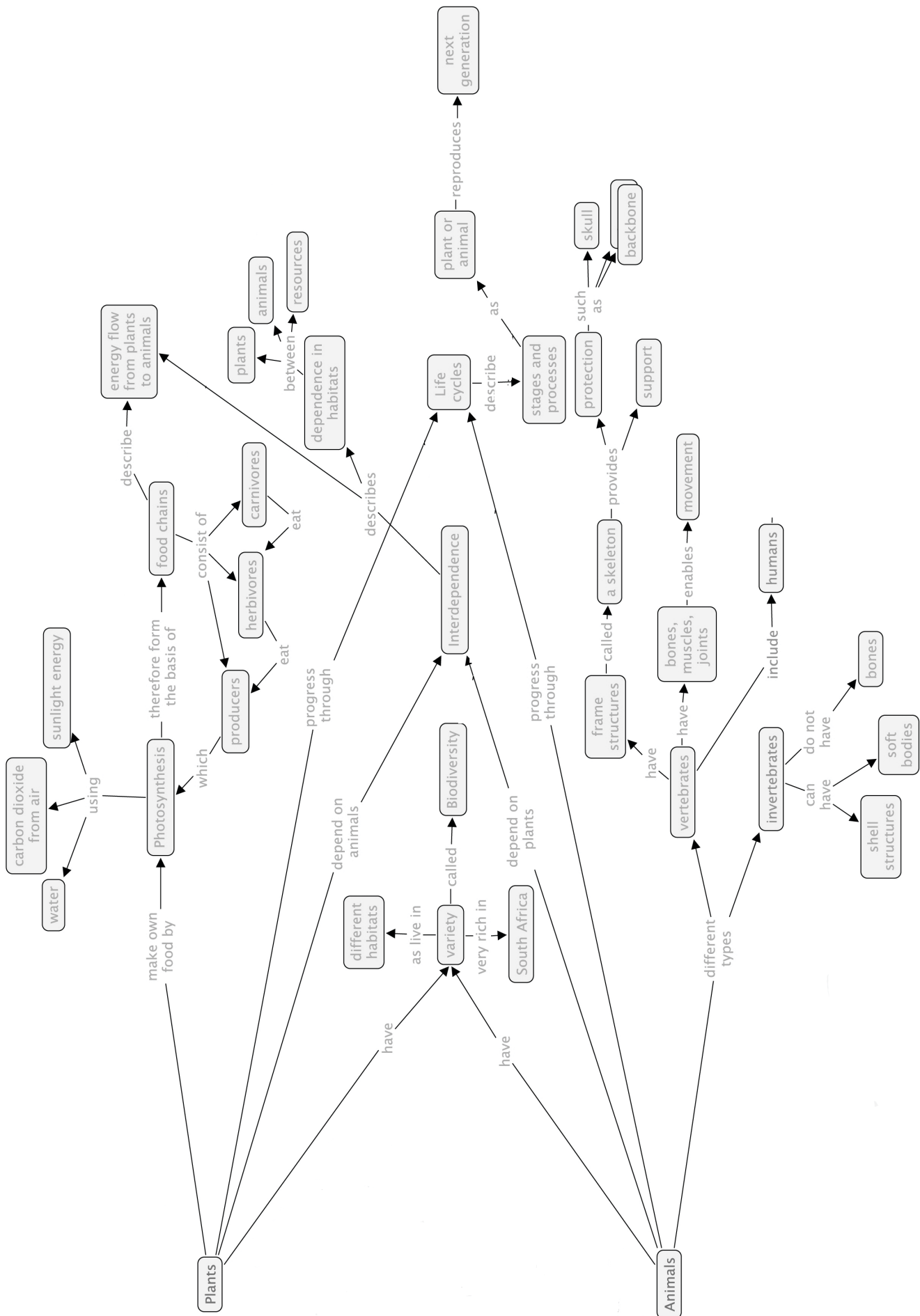
- The development of **Science Process Skills** is key to the teaching and learning of the subject. Focussing on these skills is critical.
- Learners should be given as many opportunities as possible to **write regularly and read for meaning** in Natural Science and Technology, in order to develop **language 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.

Intermediate Phase Conceptual Chain: Grade 4



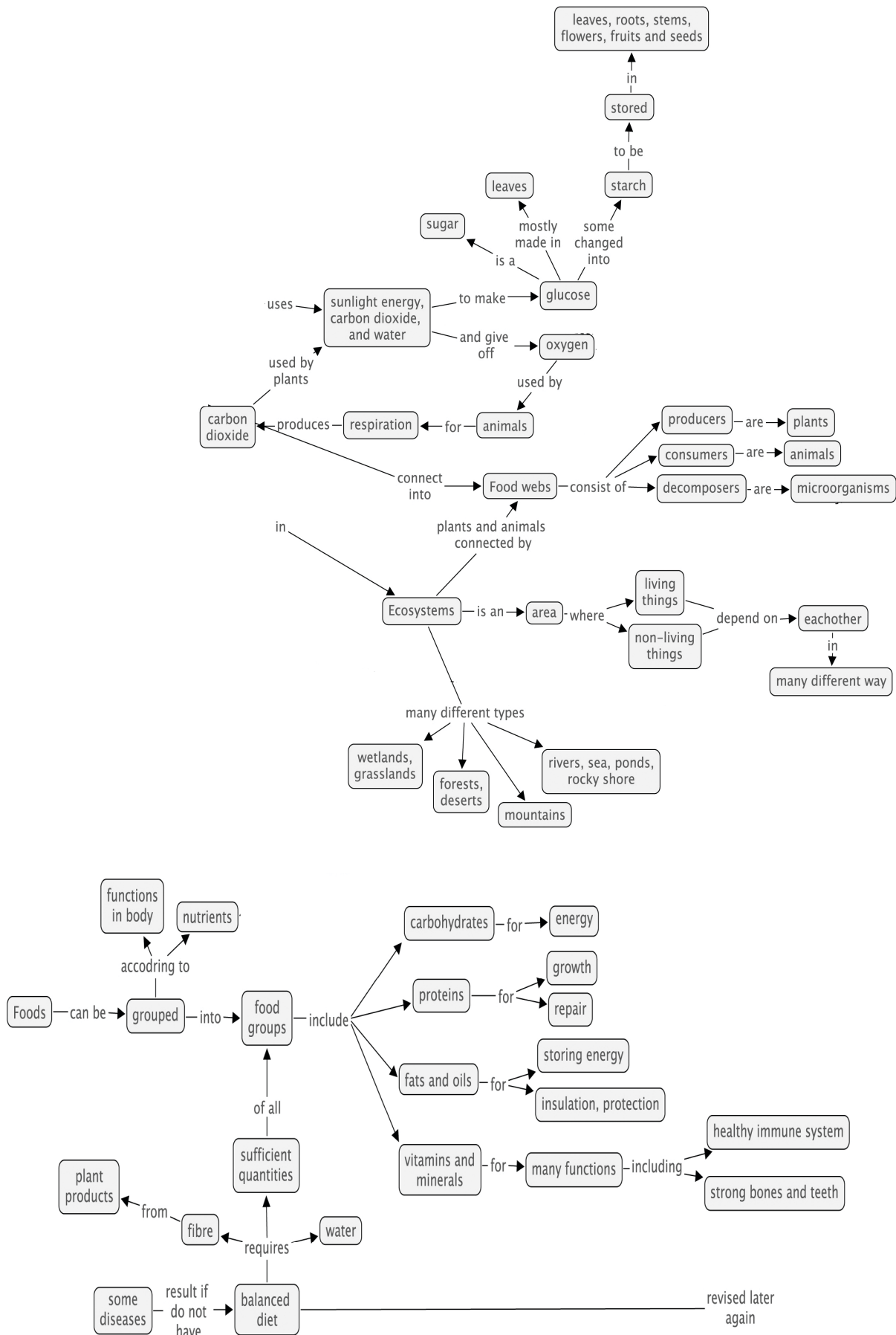
The concept maps in this section have been adapted from **Thunderbolt Kids** resources published by **Siyavula**.

Intermediate Phase Conceptual Chain: Grade 5



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

Intermediate Phase Conceptual Chain: Grade 6



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

Amendments to the Annual Teaching Plan

The Recovery ATP for Natural Sciences & Technology has the **same content as in CAPS**.

It is important to note that all the topics for Grade 4 Term 1, NS and Tech have been **brought back as per CAPS (Grade 4)**. Therefore, there is no change to the topics and time allocation.

- **All topics remain the same:**

1. Living and non-living things (2 weeks)
2. Structure of plants and animals (2,5 weeks)
3. What plants need to grow (1 week)
4. Habitats of animals (2 weeks)
5. Structures for animal shelters (2,5 weeks)

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 2021 formal assessment tasks for Grade 4 are as follows:

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

Sample Assessment Tasks and Memoranda / Rubrics for Grade 4 Term 1 are included in this document.

Amendments to the Annual Teaching Plan

Notes:

- **Column 1** shows the **time allocation** per topic.
- **Column 2** shows the **Recovery ATP requirements** for Grade 4 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:

SFA	Solutions for All Natural Sciences and Technology Grade 4 MacMillan
S&M	Study & Master Natural Science and Technology Gr4. Cambridge University Press
DbD	Day by Day Natural Sciences and Technology Grade 4 Maskew Miller Longman
PLAT	Platinum Natural Sciences and Technology Grade 4 Maskew Miller Longman
VIVA	Viva Natural Sciences and Technology Grade 4 Vivlia
SO	Spot On Natural Sciences and Technology Grade 4 Pearson
OS	Oxford Successful Natural Sciences and Technology Grade 4 Oxford University Press
TC	Top Class Natural Sciences and Technology Grade 4 Shuter and Shooter
SIBB	Sasol Inzalo Bk B Natural Sciences and Technology Grade 4 Sasol

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 1 and 2 2 weeks	Living and non-living things 1. Living things 2. Non-living things	Grade 4 Term 1 <u>Lesson Plans</u> Lesson 1A: Living things Lesson 1B: Life processes Lesson 1C: Investigating life processes Lesson 2A: Being dormant Lesson 2B: Non-living things	SFA Gr4	2 - 13
			S&M Gr4	10 – 16
			DbD Gr4	1 – 8
			PLAT Gr4	2 - 9
			VIVA Gr4	1 – 10
			SO Gr4	2 - 5
			OS Gr4	10 - 17
			SIBB Gr4	4 – 22
			TC Gr4	1 - 9

Scaling down

- If the Term 1 teaching time is reduced, ensure that learners have a thorough understanding of the following key content and concepts:
- There are any different kinds of living things. Main 2 types of living things are animals and plants. Give examples of living things.
- Living things carry out all 7 life processes: feeding, growing, reproducing, breathing, excreting, sensing moving. Non-living things cannot carry out all 7 life processes.
- Describe the 7 life processes and explain how they work in plants and animals
- Some things appear not to be living, but can carry on “living” – they are dormant. Some things were living but are now dead: dead wood, dry leaves.
- Explain what a non-living thing is. Compare differences between living and non-living things

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Week 3 - 5 2.5 weeks	Structure of plants and animals 1. Structure of plants 2. Structure of animals	Grade 4 Term 1 <u>Lesson Plans</u> Lesson 2C: The basic structure of plants Lesson 3A: Other plant structures Lesson 3B: Differences in plants Lesson 3C: Plants are not the same Lesson 4A: Structure of animals Lesson 4B: The function of structure Lesson 4C: Visible differences between animals	SFA Gr4 S&M Gr4 DbD Gr4 PLAT Gr4 VIVA Gr4 SO Gr4 OS Gr4 SIBB Gr4 TC Gr4	17 - 29 19 – 25 11 – 18 12 – 20 11 – 20 6 - 10 18 – 25 30 – 61 11 - 18

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

- The basic structure of plants: roots, stems, leaves flowers fruits, seeds.
- The visible differences between plants: size, shape, colour of roots, stems, leaves, flowers, fruits and seeds.
- The purpose of different parts of a plant, why some plants have flowers and fruits.
- Basic structure of animals: head, tail, body, limbs, sense organs.
- The visible differences between animals: size, shape, body covering and sense organs.
- The purpose and benefits of the different parts of the animals.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Week 5 - 6 1 week	What plants need to grow 1. Conditions for growth	Grade 4 Term 1 <u>Lesson Plans</u> Lesson 5A: Conditions for growth Lesson 5B: New plants Lesson 5C: Germination	SFA Gr 4 S&M Gr 4 DbD Gr 4 PLAT Gr 4 VIVA Gr 4 SO Gr 4 OS Gr 4 SIBB Gr 4 S&S Gr 4	33 - 40 26 - 30 21 - 25 24 - 27 21 - 24 11 - 13 26 - 27 66 - 70 20 - 23

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

- Plants need light, water and air to grow.
- New plants can grow from cuttings and seeds.
- Seeds need water and warmth to grow (germination of seeds)

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 6 - 8 2 weeks	Habitats of animals 1. Different habitats 2. Need for a habitat	Grade 4 Term 1 Lesson Plans Lesson 6A: Habitats Lesson 6B: Grassland habitat Lesson 6C: Forest habitat Lesson 7A: River habitat Lesson 7B: Sea habitat Lesson 7C: The need for a habitat	SFA Gr 4	43 - 51
			S&M Gr 4	35 - 40
			DbD Gr 4	29 - 34
			PLAT Gr 4	32 - 39
			VIVA Gr 4	25 - 32
			SO Gr 4	14 - 19
			OS Gr 4	30 - 35
			SIBB Gr 4	82 - 94
S&S Gr 4	25 - 30			

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

- Habitats – where plants and animals live.
- Describe the different habitats – grasslands, rivers, forests, seas. Explain which animals and plants live in the different habitats.
- Animals need habitats for food, water, shelter, safety and to have their babies.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 8 - 10 2.5 weeks	Structures for animal shelters 1. Animal shelters		<p>Grade 4 Term 1 <u>Lesson Plans</u></p> <p>Lesson 8A: Natural and human made animal shelters</p> <p>Lesson 8B: Shell or frame structures</p> <p>Lesson 8C: Materials for shelters</p> <p>Lesson 9A: Shelters for animals</p> <p>Lesson 9B: Habitats</p> <p>Lesson 9C: Evaluating the design</p>	<p>SFA Gr 4 55 – 69</p> <p>S&M Gr 4 41 – 50</p> <p>DbD Gr 4 37 – 46</p> <p>PLAT Gr 4 42 – 51</p> <p>VIVA Gr 4 35 – 48</p> <p>SO Gr 4 20 – 29</p> <p>OS Gr 4 36 – 41</p> <p>SIBB Gr 4 96 – 109</p> <p>S&S Gr 4 31 - 39</p>	

if the Term 4 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

- Natural animal shelters – nests, shells, hollow trees, or Manmade – kennels, cages, kraals, stables.
- Animal shelters can be shell or frame structures, different shapes and sizes and made from different materials.
- Explain the differences between frame and shell structures. Describe best materials to use.
- Identify which structures are best for certain animals. Identify the needs of animals.

Grade 4 Natural Sciences & Technology Term 1 Assessment

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.

PRACTICAL TASK / INVESTIGATION: 20 MARKS

GRADE 4 Natural Sciences & Technology Term 1 Practical Task 20 marks

Time allocation: 40 minutes (20 minutes preparation, 20 minutes task time)

NOTE TO THE TEACHER

1. This practical activity will be completed as part of Section E of lesson 3C.
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 second 20 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 3 examples of different leaves to compare. If they are unable to collect these from the school grounds, you will need to provide examples or use Resource 8. You could also ask them to bring leaves from home.
8. The learners should complete the drawings with a sharp pencil and the written answers should be completed in pen.

Write the following on the onto the chalkboard:

PRACTICAL TASK

Table 1

<u>Leaf 1 drawing</u>	<u>Leaf 2 drawing</u>	<u>Leaf 3 drawing</u>



Table 2

<u>Leaf rubbing</u>

Describe the texture of the leaf:

Grade 4 Natural Sciences & Technology Term 1 Assessment

Grade 4 Natural Sciences & Technology Term 1 Practical Task Memorandum

Topic	Activity	Expected answer/outcome	Marks
	1		
Structure of plants and animals	Leaf 1	Drawing is neat and accurate ✓ The size is clear ✓ The shape and detailed edges are shown ✓ The veins are shown ✓	4
Structure of plants and animals	Leaf 2	Drawing is neat and accurate ✓ The size is clear ✓ The shape and detailed edges are shown ✓ The veins are shown ✓	4
Structure of plants and animals	Leaf 3	Drawing is neat and accurate ✓ The size is clear ✓ The shape and detailed edges are shown ✓ The veins are shown ✓	4
	2		
Structure of plants and animals	Leaf rubbing	Rubbing is neat and accurate ✓  Whole shape and edges are visible ✓ Veins are clear ✓ Texture: smooth/rough/fuzzy/furry ✓	4
	3		
Structure of plants and animals	Drawing	Drawing is neat and accurate ✓  leaves ✓ branch ✓ bark ✓	4
TOTAL: 20			

**Ns & Tech Grade 4
Term 1
Test**

QUESTION 1: MULTIPLE CHOICE

[4]

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

1a. Which of the following is NOT part of a plant? (1)

- a. root
- b. wing
- c. stem
- d. leaf

1b. What do seeds need to germinate? (1)

- a. oxygen
- b. shade
- c. water
- d. cold

1c. Which of these is a predator? (1)

- a. waterbuck
- b. fly
- c. shark
- d. rhino

1d. Select which of the following are three of the life processes: (1)

- a. feeding, talking, breathing
- b. breathing, growing, learning
- c. reproducing, feeding, breathing
- d. breathing, feeding, thinking

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.

COLUMN A		COLUMN B
example	A fungus that can grow on bread.	A. Roots
2a.	Things that do not look alive but are alive.	B. Predator
2b.	anchors and absorbs	C. Ears
2c.	An animal that hunts and eats other animals	D. Dormant
2d.	Sense organs	E. Mould

QUESTION 3

[2]

a. Say whether the things in the pictures below are **living** or **non-living** by writing **living** or **non**.

3a.



a. _____

b. Reason:

3b.



a. _____

b. Reason:

QUESTION 4:

[2]

You have learnt a lot about animals.

- 4a. Using what you have learnt, explain the main difference between the habitat of a fish and the habit of an elephant.

QUESTION 5:

[4]

Complete the following sentences using words in the block.

feeding, dead, thinking, sensing, six, reproducing, alive, seven

Rewrite the sentences and underline the words that you fill in.

- 5a. Living plants and animals carry out all _____ processes.
5b. Feeding, _____ and _____ are examples of life processes.
5c. Some non-living things might have been alive but are now _____.

QUESTION 6:

[4]

Look at this drawing of a rhinoceros.



(Note to teacher: Copy this picture or use Term 1, Resource 19)

- 6a. Describe the habitat of the rhinoceros.

- 6b. Name two ways in which a rhinoceros is adapted to its habitat.

TOTAL: 20

Grade 4 Natural Sciences & Technology Term 1 Assessment

Grade 4 Natural Sciences & Technology Term 4 Test Memorandum

CAPS Topic	Questions	Expected answer(s)	Marks
PART A: Energy and Change & Systems and Control			
	1		
Structure of plants and animals	1a	B ✓	1
What plants need to grow	1b	C ✓	1
Need for a habitat	1c	C ✓	1
Living and non-living things	1d	C ✓	1
	2		
Living and non-living things	2a	D ✓	1
Structure of plants and animals	2b	A ✓	1
Structure of plants and animals	2c	B ✓	1
Structure of plants and animals	2d	C ✓	1
	3		
Living and non-living things	3a	Both must be correct ✓ a. Non-Living things b. Cannot carry out all of the seven life processes	1
Living and non-living things	3b	Both must be correct ✓ a. Living things b. Cannot carry out life processes	1

Grade 4 Natural Sciences & Technology Term 1 Assessment

	4		
Habitats of animals	4a	<ul style="list-style-type: none"> • A fish lives in water✓ • An elephant lives on land✓ 	1 1
	5		
Living and non-living things	5a.	seven ✓	1
Living and non-living things	5b	sensing✓reproducing ✓	2
Living and non-living things	5c	dead ✓	1
	6		
Habitats of animals	6a	Grasslands ✓	1
Habitats of animals	6b	(Answers may vary. Choose Three) e.g Upper lip is flat - Helps them eat grass✓ Can drink a lot of water - Water can be scarce✓ Thick skin – for protection✓	3
TOTAL: 20			