

**GR 9
WEEK 1:
Life and
Living**

Term 1 45 days	Week 1 11/1 – 14/1	Week 2 17/1 – 21/1	Week 3 24/1- 28/1	Week 4 31/1 – 4/2	Week 5 7/2 – 11/2	Week 6 14/2 – 18/2	Week 7 21/2 – 25/2	Week 8 28/2 – 4/3	Week 9 7/3 – 11/3
CAPS Topic	Cells as basic units of life (4 weeks)				Systems in the human body/Integrated with the Human Reproduction System				Consolidation and revision
Core Concepts, Skills and Values	<ul style="list-style-type: none"> • Cell structure • Differences between plant and animal cells • Draw and label a generalised plant and animal cell • Cells in tissues, organs and systems 				Human reproduction				
					Human reproduction				
Classwork/ homework if not completed in class	Complete diagrams of plant and animal cell and the functions of all the different parts List similarities between plant and animal cell and tabulate the differences between a plant and animal cell Do activities in textbook on this topic				Overview AND detail. Purpose Components Processes Health issues Purpose and puberty Reproductive organs Stages of reproduction Label the reproduction system				

SBA (Formal Assessment)	<ul style="list-style-type: none"> • SBA: 25/2
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Planet Earth and Beyond

	TERM 3				TERM 4			
Term 47 days	Week 1 & 2	Week 3 & 4	Week 5 & 6	Week 7 & 8	Week 1 & 2	Week 2 & 3	Week 4 & 5	Week 6 & 7
CAPS Topic	The Solar System (3 weeks)			Beyond the Solar System (3 Weeks)			Looking into space (2 Weeks)	
Core Concepts, Skills and Values	<ul style="list-style-type: none"> • The Sun • Objects around the Sun • Earth's position in the Solar System 			<ul style="list-style-type: none"> • The Milky Way Galaxy • Our nearest star • Light years, light hours, and light minutes • Beyond the Milky Way Galaxy 			<ul style="list-style-type: none"> • Early viewing of space • Telescopes 	
Requisite Pre-Knowledge	Grade 6: The solar system Grade 6: Systems for looking into space Grade 6: Systems to explore the moon and mars							
Resources (other than textbook) to enhance learning	<ul style="list-style-type: none"> • Reference materials • Video clips from the internet showing: <ul style="list-style-type: none"> - surface of the Sun - movement of the planets around the Sun - meteors, asteroids, comets • Table of facts about the Solar System 						<ul style="list-style-type: none"> • Video clips and images from the internet such as: <ul style="list-style-type: none"> - Constellations - SALT telescope - Hubble telescope - SKA telescope • Star maps from the internet 	
Informal Assessment	<ul style="list-style-type: none"> • constructing a model of the Solar System showing relative distances of the planets from the Earth and relative sizes of planets • interpreting a table of facts about the Solar System • comparing and writing about the conditions on other planets in our Solar System including their special features • presenting a fact sheet about any object found in our Solar System • writing about why the conditions on Earth are ideal for life • demonstrating the shape of the milky Way Galaxy with a spiral shape • drawing spiral arms to represent the milky Way Galaxy and placing our Solar System in the outer edges of the spiral to show our location in the galaxy 						<ul style="list-style-type: none"> • observing, recording and comparing the appearance of the Southern Cross constellation by viewing it at least three times during the months of September and October • drawing with labels to explain how a telescope works [choose any type of telescope] • presenting an information poster on a telescope, explaining how it is used and noting the most important information it has captured • discussing the many opportunities in South Africa for careers in astronomy 	
SBA (Formal Assessment)	<ul style="list-style-type: none"> • Test 							

Science process skills

The teaching and learning of Natural Sciences involves the development of a range of process skills that may be used in everyday life, in the community and in the workplace. Learners also develop the ability to think objectively and use a variety of forms of reasoning while they use these skills. Learners can gain these skills in an environment that taps into their curiosity about the world, and that supports creativity, responsibility and growing confidence.

The following are the cognitive and practical process skills that learners will be able to develop in Natural Sciences

1. *Accessing and recalling information* – being able to use a variety of sources to acquire information, and to remember relevant facts and key ideas, and to build a conceptual framework.
2. *Observing* – noting in detail objects, organisms and events
3. *Comparing* – noting similarities and differences between things
4. *Measuring* – using measuring instruments such as rulers, thermometers, clocks and syringes (for volume)
5. *Sorting and classifying* – applying criteria in order to sort items into a table, mind-map, key, list or other format
6. *Identifying problems and issues* – being able to articulate the needs and wants of people in society
7. *Raising questions* – being able to think of, and articulate relevant questions about problems, issues, and natural phenomena
8. *Predicting* – stating, before an investigation, what you think the results will be for that particular investigation
9. *Hypothesizing* – putting forward a suggestion or possible explanation to account for certain facts. A hypothesis is used as a basis for further investigation which will prove or disprove the hypothesis
10. *Planning investigations* – thinking through the method for an activity or investigation in advance. Identifying the need to make an investigation a fair test by keeping some things (variables) the same whilst other things will vary.
11. *Doing investigations* – this involves carrying out methods using appropriate apparatus and equipment, and collecting data by observing and comparing, measuring and estimating, sequencing, or sorting and classifying. Sometimes an investigation has to be repeated to verify the results.
12. *Recording information* – recording data from an investigation in a systematic way, including drawings, descriptions, tables and graphs
13. *Interpreting information* – explaining what the results of an activity or investigation mean (this includes reading and understanding maps, tables, graphs). A Translation Task requires learners to make sense of information and convert the information into a different format e.g. from information captured on a table into a graph format and or written format.
14. *Communicating* – using written, oral, visual, graphic and other forms of communication to make information available to other people
15. *The Scientific Process* is a way of investigating things about the world. Scientists use this process to find out about the world and to solve problems. The steps that make up the scientific process are not necessarily in order (sequential), and may include:

Step 1: Identify a problem and develop a question. What is it you want to find out?

Step 2: Form a hypothesis. A hypothesis is your idea, answer, or prediction about what will happen and why.

Step 3: Design an activity or experiment. Do something that will help you test your idea or prediction to see if you were right.

Step 4: Observe/note changes/reactions (e.g. through measuring), and record your observations (e.g. onto a table). What were the results of your activity or experiment? Write about what happened.

Step 5: Make inferences about the observations recorded in the tables, graphs, drawings, photographs. Make some conclusions. What did you find out? Do your results support your hypothesis? What did you learn from this investigation?