

# PLANNER & TRACKER FOR RECOVERY ANNUAL TEACHING PLAN (ATP)

2021 - 2023



**NATURAL SCIENCES & TECHNOLOGY**

**GRADE 5 TERM 2**

Helping teachers and learners to catch up with learning losses, master new content and acquire skills for the future.



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- Please note that a Natural Sciences & Technology structured learning programme that includes daily lesson plans and classroom resources is available for download from [www.nect.org.za](http://www.nect.org.za)
- This is a zero-rated website, so there are no data costs for downloads.
- This document can be used independently of the structured learning programme.

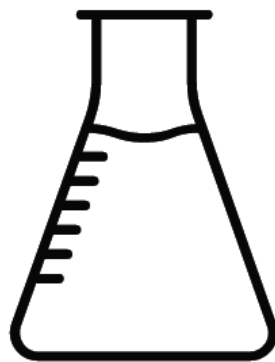


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# **Planner & Tracker for Recovery ATP**

## **Natural Sciences & Technology**



**Grade 5 Term 2**

**2021 - 2023**

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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,

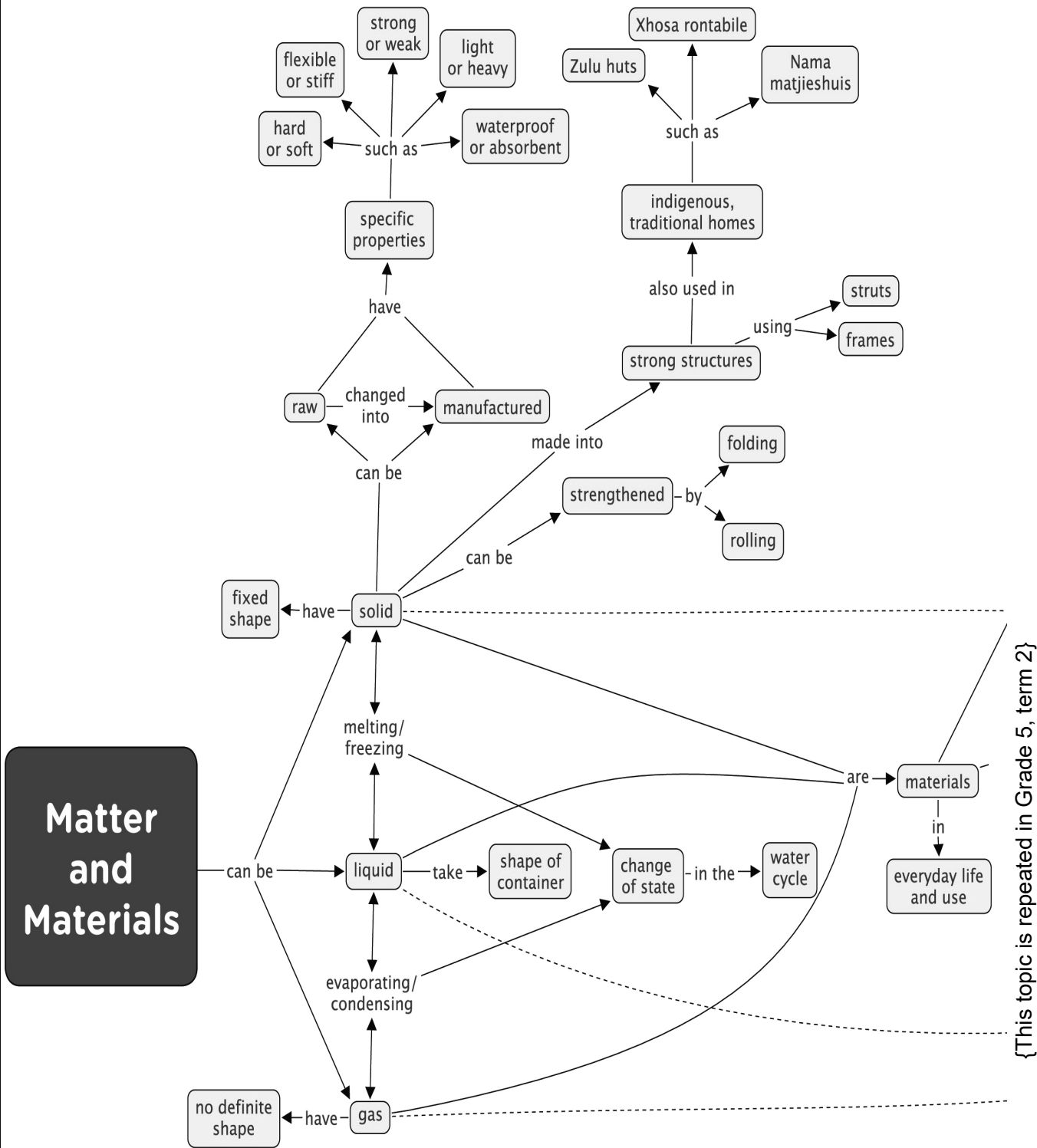
**The DBE / NECT Recovery ATP Trackers Team**

## 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.

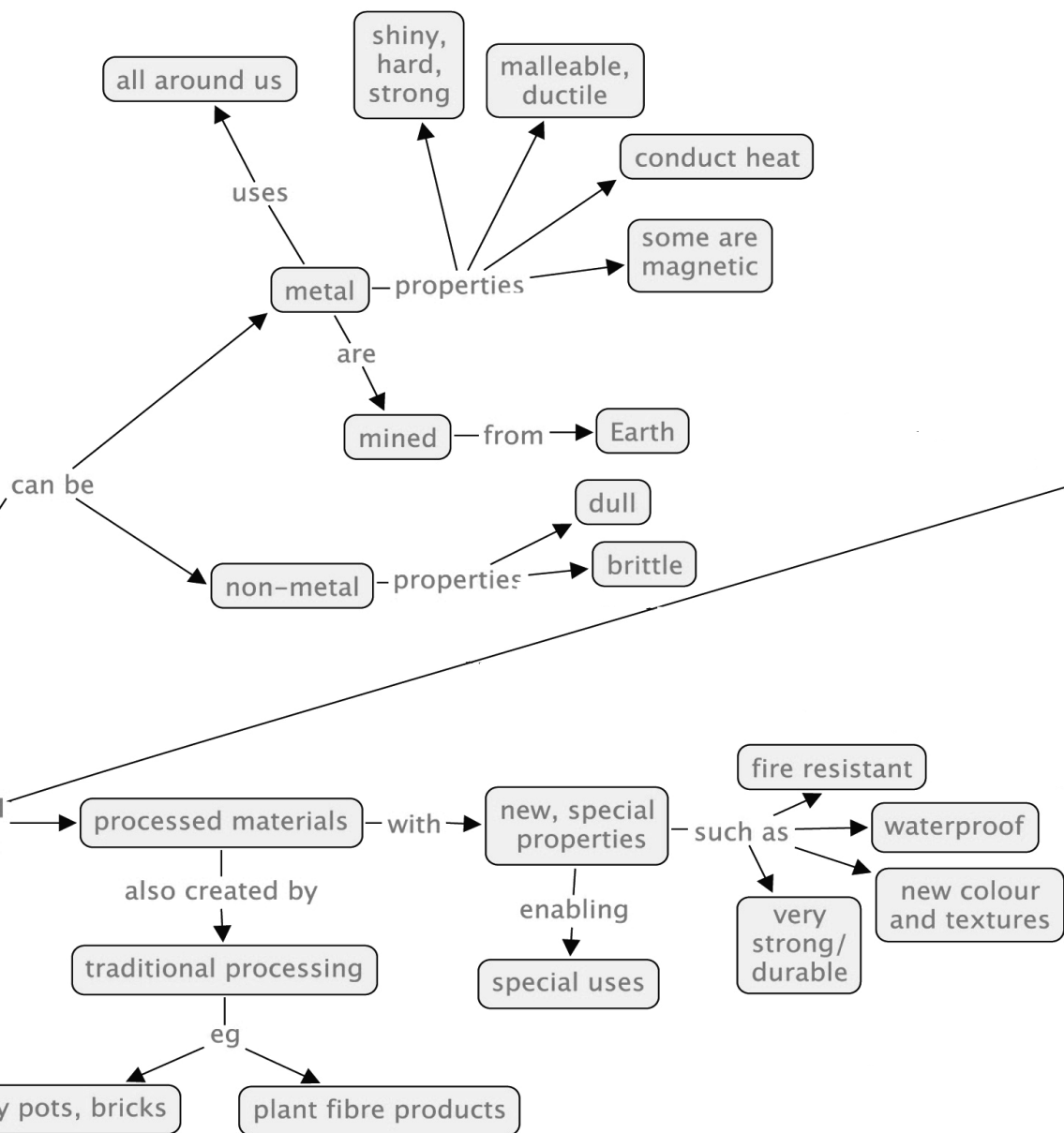
Gr 4



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

Gr 5

# Matter and Materials

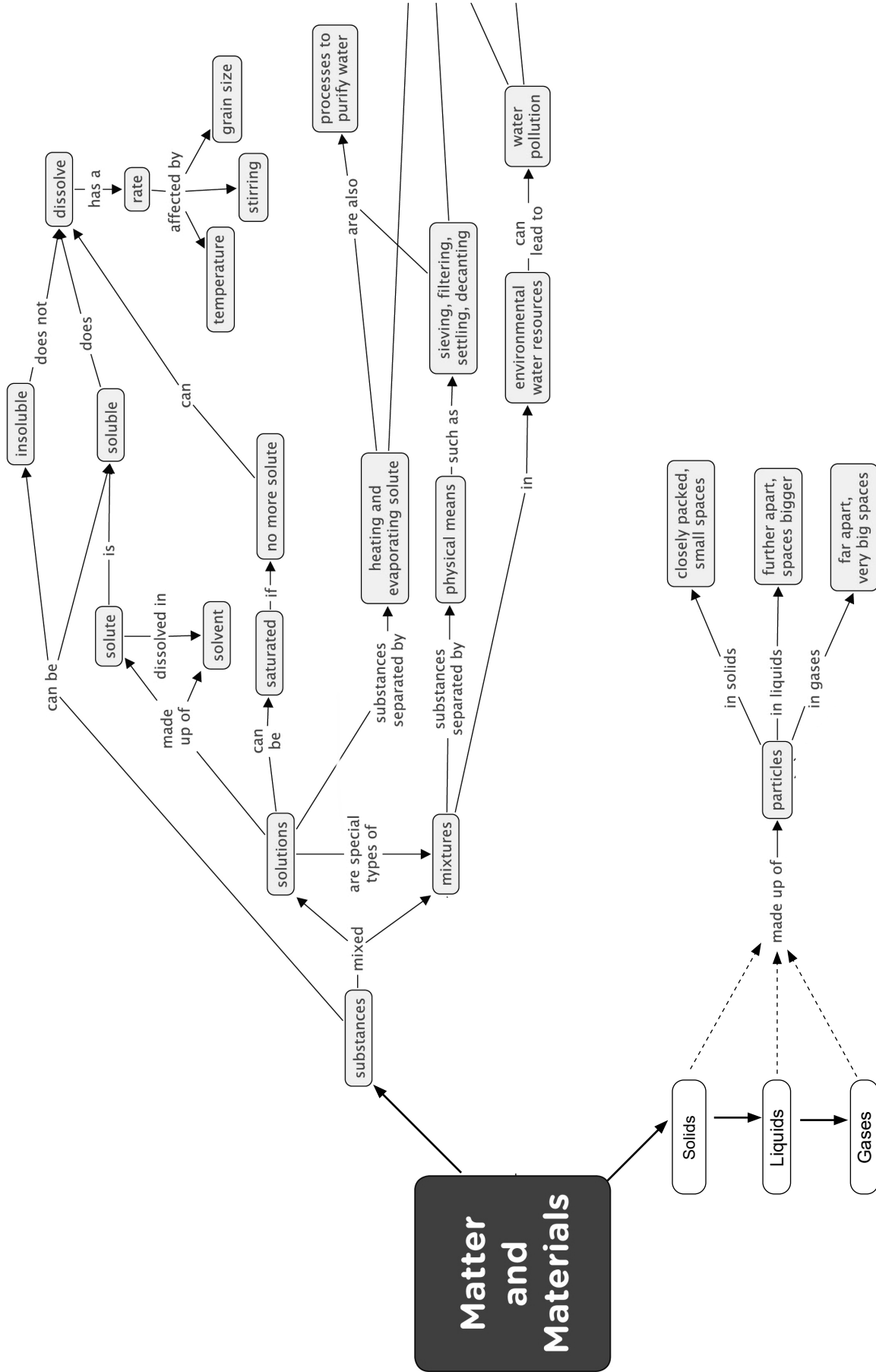


{Topic is recovered from Grade 4 term 2}

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



Gr 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**, however, this content has been arranged as follows for Grade 5 Term 2, in order to ensure key conceptual development, and to address common learning losses:

**A topic from Grade 4 Term 2, has been included/recovered:**

1. Material around us (3 weeks)

**All topics for Grade 5 Term 2 remain, but have been reduced in time:**

2. Metals and Non-Metals (2 weeks)
3. Uses of Metals (2 weeks)
4. Processing Materials (2 weeks)
5. Processed Materials (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 2022 formal assessment tasks for Grade 5 are as follows:

	TERM 1	TERM 2	TERM 3	TERM 4
<b>Practical Task/Investigation</b>	20 marks	20 marks	20 marks	-
<b>Test</b>	35 marks	50 marks	35 marks	50 marks

**Sample Assessment Tasks and Memoranda / Rubrics for Grade 5 Term 2 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 5 Term 2.
- **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 2 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:

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

## Amendments to the Annual Teaching Plan

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

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 1 - 3 3 weeks	Materials around us 1. Solids, liquids and gases 2. Change of state 3. The water cycle	This topic is recovered from Grade 4, Term 2	Grade 4 Term 2 <u>Lesson Plans</u> Lesson 1A: Solids, Liquids and Gases Lesson 1B: Solids Lesson 1C: Liquids Lesson 2A: Gases Lesson 2B: Changing the state of materials Lesson 2C: Heating materials Lesson 3A: Cooling materials Lesson 3B: The water cycle	SFA Gr5 73 -86 S&M Gr5 54 – 63 DbD Gr5 51 - 60 PLAT Gr5 56 - 67 VIVA Gr5 50 - 62 SO Gr5 32 - 37 OS Gr5 46 - 53 SIBB Gr5 114- 143 TC Gr5 41 - 49	

**Scaling down**

If the Term 2 teaching time is reduced, ensure that learners have a thorough understanding of the following key content and concepts:

**Materials around us**

- The 3 states of matter - solids, liquids and gases make up all the materials around us. All matter is made up of molecules. Identify different matter.
- The distance between molecules identifies what state the material is in. Solids – molecules are very close together. Liquids – molecules have more room to move. Gases – molecules have lots of space to move around: they can be contained in a closed container.
- Properties: solids keep their shape, liquids flow and take the shape of their container, gases like air, have no shape and can spread out.
- Heating and cooling causes solids, liquids and gases to change state. Give examples of everyday items changing their state. E.g. water
- Water is a vital resource and is valuable for life on Earth. It is needed for drinking, cleaning, cooking and growing food.
- Describe the water cycle: Water evaporates, condenses, freezes and melts in the cycle.
- The need to take care of water and not waste it.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 4 - 5 2 weeks	Metals and Non-Metals 1. Properties of metals 2. Properties of non-metals		Grade 5 Term 2 Lesson Plans Lesson 1A: Properties of metals Lesson 1B: Properties of metals Lesson 1C: Properties of metals Lesson 2A: Properties of metals Lesson 2B: Properties of non-metals	S&M Gr5 VIVA Gr5 PLAT Gr5 SFA Gr5 DbD Gr5 OX Gr5 SO Gr5 TC Gr5 SIBB Gr5	68 -81 48 – 62 62 - 71 69 - 81 57 - 65 48 - 55 30 - 33 43- 51 122 - 145

If the Term 2 teaching time is reduced, ensure that learners have a thorough understanding of the following key content and concepts:

**Metals and Non-Metals**

- Metals are raw materials found in rocks that are mined from the ground, Ore is rock with metal in it.
- 6 properties of metals: shiny, hard, strong, malleable, ductile, can be heated to high temperatures. Used for certain products because of their properties:
- Common metals and their properties: copper, gold, silver, steel, iron. Identify products made from these metals.
- Properties of non-metals: dull, brittle, break easily, some are not malleable, not ductile, do not conduct electricity. Used for certain products because of their properties.
- Common non-metals and their properties: plastic, glass, coal, wood, charcoal, chalk. Identify products made from non-metals.
- Common properties of metals and non-metal objects.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 6 - 7 2 weeks	Uses of Metals 1. Other properties of Metals 2. Uses of Metals	This topic has been reduced to 2 weeks	<p><u>Grade 5 Term 2 Lesson Plans</u></p> <p>Lesson 2C: Products made from non-metals</p> <p>Lesson 3A: Other useful properties of metals</p> <p>Lesson 3B: Heat Conductivity</p> <p>Lesson 3C: Magnesium</p> <p>Lesson 4A: Rusting</p>	<p>SFA Gr5 82 - 85</p> <p>VIVA Gr5 63 - 74</p> <p>PLAT Gr5 73 - 81</p> <p>SFA Gr5 83 - 94</p> <p>DbD Gr5 67 - 72</p> <p>OX Gr5 56 - 61</p> <p>SO Gr5 34 - 37</p> <p>TC Gr5 51 - 56</p> <p>SIBB Gr5 126 - 171</p>	

If the Term 2 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

**Uses of Metals**

- Other properties of metals: conduct heat, some are magnetic, iron rust.
- Uses of metals: coins, wire, jewellery, furniture, buildings and bridges, motor cars, kitchen utensils, roofs.
- Why iron rusts: when it comes into contact with air or water. Rust weakens the metal. How to prevent iron from rusting: use anti-rust paint, coat with tin or grease.
- Uses of metals in structures: Bridges are made from iron or steel, car bodies are made from steel, some furniture is made from aluminium.
- Products made from metals: stoves, sinks, kettles, cutlery, pots and pans, taps, door handles, wire, bicycles, cars, pipes, machinery, jewellery.

TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 8 - 9 2 weeks	Processing materials 1. Combining materials	This topic has been reduced to 2 weeks	<p><u>Grade 5 Term 2 Lesson Plans</u></p> <p>Lesson 4B: Mixing and setting</p> <p>Lesson 4C: Mixing and setting</p> <p>Lesson 5A: Mixing and setting</p> <p>Lesson 5B: Mixing</p> <p>Lesson 5C: Mixing</p> <p>Lesson 6A: Mixing and cooling</p> <p>Lesson 6B: Combining materials</p> <p>Lesson 6C: Combining materials</p>	<p>S&amp;M Gr5 87 -97</p> <p>VIVA Gr5 75 – 82</p> <p>PLAT Gr5 85 - 93</p> <p>SFA Gr5 95 - 110</p> <p>DbD Gr5 77 - 85</p> <p>OX Gr5 62 - 67</p> <p>SO Gr5 38 - 41</p> <p>TC Gr5 57- 69</p> <p>SIBB Gr5 165 - 182</p>	

If the Term 2 teaching time is reduced, ensure that learners have a thorough understanding of the following key content and concepts:

**Processing Materials**

- Combining materials to make new materials/products, like plaster, concrete, glue, dough, jelly, clay bricks.
- The floor of traditional Zulu homes is made of UDAKA – mixture of clay and cattle dung. ADOBE bricks are a mixture clay and straw, that is baked in the sun. These new materials are inexpensive and environmentally friendly.
- Process and compare properties before and after combining. To set is when a solid and a liquid are mixed together, the mixture must be left for a while so it becomes hard.
- Examples: Plaster of Paris/Polyfilla – gypsum powder and water.  
Concrete – cement, sand, small stones/gravel, water.  
Paste – powdery solid and liquid.
- Cooking changes the properties of mixtures, through heat, to make them edible. E.g. eggs
- Cooling is when heat is removed from mixtures to make them edible. E.g. ice-cream, jelly and other desserts.
- Drying and firing changes the properties of mixtures by removing the water, and making the mixture harder and stronger. E.g. clay
- Properties of new materials may be different to properties of materials combined together. E.g. concrete, jelly, cooked food, clay.
- Draw flow diagrams to show combining and processing materials to make a new material.



TIME ALLOCATION	DBE RECOVERY ATP REQUIREMENTS	NOTES	NECT LESSON PLANS: LESSONS	APPROVED TEXTBOOKS	DATE COMPLETED
Weeks 10 1 weeks	Processed Materials 1. Properties and other uses	This topic has been reduced to 1 weeks	<p><u>Grade 5 Term 2 Lesson Plans</u></p> <p>Lesson 7A: Special properties of materials</p> <p>Lesson 7B: Uses of processed materials</p> <p>Lesson 7C: Properties of new materials</p> <p>Lesson 8A: Making an object from clay</p> <p>Lesson 8B: Making objects from plant fibre</p> <p>Lesson 8C: Making objects from clay</p>	<p>S&amp;M Gr5 98 - 104</p> <p>VIVA Gr5 86 - 109</p> <p>PLAT Gr5 95 - 107</p> <p>SFA Gr5 114 - 127</p> <p>DbD Gr5 89 - 98</p> <p>OX Gr5 68 - 74</p> <p>SO Gr5 42 - 45</p> <p>TC Gr5 64 - 74</p> <p>SIBB Gr5 118 - 215</p>	

If the Term 2 teaching time is reduced, ensure that learners have a thorough understanding of the following key concepts:

**Processed Materials**

- Processed materials are materials that have been changed in some way. They are not natural materials.
- Some processed materials are useful because they have special properties: strong, durable, waterproof, fire resistant, light, interesting colours or textures.
- Properties and uses of processed materials: Plaster of Paris - fire and water resistant – used in ceiling sheets, bandages, polyfilla. Concrete – very strong, hard and durable – used in buildings and bridges, thick pipes. Fabrics – can be absorbent, many different textures, can be dyed different colours, can be fire resistant or flammable, durable and cheap. Ceramics – durable, hard but brittle, waterproof and fire resistant, can be painted. Glass – transparent, hard, durable and waterproof. Plastics – easily shaped and coloured, light, strong, durable, waterproof and often cheap. Can be hard or soft, stiff or flexible. They are not heat or fire resistant – poor conductors of electricity. Paints are liquids – protects the surfaces it is painted on - adds texture and colour.
- Traditional processing of materials in Africa: clay pots and bricks, baskets, hats, mats, thatched roofs.

## Grade 5 Natural Sciences & Technology Term 2 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 - INTRODUCTION

#### GRADE 5 Natural Sciences & Technology Term 2 Practical Task 20 marks

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 2A.
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. This practical will be done in groups of 6.
8. Each group will need the following equipment and materials to complete the practical task:
  - a piece of coat hanger wire (at least 10cm long)
  - a nail
  - a coin (10c, 20c or 50c)
  - a piece of hard coal
  - a piece of chalk
  - a few small pieces of cloth for rubbing
  - something sharp for scratching a surface with (this could be a pin, a maths compass, a nail, an opened paper clip, etc)
  - a hammer or a heavy stone
9. Ensure you have these materials prepared for each group before the lesson starts.
10. Tell the learners that they are going to be doing an investigation where they will be exploring the properties of metals and non-metals.
11. They will be looking at three metal items in this investigation; wire, a nail and a coin.
12. They will be looking at three non-metal items in this investigation; chalk, a piece of coal and a stone.
13. Divide the learners into groups of six.
14. Write the following onto the chalkboard (always try to do this before the lesson starts):

### PRACTICAL TASK

- A. This practical task will be done in groups of 6.
- B. Each group will be doing tasks to explore the properties of three items made of metal and three non-metal items.
- C. Each person in the group must participate in the investigation and complete the answers to the written activities in their workbooks.
- D. Each group will need the following materials and equipment to do the investigation:
  - a piece of coat hanger wire (at least 10cm long)
  - a nail
  - a coin (10c, 20c or 50c)
  - a piece of hard coal
  - a piece of chalk
  - a few small pieces of cloth for rubbing
  - something sharp for scratching a surface with (this could be a pin, a maths compass, a nail, an opened paper clip, etc)
  - a hammer or a heavy stone

15. Read through the practical task with the learners.
16. Remind the learners that in previous lessons they learnt about the properties of copper, steel and iron.
17. Tell the learners that today they are going to be investigating the properties of three items made of metal and that they will record their findings for assessment.
18. Tell the learners that they will be doing the same investigation on three non-metal items and they will also record those findings as well.
19. Have each group collect the equipment they will need (as listed on the board) for the task.
20. The following will need to be written onto the chalkboard (always try to do this before the lesson starts):

#### **Task 1: Investigating for shininess**

**(3 marks)**

- 1a. Predict: Which item do you think will get more shiny when rubbed or shined?
- 1b. Using the pieces of cloth, rub or polish each item as hard as you can for about a minute.
- 1c. Which items got more shiny when you rubbed them?
- 1d. Which items did not get more shiny when you rubbed them?

Read through task 1 with the learners.

21. Tell the learners that when something is shiny, it looks new.
22. Tell the learners that for each task they will need to predict what they think the outcome will be. By predicting, we mean that we think about what might happen and then make a guess.
23. Ask them if they have any questions.
24. Tell the learners they have 15 minutes to complete task 1.
25. Supervise the learners whilst they complete the task and answer any questions that they may have.
26. After 5 minutes call the learners back to attention.
27. Tell the learners that they are now going to be investigating how hard the surface of each of these materials is.
28. Remind the learners that the surface of an object is the top area of the object. Show the learners the surface of a desk.
29. Ask the learners why it would be important for someone to know how hard the surface of something is? (Answer: So that you always use the right materials. If you need something to have a hard surface, you need to choose the right material.)
30. The following will need to be written on the chalkboard (always try to do this before the lesson starts):

**Task 2: Investigating hardness**

**(5 marks)**

- 2a. Predict: Which item/s do you think will be the hardest?
- 2b. Using a nail, pin, maths compass or something sharp, try and scratch a deep mark into each of the five items.
- 2c. Which items could you not scratch?
- 2d. Which items were you able to scratch?
- 2e. Which item has the softest surface?
- 2f. Which item had the hardest surface?

31. Read through task 2 with the learners.
32. Ask them if they have any questions.
33. Tell the learners that they have 5 minutes to complete task 2.
34. Supervise the learners whilst they complete the task and answer any questions that they may have.
35. After 5 minutes call the learners back to attention.
36. Tell the learners that they are now going to complete a third task.
37. The following will need to be written on the chalkboard (always try to do this before the lesson starts):

### **Task 3: Investigating brittleness**

**(4 marks)**

- 3a. Predict: Which item/s do you think will break when dropped?
- 3b. Hold each item at shoulder height and drop it onto a hard floor.
- 3c. Which items did not break up at all?
- 3d. Which items broke up just a little?
- 3e. Which item was the most brittle?

- 38. Read through task 3 with the learners.
- 39. Tell the learners that when something is brittle, it means it breaks easily.
- 40. Ask the learners if any of them can remember the name of the disease they learnt about last term where an old person breaks their bones easily. It is also called "brittle bone disease." (Answer: Osteoporosis).
- 41. Ask them if they have any questions about the task.
- 42. Tell the learners that they have 5 minutes to complete task 3.
- 43. Supervise the learners whilst they complete the task and answer any questions that they may have.
- 44. After 5 minutes call the learners back to attention.
- 45. Tell the learners that they are now going to complete a fourth task.
- 46. The following will need to be written on the chalkboard (always try to do this before the lesson starts):

### **Task 4: Investigating malleability**

**(8 marks)**

For this task you are only going to test the wire, the nail and the coin.

- 4a. Which item/s do you think are malleable?  
(To test for malleability, first try and bend the item with your bare hands).
- 4b.. Name the metal items you were able to bend with your bare hands?
- 4c. Which item/s were you unable to bend with your bare hands?  
You are once again going to test the wire, the nail and the coin  
Using a hammer or a stone, see if you are able to flatten a part of the item with the weight of the hammer or stone.
- 4d. Which items were you able to flatten slightly?
- 4e. Which item/s were you unable to flatten at all?
- 4f. After doing these two tests for malleability, which of the three items are the most malleable?
- 4g. Why do you say this item is the most malleable?

47. Read through the practical task with the learners.
48. Remind the learners that in previous lessons they learnt about the property of malleability.
49. Ask the learners if they can remember what malleability is. (Answer: Able to be bent and hammered into different shapes without breaking).
50. Remind the learners that they are only testing the nail, coin and wire because malleability is a property of metals.
51. Ask the learners if they have any questions about the task.
52. Tell the learners they have 5 minutes to complete task 4.
53. Supervise the learners whilst they complete the task and answer any questions that they may have.
54. Have learners hand in their workbooks for assessment.

## Grade 5 Natural Sciences & Technology Term 2 Assessment

**Grade 5  
Natural Sciences & Technology  
Term 2  
Practical Task  
Memorandum  
20 Marks**

Topic	Activity	Expected answer/outcome	Marks
	<b>1</b>		
Metals and non-metals	1a.	Predictions will vary	1
Metals and non-metals	1b.	The coin	1
Metals and non-metals	1c.	The wire, the nail, the chalk, the coal	1
	<b>2</b>		
Metals and non-metals	2a.	Predictions will vary	1
Metals and non-metals	2b.	(Answers may vary) Possible answers: wire, nail, coin	1
Metals and non-metals	2c.	(Answers may vary) Possible answers: chalk, coal	1
Metals and non-metals	2e.	Chalk	1
Metals and non-metals	2f.	Answers will vary	1
	<b>3</b>		
Metals and non-metals	3a.	Predictions will vary	1
Metals and non-metals	3b.	The wire, the coin and the nail.	1
Metals and non-metals	3c.	The coal	1
Metals and non-metals	3d.	The chalk	1
	<b>4</b>		
Metals and non-metals	4a.	Predictions will vary	1
Metals and non-metals	4b.	The wire	1
Metals and non-metals	4c.	The coin, the nail	1
Metals and non-metals	4d.	Answers will vary	1
Metals and non-metals	4e.	Answers will vary	1
Metals and non-metals	4f.	The wire	1
Metals and non-metals	4g.	It was easy to bend with my bare hands It flattened easily	2
<b>TOTAL: 20</b>			

## Grade 5 Natural Sciences & Technology Term 2 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.

### Natural Sciences & Technology Grade 5 Test Term 2 50 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.

1. Which of the following is not an invertebrate?
  - a. locust
  - b. shark
  - c. crab
  - d. butterfly

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



**Ns & Tech Grade 5  
Term 2  
Test**

**PART 1: Life and Living**

**QUESTION 1: MULTIPLE CHOICE**

**[3]**

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

1a. Which one of these is NOT a vertebrate? (1)

- a. fish
- b. snake
- c. lion
- d. snail

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

- a. Plants are not the only living things that make their own food.
- b. Plants give off oxygen when they make food.
- c. Plants give off carbon dioxide when they make food.
- d. The food is made in the roots of the plant.

1c. Which of these statements is NOT TRUE? (1)

- a. The backbone protects the spinal cord.
- b. The skull protects the brain.
- c. The backbone is one solid bone.
- d. The ribs protect organs like the lungs and heart.

**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	Destructive insect that annoys people, animals or eats crops	A. Mammal
2a.	Refers to all things living in a habitat	B. Biodiversity
2b.	Thin, flat hard plates that cover fish	C. Nectar
2c	A vertebrate that has hair or fur and suckles its young	D. Scales
2d.	A sugary liquid found inside flowers	E. Pests

**QUESTION 3**

**[6]**

Compare the following two animals by completing the table:

	butterfly	earthworm
Number of legs		
Number of wings		
Type of skeleton		

**QUESTION 4**

**[3]**

Write the word that is being described in the sentence.

Only write the answer.

4a. When pollen is moved from one plant to another plant, by bees, other insects or wind.

\_\_\_\_\_

4b. The time when a seed starts growing into seedling.

\_\_\_\_\_

4c. Animals that eat both plants and other animals.

\_\_\_\_\_

**QUESTION 5**

**[4]**

Read the following quote:

“You may have seen that where there are plants, there are animals. This relationship and inter-dependence has been ongoing for millions of years.”

Using the words in the box below to help you, write 5 - 8 lines explaining what you understand by the interdependence between plants, animals and resources.

*Living, non-living, water, air, sunlight, food, shelter, habitats, survive, protection, reproduction*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

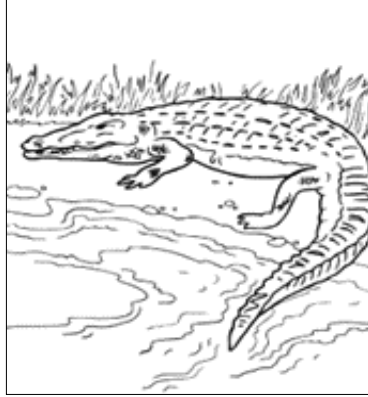
\_\_\_\_\_

\_\_\_\_\_

**QUESTION 6**

**[2]**

The picture below is that of a crocodile: snail, earthworm, cow, fish, crab, jellyfish



(Note to teacher: Copy this picture or use Term 1 Resource 8)

Write down two ways crocodiles are adapted to living in their habitat.

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**QUESTION 7**

**[2]**

Put the three words, in each life-cycle, in the correct order.

Example: hen, egg, chick

Answer: egg, chick, hen

7a. adult, baby, toddler

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7b. reproducing, dying, mating

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## Grade 5 Natural Sciences & Technology Term 2 Assessment

### PART 2: Matter and Materials

#### QUESTION 8: MULTIPLE CHOICE

[3]

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

8a. Which one of these is NOT a metal? (1)

- A. Aluminium
- B. Gold
- C. Coal
- D. Iron

8b. Which of these statements is TRUE? (1)

- A. All metals are hard.
- B. All metals have magnetic properties.
- C. Metals are transparent.
- D. Metals melt at high temperatures.

8c. Which of these statements is NOT TRUE? (1)

- A. Steel is ductile.
- B. Steel is a mixture of iron and carbon.
- C. Steel is very strong.
- D. Steel is malleable.

**QUESTION 9: 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	Metal used to make electrical wires	A. Ore
9a.	Metal-rich rock mined from the ground.	B. Rust
9b.	Process that occurs when iron or steel are exposed to air or water.	C. Brittle
9c.	Metal used in bridge building.	D. Iron
9d.	Breaks easily if dropped.	E. Copper

**QUESTION 10:**

**[5]**

Complete the following sentences using words in the block below:

*heat, electricity, waterproof, threads, glass*

Rewrite the sentences and underline your answers.

10a. Plastics are easily shaped, light and \_\_\_\_\_.

10b. Plastic is not a good conductor of \_\_\_\_\_ or \_\_\_\_\_.

10c. \_\_\_\_\_ is brittle and transparent.

10d. Fabric is made up of tiny \_\_\_\_\_ that are woven together.

**QUESTION 11:**

**[4]**

Write the word that is being described in the sentence.

Only write the answer.

11a. Able to be hammered into different shapes without breaking.

\_\_\_\_\_

11b. Able to be drawn out into thin wires.

\_\_\_\_\_

11c. Tall tower-like structures that hold up power cables.

\_\_\_\_\_

11d. Materials that allow heat or electricity to flow through them easily.

\_\_\_\_\_

**QUESTION 12:**

**[5]**

Read the following quote:

“The high melting point of metal is one of metal’s important properties.”

Using the words in the box below to help you, explain what you know about the melting point of metals and why it is important. (5 sentences)

*solid, liquid, room temperature, strong, molten, poured, mould, cools, melting point, hardness*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Grade 5 Natural Sciences & Technology Term 2 Assessment

### QUESTION 13:

[5]

Say whether the following sentences are TRUE or FALSE.

- 13a. Copper, iron and steel are poor conductors of heat. \_\_\_\_\_
- 13b. Food cans are coated with tin to stop them from rusting. \_\_\_\_\_
- 13c. Aluminium is a strong and light in weight. \_\_\_\_\_
- 13d. Non-metals can conduct heat. \_\_\_\_\_
- 13e. Electrical current can flow through plastic. \_\_\_\_\_

**TOTAL: 50**



## Grade 5 Natural Sciences & Technology Term 2 Assessment

**Grade 5  
Natural Sciences & Technology  
Term 2  
Test  
Memorandum  
50 Marks  
60 Minutes**

CAPS Topic	Questions	Expected answer(s)	Marks		
<b>PART A: Energy and Change &amp; Systems and Control</b>					
	<b>1</b>				
Plants and animals on Earth	1a	D ✓	1		
Plants and animals on Earth	1b	B ✓	1		
Life cycles	1c	C ✓	1		
	<b>2</b>				
Plants and animals on Earth	2a	B ✓	1		
Plants and animals on Earth	2b	D ✓	1		
Plants and animals on Earth	2c	A ✓	1		
Plants and animals on Earth	2d	C ✓	1		
	<b>3</b>				
Plants and animals on Earth	3		6		
		Legs		6	0
		Wings		4	0
		Skeleton		Exo-skeleton	Hydro-skeleton
	<b>4</b>				
Life cycles	4a	Pollination ✓	1		
Life cycles	4b	Germination ✓	1		
Plants and animals on Earth	4c	Omnivore ✓	1		

## Grade 5 Natural Sciences & Technology Term 2 Assessment

	<b>5</b>		
Plants and animals on Earth	5	(Any 4)✓✓✓✓ <ul style="list-style-type: none"> <li>• Living and non-living things need each other to survive</li> <li>• Plants need carbon dioxide from air</li> <li>• And water and minerals from soil to survive</li> <li>• Animals need sunlight and water from the environment</li> <li>• Plants provide food and oxygen for animals</li> <li>• The environment also gives animals places to shelter</li> <li>• This gives them protection from predators</li> </ul>	4
	<b>6</b>		
Plants and animals on Earth	6	(Any 2)✓✓ <ul style="list-style-type: none"> <li>• Crocodiles live on land and water</li> <li>• They prey on animals that come to the watering hole to drink</li> <li>• Crocodiles move fast</li> <li>• Crocodiles are very strong with powerful jaws</li> <li>• Crocodiles can swim without making ripples in the water</li> <li>• Crocodiles can lie very still for a long time</li> <li>• Crocodiles can hold their breath under water for a long time</li> <li>• Crocodiles are well camouflaged. They look like logs</li> </ul>	2
	<b>7</b>		
Life cycles	7a.	Baby, toddler, adult✓	1
Life cycles	7b.	Mating, reproducing, dying✓	1

## Grade 5 Natural Sciences & Technology Term 2 Assessment

<b>PART 2: Matter and Materials</b>			
	<b>8</b>		
Metals and non-metals	8a.	C✓	1
Metals and non-metals	8b.	C✓	1
Metals and non-metals	8c.	A✓	1
	<b>9</b>		
Uses of materials	9a.	A✓	1
Metals and non-metals	9b.	B✓	1
Metals and non-metals	9c.	D✓	1
Uses of materials	9e.	C✓	1
	<b>10</b>		
Uses of materials	10a.	Waterproof✓	1
Uses of materials	10b.	heat✓ electricity✓	2
Uses of materials	10c.	Glass✓	1
Uses of materials	10d.	Threads✓	1
	<b>11</b>		
Metals and non-metals	11a.	malleable✓	1
Metals and non-metals	11b.	ductile✓	1
Uses of metals	11c.	pylon✓	1
Uses of metals	11d.	conductor✓	1
	<b>12</b>		
Metals and non-metals	12	(Any 5)✓✓✓✓✓ <ul style="list-style-type: none"> <li>• Metals are solid at room temperature</li> <li>• Most metals at room temperature are very strong</li> <li>• Metals have a high melting temperature</li> <li>• This high melting temperature makes them useful for making things that need to resist heat</li> <li>• Metals at room temperature are hard and don't bend easily</li> <li>• Melted metals can be poured into moulds</li> <li>• Once the metal has cooled to room temperature it is strong again in its new shape</li> <li>• Car engines are made from molten metal</li> <li>• that has been poured into a mould</li> </ul>	5

## Grade 5 Natural Sciences & Technology Term 2 Assessment

	<b>13</b>		
Uses of metals	13a.	False✓	1
Uses of metals	13b.	True✓	1
Uses of metals	13c.	True✓	1
Uses of metals	13d.	True✓	1
Uses of metals	13e.	False✓	1
			<b>TOTAL:50</b>



