



**PROVINCE OF KWAZULU-NATAL  
DEPARTMENT OF EDUCATION**

# **LIFE SCIENCES**

**Grade 11**

**Revised ATP, SBA,  
Content trim, & Final Exam Structure**

**Version 1**

**Post Covid-19 Lockdown**

**June 2020**

## Life Sciences - Grade 11 – CAPS (2020)

### Annual Teaching Plan - TERM ONE (10 weeks)

Planned Date (week ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT Classwork/Homework	TICK	FORMAL ASSESSMENT - SBA
17 Jan		Structure of viruses, bacteria, protista and fungi	<b>Task 1</b> <ul style="list-style-type: none"> <li>List general characteristics of viruses, bacteria, protista and fungi</li> <li>Label diagrams of a bacterial cell and the bread mould</li> <li>Describe the role of viruses, bacteria, protista and fungi</li> <li>List the effects and management/draw graphs/interpret data on any one disease caused by each of viruses, bacteria, protista and fungi</li> <li>Explain how bacteria are used in the production of insulin and antibiotics</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Practical (20%)</b> (Minimum 30 marks)  <b>March Controlled Test (20%)</b> (1 hour - 60 marks)  <b>Monitoring by HOD</b> (Date, Signature and comment on progress with ATP)
24 Jan		Symbiotic relationships of bacteria Effect and management of one disease of each group Immunity			
31 Jan		Bryophytes, Pteridophytes, Gymnosperms, Angiosperms	<b>Task 2</b> <ul style="list-style-type: none"> <li>Compare the distinguishing characteristics of the 4 plant groups to show how they are grouped</li> <li>Label drawings showing various parts of the 4 plant groups</li> </ul>	<input type="checkbox"/> <input type="checkbox"/>	
07 Feb		Bryophytes, Pteridophytes, Gymnosperms, Angiosperms			
14 Feb		Asexual and sexual reproduction Flowers as reproductive structures Significance of seeds	<b>Task 3</b> <ul style="list-style-type: none"> <li>List advantages and disadvantages of asexual and sexual reproduction</li> <li>Describe adaptations of flowers for different pollinating agents</li> </ul>	<input type="checkbox"/> <input type="checkbox"/>	
21 Feb		Porifera, Cnidaria, Platyhelminthes, Annelida, Arthropoda, Chordata			
28 Feb		Porifera, Cnidaria, Platyhelminthes, Annelida, Arthropoda, Chordata	<b>Task 4</b> <ul style="list-style-type: none"> <li>Compare the body plans of the different phyla and relate it to the mode of life of each phylum with regard to , type of symmetry, no of tissue layers , presence or absence of coelom, presence or absence of through gut</li> <li>State suitability of each body plan for their respective environments</li> <li>Interpret a phylogenetic tree representing the evolutionary history of animals</li> </ul>	<input type="checkbox"/> <input type="checkbox"/>	
06 March		Revision			
13 March		Controlled Tests			
20 March		Controlled Tests			

## Life Sciences - Grade 11 – CAPS (2020)

### Annual Teaching Plan - TERM TWO (6 weeks)

Planned Date (week ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT Classwork/Homework	TICK	FORMAL ASSESSMENT - SBA
1		<b>Photosynthesis</b> <ul style="list-style-type: none"> <li>Process of photosynthesis, importance of photosynthesis.</li> <li>Effects of variable amounts of light, carbon dioxide and temperature on rate of photosynthesis</li> </ul>	<b>Task 5</b> <ul style="list-style-type: none"> <li>List requirements and products of photosynthesis and state the importance of photosynthesis</li> <li>Describe the events of the light and dark phases of photosynthesis</li> <li>Draw/interpret graphs / describe the effect of light on the rate of photosynthesis</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Test (20%)</b> (1 hour- 60 marks)
2	<b>Photosynthesis</b> <ul style="list-style-type: none"> <li>Improve crop yields in greenhouse systems</li> <li>Role of ATP as energy-carrier in the cell</li> <li>ONE investigation to explain the principles of the the scientific process. <i>Light is necessary for photosynthesis</i></li> </ul>				
3	<b>Animal Nutrition</b> <ul style="list-style-type: none"> <li>Dentition for herbivorous, carnivorous and omnivorous life styles</li> <li>Human nutrition (organs, functions, ingestion, digestion, absorption, assimilation and egestion)</li> </ul>	<b>Task 6</b> <ul style="list-style-type: none"> <li>Label diagrams of the digestive system of humans and state functions of labelled parts</li> <li>Describe how food is digested, absorbed and assimilated</li> </ul>	<input type="checkbox"/> <input type="checkbox"/>		
4	<b>Animal Nutrition</b> <ul style="list-style-type: none"> <li>Homeostatic control, which involves the hormonal control of blood sugar levels</li> </ul>	<b>Task 7</b> <ul style="list-style-type: none"> <li>Describe how glucose level is kept constant</li> </ul>	<input type="checkbox"/>		

5		<p><b>Cellular Respiration</b></p> <ul style="list-style-type: none"> <li>• Process of respiration</li> <li>• Aerobic and anaerobic respiration</li> </ul>	<p><b>Task 8</b></p> <ul style="list-style-type: none"> <li>• List requirements and products of cellular respiration and state the importance of cellular respiration</li> <li>• Differentiate between aerobic and anaerobic respiration</li> <li>• Describe the events of glycolysis, Kreb's cycle and oxidative phosphorylation</li> <li>• State the importance of anaerobic respiration</li> <li>• Draw graphs, interpret data on the experiments to show that carbon dioxide is produced by living organisms during cellular respiration</li> </ul>	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					<p><b>Monitoring by HOD</b> (Date, Signature and comment on progress with ATP)</p>
6		<p><b>Cellular Respiration</b></p> <p>ONE investigation to explain the principles of the Scientific process: <i>CO<sub>2</sub> is produced by living organisms during respiration</i></p>							

## Life Sciences - Grade 11 – CAPS (2020)

### Annual Teaching Plan - TERM THREE (8 weeks)

Planned Date (week ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT Classwork/Homework	TICK	FORMAL ASSESSMENT - SBA
1		<b>Gaseous Exchange</b> <ul style="list-style-type: none"> <li>Difference between cellular respiration, breathing and gas exchange</li> <li>Requirements of efficient gas exchange organs</li> </ul>	<b>Task 9</b> <ul style="list-style-type: none"> <li>List requirements of an efficient gas exchange organ in human</li> <li>Label diagrams on the human gas exchange system and provide functions of labelled parts</li> <li>Describe inhalation and exhalation</li> <li>Describe the homeostatic control of breathing</li> <li>Analyse and interpret data on the number of red blood cells and the effect of exercise on breathing/pulse rate</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Practical Task (20%)</b> (minimum 30 marks)  <b>Controlled Test (20%)</b> (1 hour - 60 marks)
2	<b>Gaseous Exchange</b> Human gas exchange –structure, location, functions and adaptations of the ventilation system				
3	<b>Gaseous Exchange</b> <ul style="list-style-type: none"> <li>Ventilation of the lungs</li> <li>Homeostatic control of breathing</li> </ul>				
4		<b>Excretion</b> <ul style="list-style-type: none"> <li>Excretion in various organs</li> <li>Urinary system- position of organs, structure and functioning of kidney</li> </ul>	<b>Task 10</b> <ul style="list-style-type: none"> <li>Label drawings of the excretory system and of the nephron, and provide functions of the labelled parts</li> <li>Describe the functioning of the nephron</li> <li>Describe the homeostatic control of water and salts</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
5	<b>Excretion</b> <ul style="list-style-type: none"> <li>Structure and functioning of nephron</li> </ul>				
6	<b>Excretion</b> Homeostatic control of water and salts; role of ADH and aldosterone				

7		<p><b>Population Ecology</b></p> <ul style="list-style-type: none"> <li>Population size: Immigration, emigration, mortality, natality; fluctuations and limiting factors</li> <li>Logistic and geometric growth curves with phases</li> </ul>	<p><b>Task 11</b></p> <ul style="list-style-type: none"> <li>Use given data to draw line graphs of logistic and geometric growth forms</li> <li>Interpret graphs and tables on growth forms</li> <li>Perform calculations on estimation of population size using:             <ul style="list-style-type: none"> <li>Simple sampling</li> <li>Mark recapture</li> </ul> </li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>Monitoring by HOD</b>                      (Date, Signature and comment on progress with ATP)</p> </div>
8		<p><b>Population Ecology</b></p> <p>Interactions in the environment – predation, competition, specialisation, parasitism, mutualism, commensalism</p>	<p><b>Task 12</b></p> <ul style="list-style-type: none"> <li>Interpret graphs showing predator-prey relationships and competition</li> <li>Explain the competitive exclusion principle and resource partitioning</li> <li>Differentiate amongst the three different types of symbiosis, using examples</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	



Grade 11 Revised ATP and SBA

Post Covid-19 lockdown

6		<b>Human Impact</b> - Solid waste disposal	<b>Task 18</b> <ul style="list-style-type: none"> <li>Describe methods of solid waste disposal</li> <li>Draw/interpret graphs on solid waste disposal</li> </ul>	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>									<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>Monitoring by HOD</b> (Date, Signature and comment on progress with ATP)</p> </div>
7		Consolidation and revision											
8		Consolidation and revision											
9		Final Examination											
10		Final Examination											
11		Final Examination											



## REVISED PROGRAM OF ASSESSMENT – 2020

### LIFE SCIENCES - Grade 11

TERM	Task number	Type of Task	Topic/s tested	Maximum marks	Planned Date	Actual Date
1	1	Practical				
	2	March Controlled Test				
2	3	Test				
3	4	Practical				
	5	Test				

MONITORING BY HOD	TERM 1	TERM 2	TERM 3
Comments			
Date			
Signature			

### Revised Composition of SBA components for Grade 11 – 2020

<b>TERM</b>	<b>Task</b>	<b>Weighting (% of SBA)</b>	<b>% of Reporting mark per term</b>	<b>% of Promotion Mark</b>
1	Practical Minimum 30 marks	20	25	25
	Control Test 60 marks Duration: 1 hr	20	75	
2	Test 60 marks Duration: 1 hr	20	100	
3	Practical Minimum 30 marks	20	25	
	Control Test 60 marks Duration: 1 hr	20	75	
	<b>Total</b>	<b>100</b>		
4	Final Examination P1 (150 marks) 2 ½ hrs & P2 (150 marks) 2 ½ hrs	<b>300</b>		75

**REVISED SCOPE OF COMMON TESTS – Grade 11: 2020**

<b>TERM 1</b>	
<b>MARCH COMMON TEST</b>	
<b>GRADE</b>	<b>11 Life Sciences</b>
<b>PAPER</b>	<b>ONE PAPER ONLY</b>
<b>DURATION OF THE PAPER</b>	<b>1 HOUR</b>
<b>TOTAL MARKS</b>	<b>60</b>
<b>NUMBER OF QUESTIONS</b>	<b>3</b>
<b>QUESTION PAPER FORMAT</b>	SECTION A: Objective Questions: [10 marks] SECTION B: Short Questions: 20 + 20 = [40 marks]
<b>EXPECTED WORK COVERAGE/TOPICS</b>	
1. Biodiversity and Classification of Micro-organisms	
2. Biodiversity of Plants	
3. Reproduction in Plants	
4. Biodiversity of Animals	

<b>TERM 2</b>	
<b>JUNE TEST</b>	
<b>GRADE</b>	<b>11 Life Sciences</b>
<b>PAPER</b>	<b>ONE PAPER ONLY</b>
<b>DURATION OF THE PAPER</b>	<b>1 HOUR</b>
<b>TOTAL MARKS</b>	<b>60</b>
<b>NUMBER OF QUESTIONS</b>	<b>3</b>
<b>QUESTION PAPER FORMAT</b>	SECTION A: Objective Questions: [10 marks] SECTION B: Short Questions: 20 + 20 = [40 marks]
<b>EXPECTED WORK COVERAGE/TOPIC</b>	
1. Photosynthesis	
2. Animal Nutrition	

**TERM 3**

<b>TEST</b>	
<b>GRADE</b>	<b>11 Life Sciences</b>
<b>PAPER</b>	<b>ONE PAPER ONLY</b>
<b>DURATION OF THE PAPER</b>	<b>1 HOUR</b>
<b>TOTAL MARKS</b>	<b>60</b>
<b>NUMBER OF QUESTIONS</b>	<b>3</b>
<b>QUESTION PAPER FORMAT</b>	SECTION A: Objective Questions: [10 marks] SECTION B: Short Questions: 20 + 20 = [40 marks]
<b>EXPECTED WORK COVERAGE/TOPICS</b>	
1. Gas Exchange	
2. Excretion in Humans	

**CONTENT TRIM - GRADE 11**

<b>Term</b>	<b>Topic /Subtopic</b>	<b>Content trimmed</b>
1	Biodiversity and classification of microorganisms Biodiversity of plants Biodiversity of animals	No amendments
2	Photosynthesis	Omit all practical experiments except ONE basic experiment (to show that light is necessary for photosynthesis).
	Animal Nutrition	Omit different diets, dietary supplements, malnutrition. tooth decay, effects of alcohol and drug abuse.
	Cellular Respiration	Omit all practical experiments except ONE basic experiment i.e. to show that carbon dioxide is produced by living organisms during respiration
3	Gaseous Exchange	Omit comparison between aquatic and terrestrial animals and plants in terms of gaseous exchange requirements; respiratory diseases; effects of smoking and altitude on gaseous exchange; artificial respiration and practical work.
	Excretion	Omit diseases affecting kidney function and practical work.
	Population Ecology	Omit social organisation and succession.  The subtopic 'Human population' moved from term 3 to term 4.
4	Human Impact on Environment	Content not trimmed

**REVISED FINAL EXAMINATION STRUCTURE**

- Paper 1 and Paper 2
- 150 marks each paper
- 2½ hours each paper

**Format of a Grade 11 Examination Paper**

Sections	Type of questions	Marks
A	A variety of short answer questions, objective questions for example MCQ, terminology, columns/statement and items, data-response	50
B	A variety of question types. TWO questions of 50 marks each divided into 2 – 4 subsections	2 x 50

**Topic Weightings**

PAPER 1	MARKS	PAPER 2	MARKS
Term2: Energy transformation to sustain life: Photosynthesis	32	Term 1: Biodiversity and classification of micro-organisms	29
Term 2: Animal nutrition	32	Term 1: Biodiversity in plants and reproduction	29
Term 2: Energy transformation: Respiration	22	Term 1: Biodiversity of animals	18
Term 3: Gas exchange	32	Term 3 and 4: Population ecology	37
Term 3: Excretion in humans	32	Term 4: Human impact on the environment	37
<b>Total</b>	<b>150</b>		<b>150</b>

**Cognitive Level Weightings**

A	B	C	D
Knowing Science	Understanding Science	Applying scientific knowledge	Evaluating, analysing and synthesising scientific knowledge
40%	25%	20%	15%

**Degrees of Difficulty Weightings**

Easy	Moderate	Difficult	Very difficult
30%	40%	25%	5%