

**GRADE 12**

# **Life Sciences**

# Survival Guide

**Covid-19**





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# COVID-19 safety guidelines for teachers and learners

## Gatherings at school

Where schools are open for learning, it is up to management to take decisive action to ensure sites are not simultaneously used for other functions such as shelters or treatment units in order to reduce the risk.

### Implement social distancing practices that may include:



- A staggered timetable, where teachers and learners do not arrive/leave at the same time for the beginning and end of the school day.
- Cancelling any community meetings/events such as assemblies, cake sales, market day, tuckshop, after-care classes, matric dance, Eisteddfod and other events.
- Cancelling any extra-mural activities such as ballet classes, swimming lessons, sport games, music class and other events that create a crowd gathering.
- Teaching and modeling creating space and avoiding unnecessary touching.
- Limiting movement and interaction between classes.
- Schools with an established feeding scheme plan are to ensure that hygiene and social distancing is always implemented. Teachers and staff members assisting with food distribution are to wear masks, sanitise prior to issuing food items and learners are to stand 1,5m apart in the queue.

**Wear a mask at all times.**



## 1. Restrooms/ toilets

### Hand washing

Washing hands with soap and water  or using alcohol-based hand sanitisers  is one of the most important ways to help everybody stay healthy at school. Critical to this is preparing and maintaining handwashing stations with soap and water at the toilet and in each classroom.



Teachers and learners should always wash their hands after:

- eating
- entering the classroom
- using the toilet
- blowing your nose or coughing
- touching tears, mucous, saliva, blood or sweat.

## 2. Premises and Classroom setting

When schools open, classroom settings should be altered in order to promote hygiene, safety and social distancing.

### Changed classroom settings may include:

- Cleaning and disinfecting school buildings, classrooms and especially sanitation of facilities at least once a day, particularly surfaces that are touched by many people (railings, lunch tables, sports equipment, door and window handles, toys, teaching and learning tools etc.).
- Ensure the proper ventilation and fresh flow of air through classrooms.
- Providing learners with vital information about how to protect themselves by incorporating the importance of hygiene, handwashing and other measures of protecting themselves, into the lessons.
- Promoting best handwashing and hygiene practices and providing hygiene supplies.

- Prepare and maintain handwashing stations with soap and water, and if possible, place alcohol-based hand sanitisers in each classroom, at entrances and exits, and near lunchrooms and toilets.



- Ensure teachers and learners wear a mask at all times.



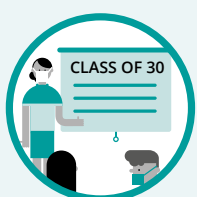
### Social distancing

- Space the learners out in the classroom (or outdoors) – try to keep learners separated by a minimum of 1,5m.



- Create space for learner's desks to be at least 1,5m apart

- Learners are not to exceed 30 per class or 50% of original class size



- Learners should not share cups, eating utensils, or food
- Do not let learners eat items that fall on the floor or chew on pencils or other objects

- Avoid close contact, like shaking hands, hugging or kissing



### 3. Social behaviour

It is extremely vital during a pandemic that focus is not only directed towards optimal physical health and hygiene but finding ways to facilitate mental health support.

- Treat everybody with respect and empathy – no teasing about COVID-19.
- Encourage kindness towards each other and avoid any stereotyping when talking about the virus.
- Stay home if you have a temperature or are ill.
- Do not touch people who are ill, but be empathetic.

- Wear a mask at all times.



### Dear Teacher

The National State of Disaster due to the COVID-19 pandemic has resulted in the disruption of Education in South African and the loss of valuable teaching time and disruption of the school calendar.

As a result of this the DBE has created a Recovery Framework including revised ATPs to assist schools and teachers in ensuring the 2020 school year is completed.

This plan addresses curriculum trimming and reorganisation to ensure core skills and knowledge are taught so that learners may progress to the next grade.

The following DBE website <https://www.education.gov.za/Home/RecoveryPlan2020.aspx> has the following useful documents available for you to use:

- Circular S2 of 2020 Revised ATPs for Gr 12 and Gr 7
- ATP Mediation documents by grade and subject
- National Phase Content Plans by phase and subject
- National Revised ATPs by grade and subject

At Pearson South Africa, we believe that education is the key to every individuals' success.

To ensure that despite the shortened teaching year, teachers and learners can meet all the necessary learning outcomes for the year, we have created this resource to support teachers and learners during this difficult time.

This Survival Guide aims to identify areas where teacher-facing time is reduced and various strategies such as trimming the curriculum, grouping or reorganising content and creating opportunities for learner-centered work and blended learning can take place.

# HOW TO USE THIS SURVIVAL GUIDE

**CAPS curriculum:**  
comprehensive summary of the CAPS topics and sub-topics and time allocation

1. CAPS time allocation
2. Revised CAPS time allocation according to the Revised ATPs

Survival guide strategy: proposed strategies that can be used to save teaching time. Two approaches to reducing teaching time are suggested:

1. **trimming** the curriculum and therefore teaching time
2. Curriculum **reorganisation/ clustering/grouping** topics across the year where it makes sense and therefore reducing teaching time

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
SUB-TOPIC	UNITS	CAPS TIME ALLOCATION	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
4. Floods	Unit 1 Causes of floods	4 hours	1.5 hours	Retain	Group with Unit 2 Effects of floods
	Unit 2 Effects of floods		1.5 hours	Retain	
	Unit 3 Why some communities are at higher risk than others			Retain but reduce	Flipped concept, learners prepare before lesson in preparation and then class discussion *4
Revision and assessment	Revision and assessment formal and informal including feedback should be done on an ongoing basis  Revision and end-of-year examination: Formal assessment Task: Source - based & paragraph writing 50 Marks  November examination: 50 marks	3 hours		Reduced	
TOTAL HOURS = 15					

ASSESSMENT						
	TERM 1	TERM 2	TERM 3	TERM 4	NOVEMBER EXAM	
POA	Project, assessed as part of formal assessment for Term 1	June exam cancelled	Test: 2nd week of September, based on content & concepts taught from reopening of schools 1 June – up to this point	Formal assessment based on concepts and content taught from September to November		
SBA	Map skills project	Test: Earthquakes and volcanoes and population growth and change		Test: Natural resources and conservation in South Africa TOTAL MARKS: 50	QUESTION 1: 25 marks TYPES OF QUESTIONS Source-based, data handling and definitions of concepts	CONTENT Natural resources and conservation in South Africa
					QUESTION 2: 25 marks TYPES OF QUESTIONS Case study, definitions of concepts, data handling and paragraph writing	CONTENT Management of resources

- \*1 Learners bring summaries to class for class discussions. Flipped concept, learners prepare before lesson and then class discussion around content. Teacher chooses 1 resource. Natural resources on Earth and use and abuse of them have been omitted according to the Recovery national teaching plans.
- \*2 Learners prepare at home by reading content choose either community or eco tourism. Flipped concept, learners prepare before lesson and then class discussion around content.
- \*3 Remove due to time constraints and addressed in Gr 10

Explain the rationale behind the trimming or grouping suggested

Assessment and revision for POA and SBA as per Revised ATPs.

## Notes

- Grade 12 subjects' content will not be trimmed/cut, but time can be saved through grouping and reorganising content.
- Teachers should follow the amended guidelines for assessment as set out by the DBE. Revised ATPs per subject and grade.
- No curriculum condensing strategies have been suggested for Term 1, as it is assumed that Term 1 content was taught.



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## Life Sciences

GRADE	NO OF WEEKS	CONTENT, CONCEPTS & SKILLS (WEEKS)	FORMAL ASSESSMENT (WEEKS)
10	40	32	8
11	40	32	8
12	40	27½	12½

\*4 hours teaching time per week, with 40 weeks per grade, means the total teaching time per year is 160 hours

THEME**	GRADE 10	GRADE 11	GRADE 12
LIFE AT MOLECULAR, CELLULAR AND TISSUE LEVEL	Chemistry of life, Cell, Cell division, Plant and animal tissues [Removed application of IKS, Biotechnology, Cloning, Stem cell research from Animal tissues.]		DNA code of life, RNA and protein synthesis, Meiosis [No amendment]
LIFE PROCESSES IN PLANTS AND ANIMALS	Support and transport systems in plants, Support systems in animals, Transport systems in mammals [Removed secondary growth, wilting and guttation removed from Support and transport systems in plants. Reduced content on voluntary skeletal muscles from support systems in animals. Removed mechanism for controlling cardiac cycle and heart rate, and lymph and diseases of the circulatory system and heart from transport systems in mammals.]	Energy transformations to support life: photosynthesis, Animal nutrition, Energy transformations: respiration, Gas exchange, Excretion [Removed different diets, dietary supplements, malnutrition, tooth decay, and the effect of alcohol and drug abuse from Animal nutrition. Removed gaseous exchange requirements, respiratory diseases, effects of smoking and altitude on gaseous exchange, and artificial respiration from gaseous exchange. Removed diseases affecting kidney function from excretion.]	Reproduction in vertebrates, human reproduction, Nervous system, Senses, Endocrine system, Homeostasis
DIVERSITY, CHANGE AND CONTINUITY	Biodiversity and classification, History of life on Earth [Removed fossil tourism and key events in life's history from History of life on earth.]	Biodiversity: classification of microorganisms, Biodiversity: plants, Reproduction: plants, Biodiversity: animals [No amendment]	Darwinism and natural selection, Human evolution [No amendment]
ENVIRONMENTAL STUDIES	Biosphere to ecosystems [Removed detail on biomes.]	Population ecology, Human impact on the environment [Removed social organisation and succession from population economy.]	Human impact on the environment [No amendment]

\*\*Focus on ideas, skills and concepts, rather than listing facts that need to be learned

CAPS CURRICULUM			SURVIVAL GUIDE STRATEGY *2				
THEMES	SUB-TOPIC	UNITS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/GROUPING	SUGGESTED TIME	
LIFE AT MOLECULAR, CELLULAR AND TISSUE LEVEL	DNA: The Code of Life [10 hours]	Unit 1: Deoxyribonucleic Acid	6 hours	Retain. Save teaching time by letting learners revise cell structure, with focus on cytoplasm, nucleus and nucleic acids.	N/A	4 hours	
		Unit 2: Ribonucleic Acid	4 hours	Retain	N/A	4 hours	
LIFE AT MOLECULAR, CELLULAR AND TISSUE LEVEL	Meiosis [8 hours]	Unit 1: Meiosis	4 hours	Retain	N/A	4 hours	
		Unit 2: Consequence of abnormal meiosis	3 hours	Retain. Save teaching time by letting learners revise mitosis and the cell structure from Grade 10	N/A	2 hours	
LIFE PROCESSES IN PLANTS AND ANIMALS	Reproduction in vertebrates [2 hours]	Unit 3: Mitosis and Meiosis	1 hour	Retain	N/A	1 hour	
		Unit 1: Diversity of reproductive strategies	2 hours	Retain	N/A	2 hours	
LIFE PROCESSES IN PLANTS AND ANIMALS	Human Reproduction [12 hours]	Unit 1: Structure of reproductive systems	8 hours	Retain	N/A	8 hours	
		Unit 2: Unique human reproductive characteristics	4 hours	Retain	N/A	4 hours	
ASSESSMENT	INFORMAL ASSESSMENT	Revision/homework questions					
		Case studies					
		Questions from past papers, and past tests					
		Formal practical task (20%) (20 – 40 marks)					
		Control test (10%) (minimum 50 marks)					
			TOTAL HOURS = 32				
				TOTAL TIME SAVED = 3 HOURS			

\*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.

\*2 Assuming that Term 1 content was taught before school closure – therefore no proposal for survival strategy for Term 1. Some suggestions have been made to shorten teaching time if not yet covered.

CAPS CURRICULUM			SURVIVAL GUIDE STRATEGY			
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
LIFE AT MOLECULAR, CELLULAR AND TISSUE LEVEL / DIVERSITY, CHANGE AND CONTINUITY	Genetics and inheritance [16 hours to 16 hours (no change)]	Unit 1: Genes and genetic concepts	2 hours		Retain but ask learners to study the terminology prior to the lesson.*2	Make a list of terminology and concepts needed for this topic and ask learners to study it.*2 Give a history of the history of genetics explaining Gregor Mendel's role. Ensure that learners have definitions for the three laws developed by Mendel.
		Unit 2: Inheritance and variation	4 hours		Retain: Focus on solving monohybrid crosses with all three types of dominance, including blood types. Discuss dihybrid crosses and look at some examples.	Use a monohybrid cross to show how the inheritance of characteristics ties in with meiosis. Ensure that learners can use the correct format when doing crosses Provide multiple examples of monohybrid crosses with complete dominance, co-dominance and incomplete dominance. Include blood types as an example of multiple alleles which shows both complete and co-dominance. Explain what a dihybrid cross is and show learners how to do them using the correct format.
	Unit 3: Sex chromosomes	1 hour		Retain: These are monohybrid crosses involving the sex chromosomes.	Explain how sex is determined and how a mutation on the sex chromosomes is inherited. Use haemophilia and colour-blindness as examples to practice monohybrid crosses that are sex-linked.	

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\*2 Flipped concept, learners prepare before lesson and then class discussion around content

\*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

\*4 To save on class time, teacher to only teach on examinable content as outlined in the exam guidelines document. The learner can self-teach any content that is not covered in class.

CAPS CURRICULUM			SURVIVAL GUIDE STRATEGY			
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
LIFE AT MOLECULAR, CELLULAR AND TISSUE LEVEL / DIVERSITY, CHANGE AND CONTINUITY	Genetics and inheritance [16 hours to 16 hours (no change)]	Unit 4: Mutations	3 hours		Retain: Detail about different types of mutations and how they occur is not required. *4	<p>Define a mutation as a change in the genetic material.</p> <p>Explain that mutations may be harmful, harmless or have no effect at all and that mutations contribute to genetic variation.</p> <p>State that a gene mutation is a change in the DNA sequence of a single gene and a chromosomal mutation/aberration is a change in the structure of the chromosome (From Unit 1, 2 and 3).</p> <p>Learners should be able to explain the consequences of a gene mutation in the formation of proteins. (Links with protein synthesis) They should also be able to state the relationship between mutations and haemophilia, colour-blindness and Down Syndrome.</p> <p>Practice using pedigree diagrams to study genetic lineages. Learners must be able to use these diagrams to answer genetics questions.</p>

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY		
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
		Unit 5: Genetic engineering	3 hours	3 hours	Retain but reduce the content to the minimum required. *4 Genetic engineering is a type of biotechnology. Biotechnology is the use of organisms to satisfy human needs. Only study the following: <ul style="list-style-type: none"> <li>• Sources and uses of stem cells</li> <li>• Outline how genetic modification of organisms is done and list some benefits of genetic modification for humans.</li> <li>• A brief outline of cloning and its benefits</li> </ul>	Unit 5, 6 and 7 have been grouped together in the ATP, as assigned 5 days or 4 hours teaching time.
		Unit 6: Mitochondrial DNA and the tracing of genetic links	1 hour		Retain but this should just be mentioned at this stage.	This can be included with mutations in Unit 4 as it is mutation in the mitochondrial DNA that are used to trace female ancestry. *3 Tell the learners that this will be discussed further when they study evolution.

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THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
LIFE AT MOLECULAR, CELLULAR AND TISSUE LEVEL / DIVERSITY, CHANGE AND CONTINUITY	Genetics and inheritance [16 hours to 16 hours (no change)]	Unit 7: Paternity testing and DNA profiling (forensics)	2 hours	1 hour	Retain but reduce the content to the minimum required. *4 Blood grouping can show that a man is not the father, or it can show that it is possible that he is the father. It cannot show for sure that a man is the father as many other men have the same blood type. DNA profiling can prove that a man is the father of a child. If the DNA profiles of the mother, potential father and the child are compared some of the bands from the child will match the mother's bands. If the rest of the bands match the bands on the father's DNA profile then he is the father. See question 4 of the NSC November 2019 Paper 2 for a detailed explanation of this that can be given to the learners. *2	
LIFE PROCESSES IN PLANTS AND ANIMALS	Responding to the environment: humans [16 hours to 12 hours]	Unit 1: Humans have two systems: nerves and hormones	2 hours	4 hours	Retain but combine with Unit 2. *3	
		Unit 2: Human nervous system	6 hours			
					Teach this holistically with Unit 1. *3. Describe the role of the nervous system in the human body. Remind learners that they studied neurons in grade 10. Ask the learners to revise the diagrams of neurons prior to the lesson. *2 Ensure learners understand and can explain a reflex and a reflex arc.	Retain but combine with Unit 1. *3

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- \*3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- \*4 To save on class time, teacher to only teach on examinable content as outlined in the exam guidelines document. The learner can self-teach any content that is not covered in class.



CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY		
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
LIFE PROCESSES IN PLANTS AND ANIMALS	Responding to the environment: humans (continued) [16 hours to 12 hours]	Unit 3: Disorders	1 hour	4 hours	Retain but reduce content: *4 Discuss only the following: <ul style="list-style-type: none"> <li>the part of the nervous system that is affected by Alzheimer's disease and Multiple sclerosis</li> <li>how these diseases affect a person.</li> </ul>	Discuss reduced content holistically with unit 4 and 5. *3
		Unit 4: Injuries	1 hour		Reduce teacher talking time by only discussing that the effect of an injury to the nervous system depends on where the injury occurs.	
		Unit 5: Effects of drugs	1 hour	4 hours	Discuss that drugs interfere with the neurotransmitters in the brain and therefore interfere with impulse transmission across the synapse.	Retain but combine this content with units 3 and 4. *3
		Unit 6: Receptors	5 hours		Retain. Study the structure and function of the parts of the eye and the ear. Learners can study diagrams with all this information to prepare for the lesson therefore cutting down class time. *2	

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THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
LIFE PROCESSES IN PLANTS AND ANIMALS	Human Endocrine System [6 hours to 3 hours]	Unit 1: Endocrine glands	6 hours	3 hours	<p>Cut teaching time by asking learners to make a list of all the hormones that they have studied so far as well as their functions. *2</p> <p>Use this to draw up a complete table of all the hormones, the glands that secrete them and their functions.</p> <p>Retain: The role of hormones in osmoregulation and in regulating blood glucose were studied in grade 11. They have also studied the reproductive hormones earlier this year. Revising these hormones before the lesson will cut down on teaching time. *2</p>	This was originally Term 3 content, that is being moved to Term 2 according to the revised ATP.
ASSESSMENT	INFORMAL ASSESSMENT	Questions from past papers, past tests, and scientific investigations.				
	SBA (FORMAL)	Control test (10%) (minimum 50 marks) (Include practical investigation type questions.				
			TOTAL HOURS = 32	TOTAL REVISED HOURS = 31		

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY		
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
LIFE PROCESSES IN PLANTS AND ANIMALS	Homeostasis in Humans [4 hours to 4 hours (no change)]	Unit 1: Homeostasis and negative feedback	2 hours	2 hours	Retain: Once you have taught all the hormones and glands of the endocrine system then move directly into explaining what negative feedback is. From there you can discuss how negative feedback regulates blood glucose, water and metabolism	Combine this unit with the discussion on negative feedback in the previous section. *3
LIFE PROCESSES IN PLANTS AND ANIMALS	Responding to the environment: plants [4 hours to 4 hours (no change)]	Unit 2: Thermoregulation	2 hours	2 hours	Retain: Do not teach all the structures found in the skin. *4 Focus only on those required for thermoregulation in humans. Humans do not use body hair for thermoregulation so do not include it. Use a table to compare what happens on cold days and hot days to ensure correct thermoregulation.	
LIFE PROCESSES IN PLANTS AND ANIMALS	Responding to the environment: plants [4 hours to 4 hours (no change)]	Unit 1: Plant hormones	2 hours	2 hours	Retain but only learn the general functions of auxins, gibberellins, and abscisic acid. *4	Mention that plant hormones can be used to kill weeds but no detail of particular weed killers is required. Teach this with Unit 3 to save time. *3
		Unit 2: Geotropism and phototropism	1 hour	1 hour	Retain. Explain geotropism in roots and phototropism in stems only. *4	
		Unit 3: Plant defence mechanisms	1 hour	1 hour	Mention only that plants use thorns and chemicals as defence mechanisms.	Teach this unit with Unit 1. *3

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CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY		
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
DIVERSITY, CHANGE AND CONTINUITY	Evolution by Natural Selection [8 hours to 9 hours]	Unit 1: Origin of ideas about origins	2 hours	4 hours	Only include content that is absolutely required. *4 Use the content on the right as a guideline.	Teach this content holistically with Unit 3. *3. Include: definition of biological evolution, difference between a hypothesis and a theory, why evolution is regarded as a theory, evidence for evolution, definition of a species and population, how variation is introduced in a species, continuous and discontinuous variation, Lamarckism including Lamarck's 'laws' and reasons why his ideas were rejected, Darwinism – Focus on natural selection, Punctuated equilibrium
		Unit 2: Artificial selection	2 hours		Retain, but reduce content. *4 Explain what natural selection is and how it occurred in a plant species and an animal species. The particular species is not important.	This this unit with Unit 3 by comparing natural and artificial selection. *3
		Unit 3: Darwin's theory of evolution by natural selection	1 hour	4 hours		Retain but include with unit 1. *3
		Unit 4: Formation/ emergence of new species	2 hours		Retain but limit the content to what is required only. *4 Include: Definition of a species, How speciation and extinction affect biodiversity, How geographic isolation results in speciation, Explain speciation due to geographic isolation in a specific example. The example is not important. Learners must be able to explain the process using any example given, List mechanisms for reproductive isolation	

CAPS CURRICULUM			SURVIVAL GUIDE STRATEGY			
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
		Unit 5: Evolution in present times	1 hour	1 hour	Retain: Revise evolution by natural selection. *2 Evolution in modern times occurs in the same way only it occurs over a relatively short period of time in present times. Discuss some examples but the learners should already be able to explain how this occurs. Do not study all the examples provided as the process is the same for any example.	Remind learners that they already learnt how to explain evolution by natural selection. *2
ASSESSMENT	INFORMAL ASSESSMENT	Questions from past papers, past tests, and scientific investigations.				
	SBA (FORMAL)	Control test (10%) (minimum 50 marks) (Include practical investigation type questions.				
		Trial Examination (50%)	<p><b>Paper 1:</b> Meiosis – 14 marks (was 11) Reproduction in vertebrates – 7 marks (was 6) Human reproduction – 36 marks (was 31) Responding to the environment (humans) – 45 marks (was 40) Human endocrine system – 20 marks (was 15) Homeostasis in humans – 14 marks (was 11) Responding to the environment (plants) – 14 marks (was 11)</p> <p>* Note: Human impact on the environment has been removed from the Trial examination (was 25 marks).</p>			<p><b>Paper 2:</b> DNA: Code of life – 37 marks (was 27) Meiosis – 14 marks (was 12) Genetics and inheritance – 68 marks (was 45) Evolution through natural selection – 31 marks (was 23)</p> <p>* Note: Human evolution has been removed from the Trial examination (was 43 marks).</p>
			<b>TOTAL HOURS = 30</b>	<b>TOTAL REVISED HOURS = 17</b>		

- \*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.
- \*2 Flipped concept, learners prepare before lesson and then class discussion around content
- \*3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- \*4 To save on class time, teacher to only teach on examinable content as outlined in the exam guidelines document. The learner can self-teach any content that is not covered in class.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY		
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
DIVERSITY, CHANGE AND CONTINUITY	Human Evolution [8 hours to 8 hours (no change)]	Unit 1: Evidence of common ancestors for living hominids  Unit 2: Out of Africa hypothesis	4 hours	4 hours	Retain but reduce to the minimum content. *4 A lot of this section has already been covered in the previous section, Unit 1 *2. Do not include any other detail <ul style="list-style-type: none"> <li>• Describe the Out of Africa Hypothesis</li> <li>• Fossil evidence for this hypothesis                             <ul style="list-style-type: none"> <li>• Australopithecus fossils are ONLY found in Africa</li> <li>• The OLDEST Homo fossils are found in Africa</li> </ul> </li> </ul> Genetic evidence for this hypothesis: mitochondrial DNA	This was originally Term 3 content, that is being moved to Term 4 according to the revised ATP.  This section has content already presented in Unit 1. *3 This was originally Term 3 content, that is being moved to Term 4 according to the revised ATP.



\*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.

\*2 Flipped concept, learners prepare before lesson and then class discussion around content

\*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

\*4 To save on class time, teacher to only teach on examinable content as outlined in the exam guidelines document. The learner can self-teach any content that is not covered in class.

CAPS CURRICULUM			SURVIVAL GUIDE STRATEGY			
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
DIVERSITY, CHANGE AND CONTINUITY	Human Evolution (continued) [8 hours]	Unit 3: Importance of the Cradle of Humankind	4 hours	0 hours	Retain, and only teach on content that has not already been covered in Unit 1 and 2. Let learners' complete questions as revision at home, to save on teacher talking time. *2	Many of the concepts here have been taught already in Unit 1 and 2. *3 These topics were not listed in the revised ATP, but are also important part of learners knowledge.
		Unit 4: Alternatives to evolution	4 hours	0 hours	Retain, and only teach on content that has not already been covered in Unit 1 and 2. Let learners' complete questions as revision at home, to save on teacher talking time. *2	Many of the concepts here have been taught already in Unit 1 and 2. *3 These topics were not listed in the revised ATP, but are also important part of learners knowledge.
REVISION	Revision [8 hours to 4 hours]	Unit 1: Revision of Grade 11 and 10 work that is examined in NSC exams	8 hours	4 hours	Suggest that teachers rather revise by letting learners working through an old final exam paper. This will familiarise learners with the structure of the papers. Let the learners complete the questions at home, and the next time they are in class, work through the question while revising important aspects. *4	

CAPS CURRICULUM			SURVIVAL GUIDE STRATEGY			
THEMES	SUB-TOPIC	UNITS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
ASSESSMENT	INFORMAL ASSESSMENT	Questions from past papers, past tests, and scientific investigations.				
	SBA (FORMAL)	FINAL EXAMINATION DATES TBC BY DBE *5	<b>Paper 1:</b> Meiosis – 11 marks Reproduction in vertebrates – 6 marks Human reproduction – 31 marks Responding to the environment (humans) – 40 marks Human endocrine system – 15 marks Homeostasis in humans – 11 marks Responding to the environment (plants) – 11 marks Human impact – 25 marks		<b>Paper 2:</b> DNA: Code of life – 27 marks Meiosis – 12 marks Genetics and inheritance – 45 marks Evolution through natural selection and human evolution – 66 marks	
 <b>TOTAL HOURS = 16</b>			 <b>TOTAL REVISED HOURS = 16</b>			

- \*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.
- \*2 Flipped concept, learners prepare before lesson and then class discussion around content
- \*3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- \*4 Suggest that teachers rather revise by working through an old final exam paper. This will familiarise learners with the structure of the papers. Let the learners complete the questions at home, and the next time they are in class, work through the question while revising important aspects. Divide the paper in 3 and complete it over a 3-hour period for each of the papers.
- \*5 There are changes to the final examination structure.



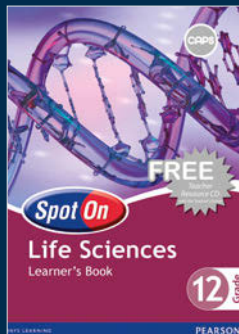
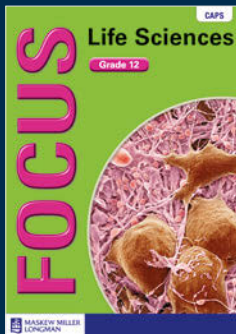
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