

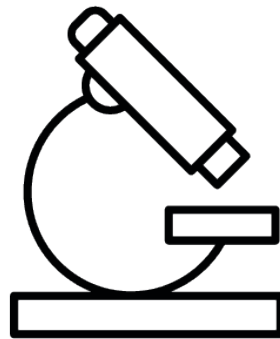


**basic education**  
Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA



# **Planner & Tracker for Recovery ATP**

## **Natural Sciences**



### **Grade 7 Term 1**

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## Introduction

Dear Natural Sciences 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.

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**

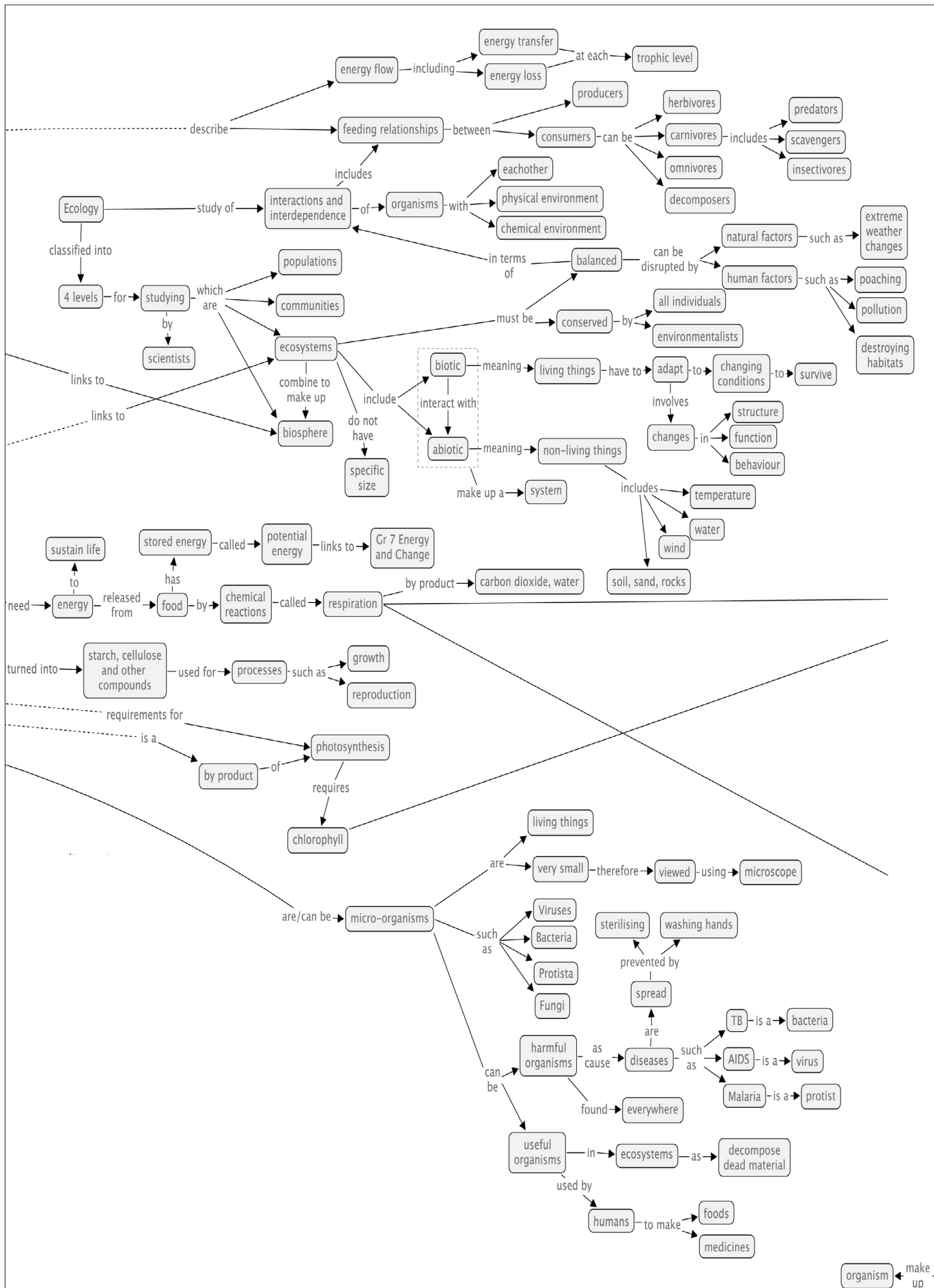
## Overview

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, 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 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.

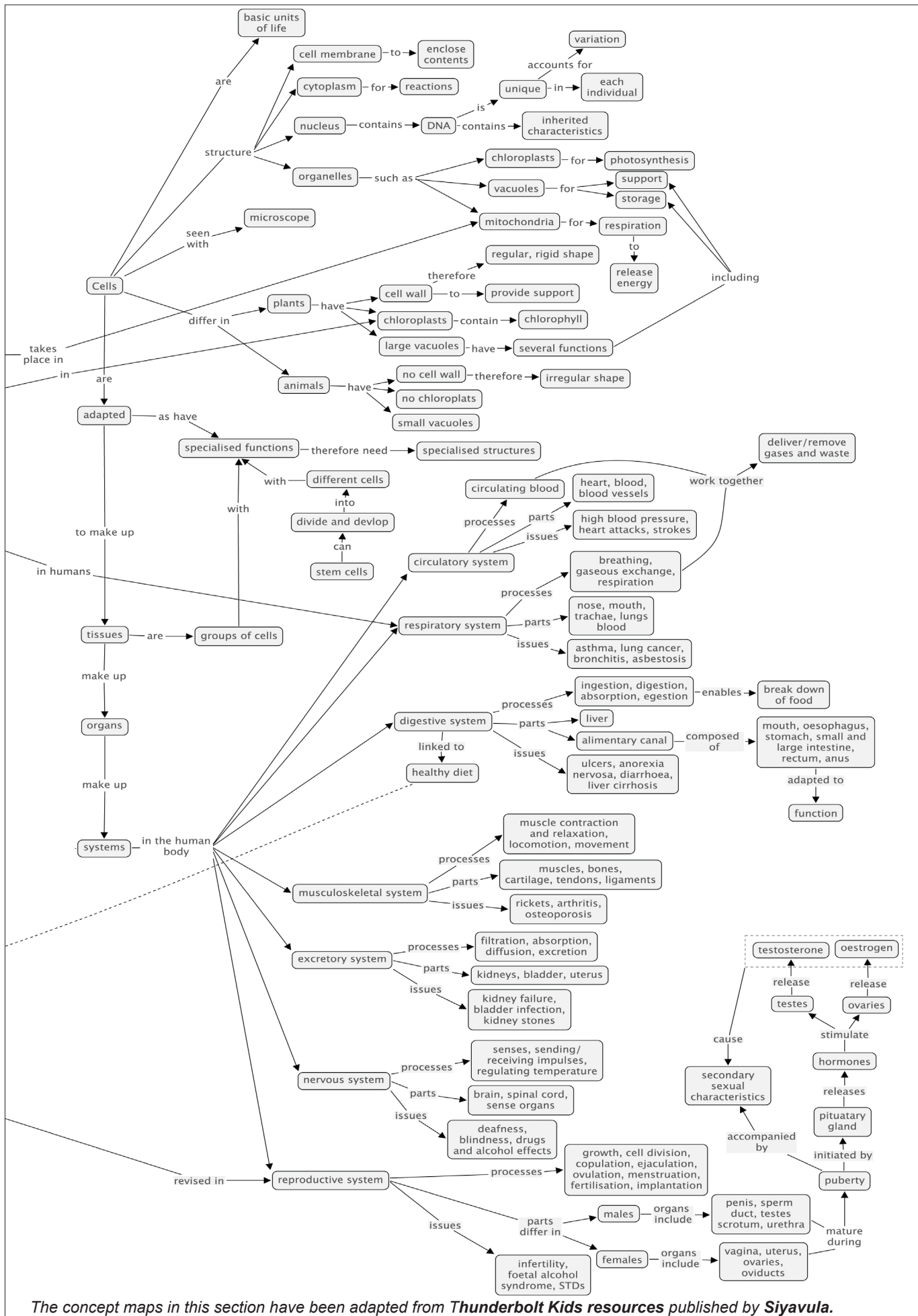


# Senior Phase Conceptual Chain: Grade 8



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

# Senior Phase Conceptual Chain: Grade 9



## Amendments to the Annual Teaching Plan

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

It is important to note that all the topics for Gr7 Term 1, NS have been **brought back as per CAPS (Grade 7)**. Therefore, there is no change to the topics and time allocation.

**All topics remain:**

1. The Biosphere (1 week)
2. Biodiversity (3,5 weeks)
3. Sexual reproduction (3,5 weeks)
4. Variations (1 week)

**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 7 are as follows:

	TERM 1	TERM 2	Term 4	TERM 4
<b>Practical Task/Investigation/Projects</b>	20 marks	20 marks	30 marks	-
<b>Test</b>	60 marks	80 marks	60 marks	80 marks

**A sample Assessment Test and Memorandum for Grade 7 Term 1 is included in this document.**



**Notes:**

- **Column 1** shows the **time allocation** per topic.
- **Column 2** shows the **Recovery ATP requirements** for Grade 7 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 **is reduced**, please ensure that the **KEY CONCEPTS** listed below each table are thoroughly covered.

**Key To Approved Textbook Abbreviations:**

<b>PLAT</b>	Platinum Natural Sciences Grade 7 Maskew Miller Longman
<b>SFA</b>	Solutions for All Natural Sciences Grade 7 MacMillan
<b>OX</b>	Oxford Successful Natural Sciences Grade 7 Oxford University Press
<b>SO</b>	Spot On Natural Sciences Grade 7 Pearson
<b>TC</b>	Top Class Natural Sciences Grade 7 Shuter and Shooter
<b>SIBB</b>	Sasol Inzalo Bk B Natural Sciences Grade 7 Sasol
<b>SbS</b>	Step-by-Step Natural Sciences Grade 7 Van Schaik
<b>VA</b>	Via Afrika Natural Sciences Grade 7 Via Afrika
<b>PEL</b>	Pelican Natural Sciences Grade 7 Global MBD Africa

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Week 1	<p>The Biosphere</p> <ol style="list-style-type: none"> <li>The concept of the Biosphere</li> <li>Requirements for sustaining life</li> </ol>		<p><u>Gr7 Term 1 Lesson Plans</u></p> <p>Lesson 1A: The Biosphere</p> <p>Lesson 1B: Life on planet Earth</p> <p>Lesson 1C: Requirements for sustaining life</p>	<p>OX Gr7 12 – 20</p> <p>VA Gr7 8 – 15</p> <p>PLAT Gr7 1 – 8</p> <p>SO Gr7 1 – 8</p> <p>SbS Gr7 3 – 17</p> <p>PEL Gr7 3 – 19</p> <p>SFA Gr7 1 – 22</p> <p>TC Gr7 2 – 11</p> <p>SIBB Gr7 4 - 21</p>	

**Scaling down**

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

**The Biosphere**

- The biosphere is where life exists and is made up of the lithosphere, hydrosphere and atmosphere.
- Describe the important part that each component plays.
- The biosphere contains all living organisms and dead organic matter.
- Name the 3 living groups of organisms on the Earth: animals, plants and micro-organisms.
- Know that non-living things are abiotic.
- Classify living organisms into the correct biospheres.
- List the 7 life processes: feeding, growth, reproduction, breathing, excretion, responding to the environment, movement..
- Know the 5 basic requirements for sustaining life: energy, gases, water, soil, right temperatures.
- Give examples of environmental adaption.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 2 - 5	Biodiversity 1. Classification of living things 2. Diversity of animals 3. Diversity of plants		<b>Gr 7 Term 1 Lesson Plans</b> Lesson 2A: Classification of living things Lesson 2B: Classification of living things Lesson 2C: Diversity of animals: vertebrates Lesson 3A: Diversity of animals: vertebrates Lesson 3B: Diversity of animals: invertebrates Lesson 3C: Diversity of animals: invertebrates Lesson 4A: Diversity of animals: vertebrates Lesson 4B: Diversity of plants Lesson 4C: Seed production Lesson 5A: Classifying angiosperms	OX Gr7 VA Gr7 PLAT Gr7 SO Gr7 SbS Gr7 PEL Gr7 SFA Gr7 TC Gr7 SIBB Gr7	21 – 34 16 – 27 9 – 28 9 – 23 18 – 39 20 – 39 23 – 53 12 – 32 28 – 72

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

**Biodiversity**

- Define diversity: all living organisms and where they live on Earth, and habitats: the special condition and places where organisms can live, their environments.
- Classification of living things according to the 5 kingdoms: bacteria, protista, fungi, plantae, animalia.
- List the kingdom subdivisions: phylum/division, class, order, family, genus, species. Know that humans are the species known as homo sapiens
- Differences between plants and animals – movement, nutrition, reproduction
- Diversity of vertebrates (animals with backbones): fish, reptiles, amphibians, birds and mammals. List some characteristics of each.
- Diversity of invertebrates (animals with no backbone): e.g. arthropods, molluscs, insects, arachnids, crustaceans. List some characteristics of each.

- Diversity of plants: classified according to whether they have seeds or not.
- Angiosperms – seeds grow inside the flowers e.g. roses and proteas
- Gymnosperms – do not have flowers, they have cones e.g. pine trees. Seeds are on the cones.
- Define seeds and fruits. Explain differences between naked seeds and covered seeds
- Identify parts of seeds. Give examples of fruits and vegetables that have pips or seeds
- List what seeds need to germinate. Soil, water and sunlight
- Understand what a cotyledon is: part of the seed that stores food for the embryo. Explain and list differences between monocotyledons (1 cotyledon) and dicotyledons (2 cotyledons). Give examples of each.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Week 5 - 8	Sexual reproduction 1. Sexual reproduction in Angiosperms 2. Human reproduction		<p><b><u>Grade 7 Term 1 Lesson Plans</u></b></p> <p>Lesson 5B: Sexual reproduction in Angiosperms</p> <p>Lesson 5C: Pollination and fertilisation</p> <p>Lesson 6A: Flower adaptations and pollinators</p> <p>Lesson 6B: Seeds and fruits</p> <p>Lesson 6C: Human reproduction</p> <p>Lesson 7A: Human reproduction: Female reproductive organs</p> <p>Lesson 7B: Human reproduction: Male reproductive organs</p> <p>Lesson 7C: Human reproduction: Fertilisation</p> <p>Lesson 8A: Human reproduction: Pregnancy</p> <p>Lesson 8B: Human reproduction: Menstruation</p> <p>Lesson 8C: Human reproduction: Sexual health and HIV</p>	<p>OX Gr7 35 – 50</p> <p>VA Gr7 30 – 49</p> <p>PLAT Gr7 29 – 53</p> <p>SO Gr7 25 – 47</p> <p>SbS Gr7 40 – 61</p> <p>PEL Gr7 43 – 63</p> <p>SFA Gr7 58 – 86</p> <p>TC Gr7 33 – 58</p> <p>SIBB Gr7 78 - 117</p>	

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

**Sexual reproduction**

- Reproduction in angiosperms: flowers, pollination, fertilisation, fruit and seed dispersal
- Identify where seeds are made. Name the male and female parts of the flower: stamen, carpel, petals, sepals, anther, filament, stigma, ovary. Explain the function each part performs.
- Pollination: self-pollination and cross-pollination

- The role and importance of pollinators: wind pollination, water pollination, insect, animal and bird pollination.
- Where seeds are found, why they need to be dispersed, different ways they are dispersed
- The process of fertilisation in plants.
- The purpose of human reproduction: to continue the species where mature male (sperm) and female sex cells(ovum/eggs) combine to form a baby.
- Puberty-when the human body reaches sexual maturity: the physical and emotional changes in girls and boys. The changes are controlled by chemicals in the body called hormones. In boys, this hormone is testosterone and in girls it is oestrogen. These hormones affect emotions as well.
- Reproductive organs: females – ovaries, uterus, vagina. Egg cells stored in the ovaries. Uterus is where a baby grows. Vagina receives the sperm and the baby is born through this opening
- Reproductive organs: males – testes (where sperm is made), scrotum (holds the testes), penis (transports the sperm to the vagina)
- Human fertilisation – the sperm from the male and the ovum (egg) of a female join together, through sexual intercourse. The sperm shoots out of the penis into the vagina. The sperm swim up through the cervix, through the uterus and into the fallopian tubes. If there is an egg (ovum) in the tubes, the egg and sperm join together – this is fertilisation. The fertilised egg attaches to the wall of the uterus and the woman is now pregnant.
- Pregnancy – when a baby grows inside the mother’s body. Usually lasts 40 weeks or 9 months. Embryo – developing baby for the 1st 2 months. Foetus – developing baby for the last 7 months. Baby gets all its food and oxygen from the mother. At the end of the pregnancy, baby turns so its head is just above the cervix. When its time for the baby to be born, strong muscles in the uterus start to push the baby out through the vagina (natural birth) – this called labour.
- Contraceptives like condoms and contraceptive pills can be used to avoid pregnancy.
- Menstruation – medical word for having a period. Blood from the uterus passes out the woman’s body through her vagina. The thick lining of blood on the uterus is for the fertilised egg. If the egg is not fertilised then it is pushed out of the woman’s body along with the blood. If the egg is fertilised, then the woman will not have a period throughout the pregnancy.
- Consequences of sexual activity – unprotected sex can lead to unwanted pregnancy and many sexually transmitted diseases which can cause death.
- sexually transmitted diseases – thrush, gonorrhoea, syphilis and HIV
- AIDS is a serious illness caused by the virus HIV. It attacks your immune system so you can’t fight off illness and infection. There is no cure for AIDS.
- You cannot get AIDS from sweat, tears, vomit, touching someone with AIDS, mosquitoes, kissing and hugging, sharing things. HIV is transmitted by bodily fluids like blood and semen.
- The best way to avoid getting a STD is not having sex.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Week 9	Variation 1. Variation exists within a species		<b><u>Grade 6 Term 4 Lesson Plans</u></b> Lesson 9A: Variations exist within a species Lesson 9B: Variations exist within a species Lesson 9C: Variations exist working with genes	OX Gr7 VA Gr7 PLAT Gr7 SO Gr7 SbS Gr7 PEL Gr7 SFA Gr7 TC Gr7 SIBB Gr7	51 – 54 50 – 53 56 – 61 50 – 56 62 – 65 67 – 74 90 – 100 60 – 68 124 - 137

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

**Variation**

- Species – group of living things of the same type that can reproduce with each other to make more of the same species, like humans, dogs, cows.
- Humans belong to the species called Homo Sapiens.
- Variations – the differences between living things of the same species, like eye colour, skin and hair colour and shape of noses,
- Inherited characteristics – is the information from your parents carried in your genes (units of hereditary). Height, eye colour, allergies etc. Also certain diseases are inherited.
- Some things that cause variation are not inherited – they come from the environment, like dyed hair, tattoos, lost limbs or injuries.
- Genetics is the study of genes. Genes are found in the cells of all living things and are the building blocks of living things
- Careers in animal and agricultural and farming in genetics. Also in pharmacy and chemical engineering.

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.

## NS GRADE 7 PRACTICAL TASK TERM 1 20 MARKS

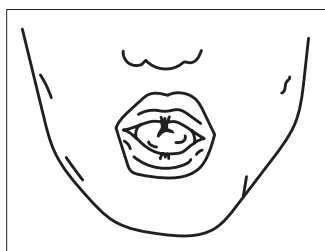
**Time allocation: 60 minutes (20 minutes preparation, 40 minutes task time)**

### NOTES TO THE TEACHER

- This practical activity will be completed as part of Section E of lesson 9B.
- This practical will take place during the lesson after the teaching component in Section D, “Accessing Information”.
- The first 20 minutes will be used to teach section D and prepare learners for the practical task.
- The next 40 minutes will be used to complete the practical activity as outlined in Section E.
- The instructions and content of the practical task should be written on the chalkboard for the learners.
- The memorandum for assessing the practical task is provided.

The learners should complete the drawings and graphs with a sharp pencil and the written answers should be completed in pen.

1. Tell the learners that they are going to be looking at variations caused by the environment as well as inherited characteristics.
2. Tell the learners that the three inherited characteristics they are going to look at are:
  - c. Tongue rolling
  - d. Earlobes that are attached or detached to the head
  - e. A characteristic called “hitchhiker’s thumb”
6. You will now need to demonstrate and explain each of these:
  - a. Demonstrate tongue rolling:

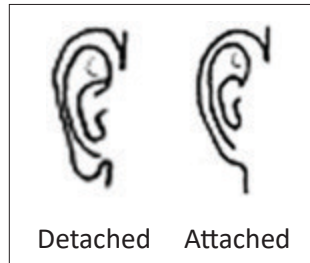


- Have the learners attempt a tongue roll.
- Explain that not all people can roll their tongues. It is an inherited genetic characteristic.

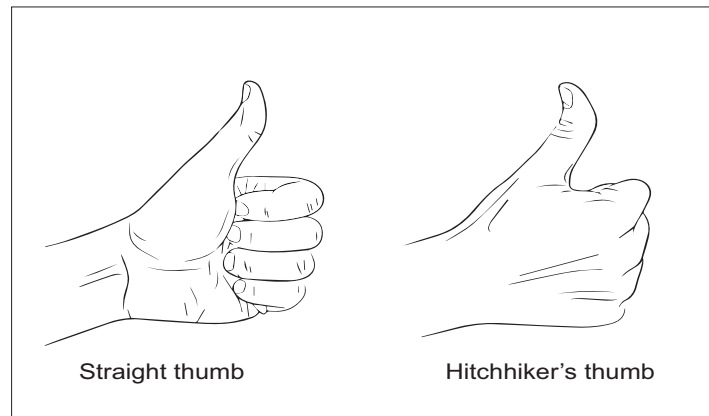


## Grade 7 Natural Sciences Term 1 Assessment

- b. Tell the learners that earlobes can be attached (joined to the side of the head) or detached ear lobes.



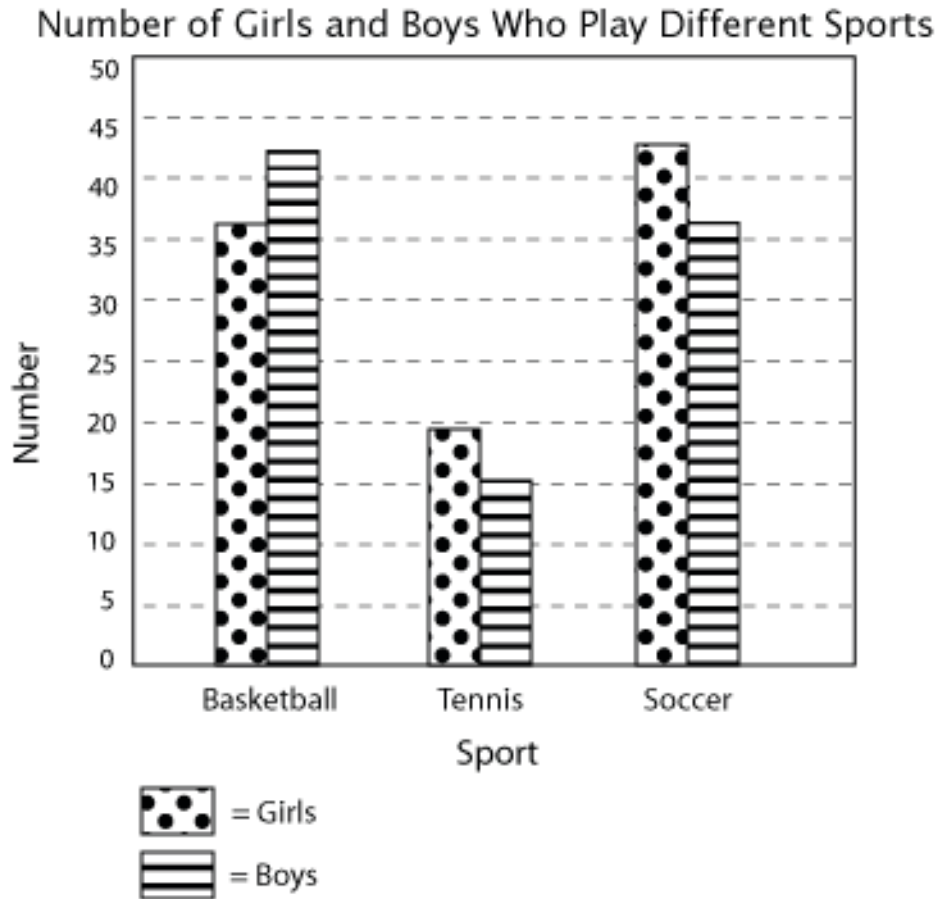
- Identify two different learners to help you explain this difference between detached and attached lobes.
  - Ask the learners to check each others ears and to tell each other if they have attached or detached lobes.
- c. Tell the learners that another inherited characteristic that they will learn about is something called “hitchhiker’s thumb”.



- Explain/demonstrate what “hitchhiker’s thumb” is by showing your thumb and explain if it is a straight thumb or a hitchhikers thumb.
  - Ask learners to hold up their thumbs and identify to children to show the difference.
4. Remind the learners that environmental variation is different to inherited variation.
  5. Environmental variation is how we vary by the way we change ourselves. This can include tattoos, piercings and hair styles.
  6. Now dvide the learners into groups of about 10.
  7. Write the following onto the chalkboard (always try to do this before the lesson starts):

**PRACTICAL TASK**

1. This task will be done in groups of about 10.
2. Working in groups, you are going to collect data about the people in your group.
3. You are then going to complete a written task and a bar graph to show your answers.
4. This is an example of a bar graph:



5. Each person in the group must produce their own set of written answers for assessment.
6. Working as a group, work out the following:

<u>How many people in your group:</u>	e.g.10	<u>How many people in your group:</u>	e.g.10
Can roll their tongues?		Can't roll their tongues?	
Have attached earlobes?		Have detached earlobes?	
Have "hitchhiker's thumb"?		Have a straight thumb"?	
Have braids?		Do not have braids?	
Have pierced ears?		Do not have pierced ears?	

7. Tell the learners that they are going to be collecting data on variation in their groups.
8. Read through the practical task, as written on the board, with the learners.

## Grade 7 Natural Sciences Term 1 Assessment

9. Make sure the learners understand what they have to do.
10. Read over the example of the bar graph with the learners and check that the learners remember how to construct a bar graph.
11. Remind them that the y-axis is the line is on the left and shows the number of learners.
12. Remind them that the x-axis is along the bottom where the data is recorded.
13. Give the learners 10 minutes to work in their groups to collect the data they need.
14. They can record the data as a group on a piece of paper.
15. Now ask the learners to copy the questions for the task into their workbooks.
16. This will need to be written onto the chalkboard:

### **Task 1:**

Draw a bar graph to show the data you have collected.

- a. The y-axis will be numbered from 0-10 to show the number of learners in the group. (1 mark)
- b. The y-axis must be labelled "Number of learners". (1 mark)
- c. The data collected will be presented on the the x-axis and must be labelled.
- d. Each variation will have two bars, one to show the number of learners that have that variation and the bar next to it showing the number of learners that don't have that variation.
- e. The data should show:
  - Number of learners that can and can't roll their tongues. (2 marks)
  - Number of learners that do and don't have attached earlobes. (2 marks)
  - Number of learners that do and don't have "hitchhiker's thumb". (2 marks)
  - Number of learners that do and don't have braids. (2 marks)
  - Number of learners that do and don't have pierced ears. (2 marks)
- f. The graph must have a suitable title. (1 mark)
- g. The graph must be neatly drawn and accurate. (1 mark)

### **Task 2:**

Answer the following questions:

- 2a. Name two INHERITED variances that you have? (2 marks)
- 2b. Name the two environmental variances that you looked at in this task. (2 marks)
- 2c. Which variance did the most people in your group have? (1 mark)
- 2d. Which variance did the least people in your group have? (1 mark)

**TOTAL 20**

17. After the learners have copied down the task, ask them if they have any questions.
18. Explain any terminology they may not understand.
19. Allow learners time to complete the activity.
20. Supervise them and assist whilst they are completing the activity.

## Grade 7 Natural Sciences Term 1 Assessment

### PRACTICAL TASK - MEMORANDUM

# NS GRADE 7 PRACTICAL TASK TERM 1 20 MARKS

(see Section E of Lesson 9B for instructions and questions)

Topic	Activity	Expected answer/outcome	Marks
	1		
Variation	1	<ul style="list-style-type: none"> <li>• The y-axis is numbered 0-10✓</li> <li>• The y-axis is labelled “Number of learners”✓</li> <li>• Able to roll tongue data is shown and labelled✓</li> <li>• Unable to roll tongue data is shown and labelled✓</li> <li>• Attached earlobe data is shown and labelled✓</li> <li>• Detached earlobe data is shown and labelled✓</li> <li>• “Hitchhiker’s thumb” data is shown and labelled✓</li> <li>• Straight thumb data is shown and labelled✓</li> <li>• Braided hair data is shown and labelled✓</li> <li>• Not braided hair data is shown and labelled✓</li> <li>• Pierced ears data is shown and labelled✓</li> <li>• Unpierced ears data is shown and labelled✓</li> <li>• Graph is labelled “Graph showing variances”✓ Graph is neatly drawn and accurate ✓</li> </ul>	<b>14</b>

## Grade 7 Natural Sciences Term 1 Assessment

	<b>2</b>		
Variations	2a.	Any two: ✓✓ Can roll tongue Can't roll tongue Attached earlobes Detached earlobes "Hitchhiker's thumb" Straight thumb	<b>2</b>
Variations	2b.	Hair braids✓ Ear piercing✓	<b>2</b>
Variations	2c.	Answers will vary✓	<b>1</b>
Variations	2d.	Answers will vary✓	<b>1</b>
		<b>TOTAL</b>	<b>20</b>

**NS  
GRADE 7  
TEST  
TERM 1  
60 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.

What do we call the process when plants make their own food ?

- A. energy
- B. photosynthesis
- C. symbiosis
- D. adaption

You have answered correctly if you have circled **B**

**NS  
GRADE 7  
TERM 1  
TEST  
60 MARKS**

**Question 1: Multiple choice**

**[4]**

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

1a. Which one of these is NOT part of the biosphere? (1)

- A. Lithosphere
- B. Nanosphere
- C. Hydrosphere
- D. Atmospheres

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

- A. Only living things are found in the biosphere
- B. The atmosphere protects the Earth from ultraviolet rays
- C. The lithosphere is made up of oceans, rivers, lakes and underground water
- D. All living things have 7 life processes that they carry out.

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

- A. The lithosphere is made up of water and gases
- B. The hydrosphere is mostly made up of soil and rocks
- C. The atmosphere is the layer of gas around the Earth
- D. An example of an animal found in the lithosphere is a whale

1d. Which one of these groups describes a pond ecosystem? (1)

- A. Movement, reproduction
- B. Nutrition, breathing
- C. Excretion, growth
- D. Sleeping, thinking

## Grade 7 Natural Sciences Term 1 Assessment

### 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			COLUMN B	
example	Main source of energy for the Earth		A. Eye colour	
2a.	Needed by all living things to survive		B. Species	
2b.	Smallest group of the animal kingdom		C. Air	
2c.	Omnivore		D. Rat	
2d.	Characteristics inherited from parents		E. The Sun	

### Question 3

[5]

Complete the following sentences using words in the block below:

*reptiles, vertebrates, backbone, exoskeleton, cold-blooded*

- 3a The animal Kingdom is divided into two groups, \_\_\_\_\_ and invertebrates.
- 3b A frog is an example of a \_\_\_\_\_ animal.
- 3c The five vertebrate groups are: fish, birds, amphibians, \_\_\_\_\_ and mammals.
- 3d Arthropods have jointed legs and a hard \_\_\_\_\_ made of chitin.
- 3e Vertebrates are different from other animals in the Animal kingdom because they have a \_\_\_\_\_.



## Grade 7 Natural Sciences Term 1 Assessment

### Question 4

[5]

Write the word that is being described in the sentence.

Only write the answer.

- 4a. This can only form if a flower has been pollinated and fertilization has taken place.

\_\_\_\_\_

- 4b. The stage of physical development when your body starts from changing from child to adult.

\_\_\_\_\_

- 4c. Male reproductive organs that produce sperm.

\_\_\_\_\_

- 4d. The ova or female egg cells are stored here in humans.

\_\_\_\_\_

- 4e. The name of the group of diseases that can be passed on during sexual intercourse.

\_\_\_\_\_

### Question 5

[3]

- 5a. Explain the following statement:

“Adaption is a characteristic that helps a living thing survive in its environment”

\_\_\_\_\_  
\_\_\_\_\_

- 5b. Name two ways in which a fish is adapted to its environment.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Grade 7 Natural Sciences Term 1 Assessment

### Question 6

[6]

Complete the following table showing the differences between plants and animals:

<u>DIFFERENCE</u>	<u>PLANTS</u>	<u>ANIMALS</u>
Nutrition (feeding)		
Movement		
Reproduction		

### Question 7

[7]

Look at the information in the following table.

This table shows the classification in the Animal Kingdom of the warthog, pig and cow.

Answer the questions that follow.

<u>CLASSIFICATION</u>	<u>WARTHOG</u>	<u>PIG</u>	<u>COW</u>
Kingdom	Animalia (animals)	Animalia (animals)	Animalia (animals)
Phylum	Chordata (animals with backbone)	Chordata (animals with backbone)	Chordata (animals with backbone)
Class	Mammalia (mammals)	Mammalia (mammals)	Mammalia (mammals)
Order	Artiodactyla (even toed ungulate)	Artiodactyla (even toed ungulate)	Artiodactyla (even toed ungulate)
Family	Suidae (all pigs)	Suidae (all pigs)	Suidae (all pigs)
Genus	Phacochoerinae	Sus	Bos
Species	Phacochoerua africanus	Sus scrofa	Bos taurus

7a. List the classifications (there are 4) that warthogs, pigs and cows have in common

\_\_\_\_\_

7b. Which classification do only the warthog and pig have in common? \_\_\_\_\_

7c. Which classifications do none of these animals have in common? (there are 2):

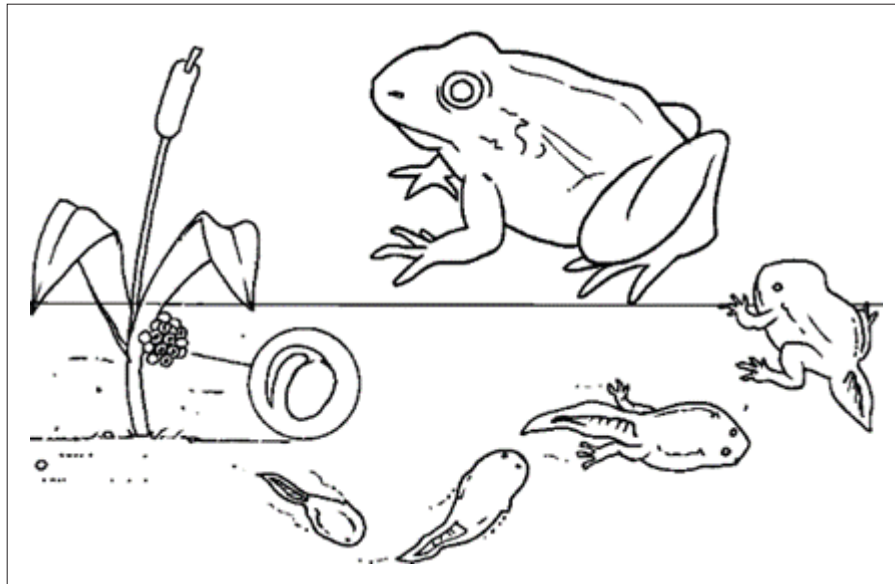
\_\_\_\_\_

\_\_\_\_\_

Question 8

[8]

The diagram below shows the metamorphosis of a frog from an egg to an adult frog.



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

*water, land, hatch, eggs, frog, tadpoles, froglet, swim, breathe, gills, lungs, skin, tail, legs, swim, jump*

Using this diagram and the words above, write 6-10 sentences to explain the metamorphosis from egg to frog.

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Question 9

[8]

Draw and label two diagrams showing the differences between monocotyledons and a dicotyledons:

- The diagram should show and explain the differences in the:
  - o flowers
  - o leaves
  - o root systems.
- Each diagram must be clearly labelled as monocotyledon or dicotyledon to show that you know the difference between the two.



## Grade 7 Natural Sciences Term 1 Assessment

### Question 10

[8]

Read the following statements and say whether each one is true or false:

- 10a. A girl can get pregnant the first time she has sexual intercourse. \_\_\_\_\_
- 10b. Birth control pills cause cancer. \_\_\_\_\_
- 10c. You can't get HIV if you only have sexual intercourse once. \_\_\_\_\_
- 10d. Washing or having a bath after sexual intercourse will prevent pregnancy. \_\_\_\_\_
- 10e. You can get HIV from kissing. \_\_\_\_\_
- 10f. Using contraception means there is no way a pregnancy can happen. \_\_\_\_\_
- 10g. There is no cure for AIDS. \_\_\_\_\_
- 10h. HIV attacks the immune system. \_\_\_\_\_

### Question 11

[2]

Explain the the following stages of a human pregnancy:

- 11a. embryo: \_\_\_\_\_  
\_\_\_\_\_
- 11b. foetus: \_\_\_\_\_  
\_\_\_\_\_

**TOTAL: 60**

## Grade 7 Natural Sciences Term 1 Assessment

### Grade 7 Natural Sciences Term 1 Test Memorandum - 60 Marks

CAPS Topic	Questions	Expected answer(s)	Marks
	<b>1</b>		
The biosphere	1a.	B ✓	1
The biosphere	1b.	A ✓	1
The biosphere	1c.	C ✓	1
The biosphere	1d.	D ✓	1
	<b>2</b>		
The biosphere	2a.	C ✓	1
Biodiversity	2b.	B ✓	1
Biodiversity	2c.	D ✓	1
Variation	2d.	A ✓	1
	<b>3</b>		
Biodiversity	3a.	vertebrates ✓	1
Biodiversity	3b.	cold-blooded ✓	1
Biodiversity	3c.	reptiles ✓	1
Biodiversity	3d.	exoskeleton ✓	1
Biodiversity	3e.	backbone ✓	1
	<b>4</b>		
Sexual reproduction	4a.	seeds ✓	1
Sexual reproduction	4b.	puberty ✓	1
Sexual reproduction	4c.	testes ✓	1
Sexual reproduction	4d.	ovaries ✓	1
Sexual reproduction	4e.	sexually transmitted diseases ✓	1

## Grade 7 Natural Sciences Term 1 Assessment

		<b>5</b>														
Biodiversity	5a.	When an organism has made changes or is especially suited to live in its environment or habitat✓			1											
Biodiversity	5b.	Fins for swimming✓ Gills to take air from the water			2											
		<b>6</b>														
Biodiversity			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Differences</th> <th style="width: 33%;">Plants</th> <th style="width: 33%;">Animals</th> </tr> </thead> <tbody> <tr> <td>Nutrition</td> <td>Makes own food✓</td> <td>Eats plants or other animals✓</td> </tr> <tr> <td>Movement</td> <td>Can't move✓</td> <td>Can walk, run, swim, fly✓</td> </tr> <tr> <td>Reproduction</td> <td>Spores or seeds✓</td> <td>Live young or eggs✓</td> </tr> </tbody> </table>	Differences	Plants	Animals	Nutrition	Makes own food✓	Eats plants or other animals✓	Movement	Can't move✓	Can walk, run, swim, fly✓	Reproduction	Spores or seeds✓	Live young or eggs✓	6
Differences	Plants	Animals														
Nutrition	Makes own food✓	Eats plants or other animals✓														
Movement	Can't move✓	Can walk, run, swim, fly✓														
Reproduction	Spores or seeds✓	Live young or eggs✓														
		<b>7</b>														
Biodiversity	7a.	Kingdom✓ Phylum✓ Class✓ Order✓			4											
Biodiversity	7b.	Family ✓			1											
Biodiversity	7c.	Genus✓ Species✓ ✓			2											
		<b>8</b>														
Biodiversity	8	(Any 8 marks) • Frogs lay their eggs in water.✓ • The eggs hatch ✓and become tadpoles. • Tadpoles have tails to swim✓ and they breathe through gills✓. • Tadpoles then develop two small legs, but they are still living in the water✓. • The tadpole then develops two more legs✓. It is now a froglet✓. • The froglet can now start moving onto land✓. • Once the tail falls off, the frog is fully grown✓. • The frog can live on land✓, jump using its legs✓ and swim in water✓. • The frog will breathe using lungs and through its skin✓.			8											

# Grade 7 Natural Sciences Term 1 Assessment

	<b>9</b>		
Biodiversity	9	(One mark per label)	8

Dicotyledon

Monocotyledon

	<b>10</b>		
Sexual reproduction	10a.	True ✓	1
Sexual reproduction	10b.	False ✓	1
Sexual reproduction	10c.	False ✓	1
Sexual reproduction	10d.	False ✓	1
Sexual reproduction	10e.	False ✓	1
Sexual reproduction	10f.	False ✓	1
Sexual reproduction	10g.	True ✓	1
Sexual reproduction	10h.	True ✓	1
	<b>11</b>		
Sexual reproduction	11a.	We call the developing baby an embryo for the first two months of pregnancy ✓	1
Sexual reproduction	11b.	We call the developing baby a foetus for the last seven months of pregnancy ✓	1
<b>TOTAL</b>			<b>60</b>