

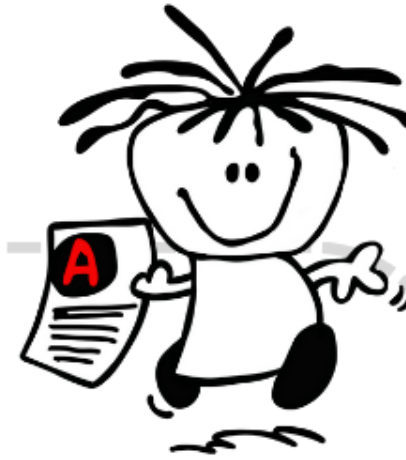
THE **ANSWER** SERIES

ATP & LESSON PLANNER

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GRADE **12**

Life Sciences



A **one-stop-teaching-tool** created by combining:

- the official DBE ATP
- The **Answer Series** Life Sciences Class Text & Study Guide
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2026



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ACADEMIC WEEKS	CAPS TOPIC	CORE CONTENT & PAGE NUMBERS		SUGGESTED EXERCISES		POSSIBLE PRACTICAL TASKS / CONSOLIDATION	DATE CONTENT WAS COMPLETED
		Based on TAS Gr 12 LS Part 1 & 2 Class Text & Study Guides					
WEEK 1 – 3 14 – 30 Jan	DNA: The code of life <i>13 school days</i> PAPER 2: 27 marks	Revise cell structure	p. 2	p. 85: Q1	NOTE Questions are suggested according to when learners will be able to do them.	Watch this useful video to revise cell structure	
		Types of nucleic acids	p. 2 – 3	p. 85: Q3		Watch this useful video on nucleic acids	
		DNA location	p. 3				
		History of DNA	p. 3 – 4	p. 85: Q2		- Build a model of DNA’s structure (video here)	
		DNA structure	p. 4 – 6	p. 85/86: Q4 – Q6		- DNA extraction p. 9 (Prac)	
		DNA function	p. 8			- Watch this useful video on DNA extraction	
		DNA replication	p. 6 – 7	p. 87: Q10; p. 91: Q19		Watch this useful video on DNA replication	
		DNA profiling	p. 10 – 12	p. 88/89: Q11 – Q15		- Read and interpret different DNA profiles (Prac)	
		RNA location	p. 13			- Watch this useful video on DNA profiling	
		RNA structure	p. 13			- Interactive gel electrophoresis lab here	
		RNA function	p. 14	p. 86/87: Q7 – Q9		- Watch useful videos: proteins ; transcription ; translation	
		Protein synthesis	p. 15 – 18	p. 89/90: Q16 – Q18	PART 2	- Revise main concepts using this document: ENG AFR	
		Gene mutations	p. 8 & 18 – 20	p. 91: Q19 – Q21		- Self-marking quiz on DNA and RNA here	
						- Find revision exercises on this topic here	
						- Revise terms for this topic on p. 113 Unit 1	
WEEK 4 & 5 2 – 13 Feb	Meiosis <i>10 school days</i> PAPER 2: 21 marks	Revise structure of chromosomes	p. 21 – 22	p. 92: Q1		Watch this useful video on chromosomes	
		Terms relating to karyotypes	p. 23	p. 92: Q2 – Q4; p. 96: Q14		Watch this useful video on karyotypes	
		Revise Mitosis	p. 24 – 26	p. 92: Q5; p. 95: Q13		Watch this useful video to revise Mitosis	
		Process of Meiosis	p. 26 – 32	p. 95: Q11 & Q12		Identify phases of Meiosis (Prac)	
		Importance of Meiosis	p. 33 – 34	p. 93: Q6 & 7; p. 98: Q19		- Revise main concepts using this document: ENG AFR	
		Abnormal Meiosis	p. 35 – 36	p. 96/97: Q15 – Q18	PART 2	- Self-marking quiz on Meiosis here	
		Comparison between Mitosis and Meiosis	p. 32 & 36 – 38	p. 94: Q8 – 10		- Find revision exercises on this topic here	
						- Revise terms for this topic on p. 113 Unit 2	
WEEK 6 16 – 20 Feb	Reproduction in Vertebrates <i>5 school days</i> PAPER 1: 8 marks	External and internal fertilisation	p. 2 – 3	p. 96: Q1 & 2			
		Ovipary, ovovivipary and vivipary	p. 4 – 5	p. 96: Q3		Watch this useful video on ovi-, ovovivi- and vivipary	
		Amniotic egg	p. 5 – 6	p. 96: Q4; p. 98: Q9		Watch this useful video on the amniotic egg	
		Precocial and altricial development	p. 6 – 8	p. 96/97: Q5 & Q6	PART 1	Watch this useful video on precocial and altricial dev.	
		Parental care	p. 8 – 9	p. 97: Q7 & Q8; p. 98: Q10		Revise terms for this topic on p. 139 Unit 1	
WEEK 7 – 9 23 Feb – 13 Mar	Human Reproduction <i>15 school days</i> PAPER 1: 41 marks	Revise human life cycle	p. 9	p. 98: Q1			
		Structure and functions of male reproductive system	p. 10 – 13	p. 99: Q2 & Q3; p. 107: Q23		Study and identify different cells and tissues in the human reproductive system (Prac)	
		Structure and functions of female reproductive system	p. 13 – 14	p. 101: Q6			
		Puberty	p. 15 – 16	p. 100: Q5			
		Spermatogenesis and structure of the sperm cell	p. 16 – 17	p. 101: Q7		Useful video: Spermatogenesis ; sperm cell	
		Oogenesis and structure of ovum	p. 17 – 18	p. 101: Q8		Useful videos: Oogenesis ; Ovum	
		Events of the menstrual cycle	p. 19 – 21	p. 102: Q10		Watch this useful video on how menstruation works	
		Hormonal control of the menstrual cycle	p. 21 – 23	p. 102/103: Q11 & Q12; p. 104: Q15		Watch this useful video on the menstrual cycle detail	
		Fertilisation and development of the zygote	p. 23 – 24	p.101: Q9; p. 103: Q13; p. 104: Q17; p. 107: Q24		Useful videos: Fertilisation ; Development of zygote	
		Implantation and pregnancy	p. 25 – 28	p. 103: Q14; p. 109: Q27 – Q29	PART 1	Watch this interesting video on pregnancy	
		Birth	p. 28 – 29	p. 104: Q16; p. 105: Q18 – Q20		- Revise main concepts using this document: ENG AFR	
						- Self-marking quiz on reproduction in humans/vertebrates here	
		Contraception	p. 30 – 32	p. 100: Q4; p. 106: Q21 & Q22; p. 108: Q25 – Q26		- Find revision exercises on this topic here	
						- Revise terms for this topic on p. 139 Unit 2	



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ACADEMIC WEEKS	CAPS TOPIC	CORE CONTENT & PAGE NUMBERS		SUGGESTED EXERCISES	POSSIBLE PRACTICAL TASKS / CONSOLIDATION	DATE CONTENT WAS COMPLETED	
		Based on TAS Gr 12 LS Part 1 & 2 Class Text & Study Guides					
WEEK 1 & 2 8 – 17 Apr	Genetics & inheritance 8 school days PAPER 2: 48 marks	Genetic pedigrees – analyse a pedigree diagram Complete dominance	p. 64 – 65	p. 99/100: Q5 – Q7	- Watch this useful video on analysing a pedigree diagram on complete dominance: AFR ENG		
		Genetic pedigrees – analyse a pedigree diagram X-linked recessive disorder	p. 66 – 67	p. 103: Q17; p. 107: Q29	- Watch this useful video on analysing a pedigree diagram with an X-linked recessive disorder: AFR ENG		
		Genetic pedigrees – analyse a pedigree diagram X-linked dominant disorder	p. 68	p. 107: Q30	- Toothpick fish genetics: ENG & MEMO AFR & MEMO (Prac) - Genetics Practical 2 (Prac): ENG & MEMO AFR & MEMO		
		Chromosomal mutations	p. 68				
		Gene mutations	p. 69	p. 110: Q35	- Explore the cause outcome of certain mutations here - Mutate a gene in real time (virtually) here		
		Beneficial, harmless and harmful mutations	p. 69 – 70	p. 108: Q31			
		Albinism	p. 70 – 71	p. 109: Q32 & Q33			
		Autosomal dominant disorders	p. 71	p. 101: Q8			
		Sickle cell disease (not in ATP)	p. 72	p. 110: Q34	-One page summary: ENG MEMO AFR		
		Genetic testing and genetic counselling	p. 73		Watch this useful video to review genetics		
		Mitochondrial DNA	p. 73 – 74				
		Biotechnology and genetic engineering	p. 74 – 75				
		GMO’s – examples, pros and cons	p. 76 – 79	p. 111: Q36 & Q37	Watch this useful video on Genetic Engineering		
		Cloning – process, types, pros and cons	p. 80 –82	p. 112: Q38	Various resources on cloning here		
		Stem cells – types, sources and uses	p. 82 – 84	p. 112: Q39	Various resources on stem cells here		
	Paternity testing – blood grouping and DNA profiling	p. 84	NOTE Questions are suggested according to when learners will be able to do them.	- Revise terms for this topic on p. 114 Unit 3 & here ENG AFR - One page summary: ENG MEMO AFR - Find revision exercises on this topic here - Self-marking quiz on genetics here & here			
WEEK 3 – 5 20 Apr – 8 May	Responding to the environment (Humans) 13 school days PAPER 1: 54 marks	Introduction	p. 32				
		Human nervous system	p. 33				
		Nervous tissue – structure and classification of neurons	p. 33 – 35				
		Transmission of nerve impulses – synapses	p. 35 – 36				
		Structure of a nerve	p. 36 – 37	p. 110: Q2; p. 112: Q5	Watch this useful video on neuron structure and function		
		Subdivisions of the nervous system	p. 37				
		Central nervous system – brain	p. 38 – 40				
		Central nervous system – spinal cord	p. 41 – 42	p. 112/113: Q6 – Q8	One page summary: ENG & MEMO AFR & MEMO		
		Peripheral nervous system – reflex actions and arcs	p. 42 – 44	p. 110: Q1; p. 111: Q3 & Q4; p. 113: Q9	Watch this useful video on the nervous system & reflex arcs		
		Autonomic nervous system – sympathetic and parasympathetic nervous systems	p. 44 – 45	p. 114: Q10 – Q12	- p. 45 Reaction time practical (Prac) - One page summary: ENG & MEMO AFR & MEMO		
		Disorder of the nervous system – Alzheimer’s	p. 48	p. 115: Q13	Class activity – A case study on Alzheimer’s disease		
		Disorder of the nervous system – Multiple sclerosis	p. 49				
		Injuries to the nervous system – brain damage	p. 50				
		Injuries to the nervous system – spinal damage	p. 50 – 51	p. 115: Q14; p. 116: Q17			
			Effect of drugs (not in ATP)	p. 51 – 53	p. 115/116: Q15 & Q16	- Revise terms for this topic here ENG AFR - Reaction time practical (Prac): ENG AFR MEMO - Self-marking quiz on the nervous system here	
			Human eye – position, external and internal structures	p. 54 – 57	p. 116/117: Q18 – Q20	Eye model on paper here	
			Pupillary mechanism	p. 58	p. 117/118: Q21 & Q22		
			Accommodation	p. 59	p. 118/119: Q23 – Q25 p. 121: Q29	- See how the eye’s ability to focus changes with age here (Prac) - Simulate accommodation here	

WEEK 3 – 5 20 Apr – 8 May	Responding to the environment (Humans) (continued)	Binocular/stereoscopic vision	p. 60	p. 120: Q26	Simulate the iris and ciliary body’s working here	
		Visual defects – myopia, hypermetropia, astigmatism and cataracts	p. 60 – 62	p. 120: Q27 & Q28	- One page summary: ENG & MEMO AFR & MEMO - Simulate accommodation & eye defects here - Self-marking quiz on the eye here	
		Human ear – position, external and internal structures	p. 62 –66		Ear model on paper here	
		Functioning of the ear – How do we hear?	p. 66	p. 122: Q33	Watch this useful video on the mechanism of hearing	
		Functioning of the ear – How is balance maintained?	p. 67 – 68	p. 122: Q31 & Q32		
		Hearing defects – deafness, middle ear infection	p. 68 – 69	p. 121: Q30 p. 123/124: Q34 – Q39 PART 1	- Watch this useful video on ear infections & grommets - Revise terms for this topic on p. 140 Unit 3 & here ENG AFR - One page summary: ENG & MEMO AFR & MEMO - Find revision exercises on this topic here	
WEEK 6 & 7 11 – 22 May	Human Endocrine System & Homeostasis 10 school days PAPER 1: 34 marks	Introduction – types of glands, hormones	p. 70	p. 124: Q1 & Q2	Watch this useful video on how our hormones work	
		Endocrine glands – pituitary: TSH	p. 71			
		Endocrine glands – pituitary: growth hormone	p. 71 – 72			
		Endocrine glands – pituitary: FSH	p. 72			
		Endocrine glands – pituitary: LH	p. 72			
		Endocrine glands – pituitary: prolactin	p. 72			
		Endocrine glands – pituitary: ADH	p. 72	p. 128: Q16 & Q17		
		Endocrine glands – thyroid and over/under secretion	p. 72 – 73	p. 125: Q4; p. 127: Q14 p. 128: Q18 & Q19	- Case study on Endocrine system disorder here - Watch this useful video on the thyroid gland	
		Endocrine glands – pancreas and glucose homeostasis	p. 74 – 76	p. 125: Q5 & Q6; p. 126: Q8 & Q9	Watch this useful video on the pancreas	
		Endocrine glands – adrenal glands: aldosterone and adrenalin	p. 76 – 77	p. 126: Q7; p. 127: Q15		
		Endocrine glands – gonads: testosterone, oestrogen and progesterone	p. 77	p. 125: Q3; p. 127: Q10 & Q11		
		Differences between the nervous and endocrine systems	p. 78	p. 127: Q12 & Q13	- Revise terms for this topic on p. 142 Unit 4 & here ENG AFR - One page summary: ENG & MEMO AFR & MEMO	
		Homeostasis introduction	p. 78		Virtual activity – how systems interact to maintain homeostasis here	
		Negative feedback	p. 79	p. 129: Q1		
		Control of CO ₂ concentration in the blood	p. 80	p. 132: Q10		
		Regulation of water balance in the blood	p. 81			
		Regulation of salt concentration in the blood	p. 82	p. 131: Q7 – Q9		
		Thermoregulation in endothermic animals	p. 82 – 83			
		Human skin as thermoregulator	p. 84 – 86	p. 130: Q4		
		Regulation of body temperature on a cold day	p. 86 – 87			
WEEK 8 25 – 29 May	Responding to the environment: Plants 5 school days PAPER 1: 13 marks	Plant hormones	p. 88			
		Auxins	p. 88	PART 1		
		Functions of auxins	p. 89 – 90	p. 133: Q1 & Q3		
		Tropism – phototropism and geotropism	p. 90 – 91	p. 134: Q6 & Q7; p. 136: Q12; p. 137: Q15	Practical: Investigate auxins p. 92	
		Summary of phototropism experiments	p. 93	p. 133: Q2 & Q4; p. 134: Q5 p. 137: Q13 & Q14; p. 138: Q17		
		Gibberellins	p. 94		- Video: The amazing way plants defend themselves here	
		Abscisic acid	p. 94	p. 135: Q8 & Q10; p. 138: Q16	- Revise terms for this topic on p. 146 Unit 6 & here ENG AFR	
		The use of plant hormones in agriculture	p. 94 – 95	p. 135: Q9	- One page summary: ENG & MEMO AFR & MEMO	
		Plant defence mechanisms	p. 95	p. 136: Q11	- Find revision exercises on this topic here - Self-marking quiz on plant hormones here	
WEEK 9 – 12 1 – 26 June	Time for June exams			Formal assessments: TASK 3 – Practical (min 30) TASK 4 – June Exam (150 marks)		



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		Based on TAS Gr 12 LS Part 1 & 2 Class Text & Study Guides				
WEEK 1 & 2 21 – 31 Jul	 Watch on YouTube Evolution through Natural Selection 9 school days PAPER 2: 54 marks (shared with human evolution)	Evolution by natural selection introduction	p. 137			
		Evolution: hypothesis or theory?	p. 137	p. 199: Q2	- Explore misconceptions: the theory of evolution here - What is the difference between a theory and hypothesis? – video here	
		Evidence for evolution – fossil record	p. 138 – 139	p. 199: Q3 – Q5 + self-marking quiz	- What is a fossil? Watch here - How to become a fossil? Watch here	
		Evidence for evolution – descent with modification	p. 139 – 141	p. 200: Q6		
		Evidence for evolution – biogeography	p. 141 – 142	p. 201: Q9	Watch here – continental drift and its evidence	
		Evidence for evolution – genetics	p. 142 – 143	p. 199: Q1; p. 200: Q7 & Q8; p. 201: Q10	Understand how genes are used to determine lineage here	
		Variation within a species – meiosis, mutations and reproduction	p. 144	NOTE Questions are suggested according to when learners will be able to do them.	- Track the evolution of a fictional population and make conclusions here ; worksheet here (Prac) - Simulate natural selection here ; worksheet here (Prac) - Rock pocket mouse evolution worksheet here ; original resources here (Prac) and intro video here - Simulate evolution – peppered moth and worksheet here (Prac) - Simulation: Explore bunny selection and mutations here (Prac) - Activity: examine the fossil record with paper fossils here - Natural selection (Prac): ENG AFR MEMO	
		Types of variation – continuous and discontinuous	p. 144 – 145			p. 202: Q14
		Theories of evolution – Lamarckism	p. 146 – 148	self-marking quiz		
		Theories of evolution – Darwinism	p. 148 – 150	p. 201: Q11 – Q13; p. 208: Q32 p. 210: Q34 & 35 + self-marking quiz		
		Punctuated equilibrium	p. 152	p. 202: Q15 & Q16 p. 205: Q23 + self-marking quiz		
		Artificial selection	p. 153 – 155	p. 203/204: Q17 – Q20		
		Formation of a new species – geographic isolation	p. 155 – 159	p. 205: Q 22 & Q24	- How geographic speciation occurs – video here - One pager summary 1: ENG & MEMO AFR & MEMO	
		Reproductive isolation mechanisms	p. 160 – 162	p. 206: Q25 & Q26 + self-marking quiz	Learn about reproductive barriers with examples here	
Evolution in present times	p. 162 – 165	p. 204: Q21 p. 207/208: Q27 – Q31 p. 209: Q33	- Simulate bacterial mutagenesis and natural selection here ; worksheet here - The beak of the finch video worksheet here - One page summary 2: ENG & MEMO AFR & MEMO - Find revision exercises on this topic here - Self-marking quiz on evolution through natural selection here - Revise terms for this topic on p. 220 Unit 1			
WEEK 3 & 4 3 – 14 Aug	 Watch on YouTube Human Evolution 9 school days PAPER 2: 54 marks (shared with human evolution)	The place of humans in the animal kingdom	p. 166		- An amazing website with all you need to understand & teach human evolution: https://becominghuman.org/ - This is NOT what human evolution looks like here	
		Phylogenetic trees introduction	p. 167		- Understand phylogenetic trees interactive here	
		Hominid vs hominin	p. 167	p. 211: Q1 & Q2	- Create a lion phylogenetic tree here (Prac) - Self-marking quiz	
		Anatomical similarities between African apes and humans summary	p. 168		NOTE Not all shared resources are TAS creations – some are shared contributions from our Teacher WhatsApp group.	
		Anatomical differences between African apes and humans summary	p. 169			
		Evidence of common ancestors for living hominids – fossil evidence	p. 170 - 176		- Why do we walk upright? Video here - Why is cooking food important? Video here - Self-marking quiz	
		Summary of significant evolutionary trends	p. 177	p. 212: Q4; p. 214: Q9		
		Evidence of common ancestors for living hominids – genetic evidence	p. 178 – 179	p. 215: Q12	Explore the timeline of human evolution here	
		Evidence of common ancestors for living hominids – cultural evidence	p. 179 – 181	p. 214: Q8	Self-marking quiz	

WEEK 3 & 4 3 – 14 Aug	Human Evolution <i>(continued)</i>	Major phases in the hominid evolution introduction	p. 181		- Explore the interactive documentary ‘Becoming Human’ that tells the story of our origins here - Take a walk through the human evolutionary tree here	
		Analysing and interpreting a phylogenetic tree	p. 182		Understand and interpret tree diagrams in this video	
		Genus: <i>Ardipithecus</i>	p. 183		Beautiful and detailed reconstructions of the different fossils related to human evolution here	
		Genus: <i>Australopithecus</i>	p. 183 – 186			
		Genus: <i>Homo</i>	p. 187 – 189	p. 211: Q3; p. 214: Q10; p. 217: Q17		
		Out of Africa hypothesis	p. 190			
		Out of Africa hypothesis – genetic links as evidence	p. 190 – 191			
		Out of Africa hypothesis – fossils as evidence	p. 191	p. 213: Q7p. 215: Q11; p. 217: Q16	- Great animation of hominin evolution and migration here - Video: Facts about human evolution here	
		Fossil sites in Africa – Great Rift Valley and Cradle of Humankind	p. 192 – 194	p. 212: Q5; p. 216: Q14 & Q15; p. 218: Q18		
		Evolutionary trends in hominins	p. 195			
		Fossil dating	p. 195		How to date fossils – watch here	
		Summary of hominins	p. 196 – 197	p. 213: Q6; p. 216: Q13; p. 219: Q19 & Q20	- Find revision exercises on this topic here - One pager summary: ENG & MEMO AFR & MEMO - Self-marking quiz on human evolution here - Revise terms for this topic on p. 221 Unit 2	
		Alternatives to evolution (not in ATP)	p. 198	PART 2		
		WEEK 5 17 – 21 Aug	Time for consolidation and revision			Formal assessments: TASK 5 – Assignment (min 50) Example ENG AFR MEMO
WEEK 6 – 10 24 Aug – 23 Sept	TASK 6 – Trial Examination (Paper 1 x 150 marks & Paper 2 x 150 marks)					

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2022	2023	2024	2025
Paper 1 Paper 2	Paper 1 Paper 2	Paper 1 Paper 2  Watch on YouTube	Paper 1 Paper 2

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NSC November Exam Paper 1	150 marks; 2 ½ hours
Reproduction in Vertebrates	8 marks
Huma Reproduction	41 marks
Responding to the environment (humans)	54 marks
Responding to the environment (plants)	13 marks
Endocrine system and Homeostasis	34 marks

NSC November Exam Paper 2	150 marks; 2 ½ hours
DNA: Code of life	27 marks
Meiosis	21 marks
Genetics and Inheritance	48 marks
Evolution: Natural Selection and Human	54 marks