

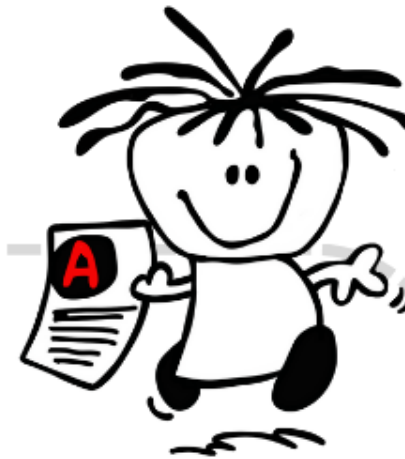
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GRADE **10**

Life Sciences



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

- the official DBE ATP
- The **Answer Series** Life Sciences Class Text & Study Guide
- **TAS** resources
- curated online resources
- shared resources from our **TAS** WhatsApp Teacher Community

2026

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ACADEMIC WEEKS	CAPS TOPIC	CORE CONTENT & PAGE NUMBERS		SUGGESTED EXERCISES	POSSIBLE PRACTICAL TASKS / CONSOLIDATION	DATE CONTENT WAS COMPLETED
		<i>Based on The Answer Series Gr 10 Life Sciences 3-in-1 Class Text & Study Guide</i>				
WEEK 1 & 2 14 – 23 Jan	Orientation to Life Sciences 8 school days	How science works – the Scientific Method	p. <i>iii – vii</i>	Work through the ‘Worked Example of Scientific Investigation Question’ with learners on p. vi Watch the webinar	Use ‘ Teaching Scientific Investigations ’ resources: - Summary handout of Scientific Method process - How to read and interpret a scientific investigation question - Scientific skills test and memo	
		Representing data – tables & graphs	p. <i>viii – xii</i>			
		Biological drawings	p. <i>xii</i>			
WEEK 3 – 5 26 Jan – 13 Feb	Chemistry of Life 15 school days PAPER 1: 33 marks	Revise: atoms, molecules, elements and compounds	p. 2	p. 48: Q1 – Q3	NOTE <i>Not all shared resources are TAS creations – some are shared contributions from our Teacher WhatsApp group.</i>	
		Molecules for life – Inorganic molecules: Water	p. 3	p. 48: Q4		
		Molecules for life – Inorganic molecules: Mineral salts	p. 3–4	p. 50: Q13 & Q14		
		Molecules for life – Organic molecules: Carbohydrates	p. 5–6	p. 49: Q7	NOTE <i>Questions are suggested according to when learners will be able to do them.</i>	
		Test for carbohydrates	p. 6			
		Molecules for life – Organic molecules: Lipids	p. 6–8			
		Test for fats	p. 8			
		Molecules for life – Organic molecules: Proteins	p. 8–9	p. 48: Q5 & Q6; p. 49: Q8 & Q9	Watch this useful video on carbohydrates ‘How to’ video here ; Food Tests (Prac)	
		Test for protein	p. 9	p. 51: Q17 – Q19	Watch this useful video on lipids ‘How to’ video here ; Food Tests (Prac)	
		Enzymes	p. 9–12	p. 49: Q7; p. 52 – 54: Q20 – Q27	Watch this useful video on proteins ‘How to’ video here ; Food Tests (Prac)	
		Molecules for life – Organic molecules: Nucleic acids	p. 12	p. 54: Q28	Watch this video; Washing Powder OR Catalase Enzyme (Pracs)	
		Molecules for life – Organic molecules: Vitamins	p. 12	p. 50: Q10 – Q12; p. 51: Q15 & Q16; p. 54: Q29	- Test for Vit C content (Prac) – instructions here ; read more here - Revise biological terms for this topic here & on p. 64 Unit 1 - Summary of topic in ENG AFR	
WEEK 6 & 7 16 – 27 Feb	Cells: Basic units of life 10 school days PAPER 1: 19 marks	History of the microscopy (not in ATP)	p. 13	p. 55: Q1	- Wet mount (onion epidermis/epithelial cells) p. 14 - 17 (Prac) - Virtual microscope: use to view different cells here - Useful videos: Plant cell mount ; Animal cell mount	
		The light microscope	p. 14 – 17	p. 55: Q2		
		Magnification calculations	p. <i>xii – xiv</i>	p. 55: Q3		
		Concept of surface area to volume ratio (not in ATP)	p. <i>xv – xvi</i>	p. 56: Q4	Useful animations for area : volume here and here and here Watch this useful introductory video to cells	
		Role of organelles: cell wall	p. 18	p. 56: Q5		
		Role of organelles: cytoplasm	p. 19			
		Role of organelles: cell membrane	p. 19 – 20	p. 56/57: Q6 – Q9	- Osmosis in eggs / Diffusion (Prac); Useful simulation here - Useful videos: Diffusion ; Osmosis ; Active Transport Watch this useful video on the nucleus Watch this useful video on mitochondria Watch this useful video on the ribosomes, ER and Golgi Body	
		Movement across membranes	p. 20 – 22			
		Role of organelles: nucleus	p. 22			
		Role of organelles: mitochondria	p. 22		- Revise biological terms for this topic here & on p. 64 Unit 2 - 3D model of cells to explore, add/remove organelles here - Watch this useful video to summarize this chapter	
		Role of organelles: ribosomes, ER & Golgi body	p. 23			
		Role of organelles: plastids	p. 23 – 24			
		Role of organelles: vacuoles	p. 24			
		Role of organelles: centrosome	p. 25	p. 57: Q10 & Q11		
		Differences between plant and animal cells	p. 25	p. 57: Q12		
WEEK 8 & 9 2 – 13 March	Cell Division: Mitosis 10 school days PAPER 1: 19 marks	Introduction and chromosomes	p. 26	p. 58: Q3		
		The cell cycle: Interphase	p. 27			
		The cell cycle: Prophase	p. 27	p. 58/59: Q4.4		
		The cell cycle: Metaphase	p. 28	p. 58/59: Q4.1	- Study micrographs of different phases of mitosis (Prac); see an activity for this here - View mitosis phases in micrographs here - Useful animation to show cell division here - Useful videos: Cancer ; What is cancer? ; Chemotherapy - Revise biological terms for this topic here & on p. 65 Unit 3	
		The cell cycle: Anaphase	p. 28	p. 58/59: Q4.2		
		The cell cycle: Telophase	p. 28	p. 58: Q2; p.58/59: Q4.3		
		The role of mitosis	p. 28	p. 58: Q1		
		Cancer (ATP requires only brief description)	p. 28 – 29	p. 59: Q5		

WEEK 10 16 – 20 March	Plant Tissues 5 school days PAPER 1: 28 marks (shared with animal tissues)	Introduction	p. 42		
		Meristematic tissue	p. 42 – 43	p. 62: Q1.1 – Q1.4	
		Permanent tissue: Epidermis	p. 43	p. 62: Q4	
		Permanent tissue: Parenchyma	p. 44		
		Permanent tissue: Sclerenchyma	p. 44		
		Permanent tissue: Collenchyma	p. 44	p. 62: Q2	
		Permanent tissue: Vascular tissues	p. 44 – 46	p. 62: Q1.5; p. 62: Q3; p. 63: Q5 (only the plant tissues)	- Exercise on plant tissues & memo here - Revise biological terms for this topic here & on p. 66 Unit 5
		WEEK 11 23 – 27 March	Plant Organs 5 school days PAPER 1: 9 marks	Leaf functions	p. 46
Leaf external structure	p. 46				Counting stomata here (Prac)
Leaf internal structure	p. 46 – 47			p. 63: Q6	Watch this useful video on the leaf structure under a microscope
Leaf adaptations	p. 47 – 48			p. 63: Q7	- Investigate the leaf (Prac): Task & Memo - Revise biological terms for this topic p. 66 Unit 5 - Self-marking quiz on the leaf here
Formal assessments: TASK 1 – Practical (min 30) TASK 2 – Test (min 50)					

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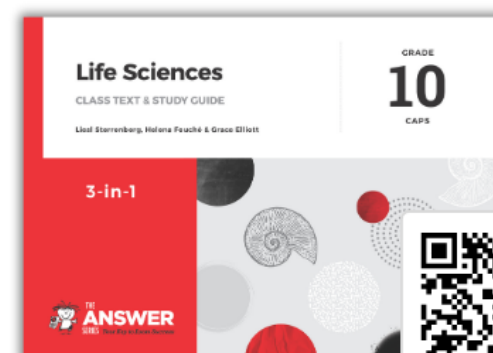


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		Based on The Answer Series Gr 10 Life Sciences 3-in-1 Class Text & Study Guide					
WEEK 1 & 2 8 – 17 Apr	Support and Transport Systems in Plants 8 school days PAPER 1: 23 marks	Introduction and root functions	p. 77	NOTE Questions are suggested according to when learners will be able to do them.			
		Root structure: external (not in ATP)	p. 77		p. 114: Q1		
		Root structure: internal	p. 77 – 78				
		Functions of the tissues in the root	p. 78		p. 114: Q2	Self-marking quiz on the root here	
		Stem structure: external (not in ATP)	p. 79		p. 114: Q3		
		Stem structure: internal	p. 79 – 80				
		Functions of the tissues in the stem	p. 80		p. 115: Q4 & Q5	- Self-marking quiz on the stem here - Observing Xylem tissue in stem here (Prac)	
		Secondary thickening (not in ATP)	p. 81 – 83		p. 115: Q6 & Q7	NOTE Not all shared resources are TAS creations – some are shared contributions from our Teacher WhatsApp group.	
		Uptake of water and mineral salts by root	p. 83 – 84				
		Movement of water and mineral salts in the root	p. 84		p. 116: Q8		
		Upward movement of water from the roots to the leaves	p. 84		p. 116: Q9	p. 86 Water movement through xylem (Prac)	
		Transpiration pull	p. 85		p. 116: Q10		
		Translocation of substances	p. 86			- Self-marking quiz on the transpiration here - p. 88 External factors and the rate of transpiration (Prac) - Virtual labs on factors affecting transpiration here - Watch this useful video on factors affecting transpiration rate	
		Importance of transpiration & structural adaptations	p. 86 – 87				
		External factors influencing transpiration	p. 87		p. 116: Q11 & Q12; p. 117: Q14 & Q15		
		Wilting and guttation (not in ATP)	p. 87 – 88		p. 116: Q13	Revise biological terms for this topic here & on p. 124 Unit 1	
WEEK 3 20 – 24 Apr	Animal Tissues 4 school days PAPER 1: 28 marks (shared with plant tissues)	Introduction and overview	p. 29				
		Epithelial tissues: squamous, cuboidal, columnar and ciliated	p. 30 – 31	p. 59: Q1			
		Connective tissues: areolar (not in ATP), dense connective tissue (tendons and ligaments), cartilage, bone and blood	p. 31 – 35	p. 59/60: Q2 – Q6	- Self-marking quiz on Bone tissue here - Self-marking quiz on Blood tissue here		
		Muscle tissues: skeletal, smooth and cardiac	p. 35 – 36		Self-marking quiz on Muscle tissue here		
		Nerve tissues: sensory, motor and interneurons	p. 36 – 37	p. 61: Q7; p. 63: Q5 (only the animal tissues)	- Self-marking quiz on Nervous tissue here - Plant & Animal Tissue (Prac): ENG AFR MEMO SLIDES		
		Traditional biotechnology: Devil’s claw and African potato (not in ATP)	p. 37		- Animal Tissue Revision ENG/AFR: Exercise 1 - Animal Tissue Revision ENG/AFR: Exercise 2 - Animal Tissue Revision ENG/AFR: Exercise 3 - Animal Tissue Revision ENG/AFR: Exercise 4 MEMO - Self-marking quiz on Plant & Animal Tissues here		
		Medicinal biotechnology: Immunity, immunisations and vaccinations, antibiotics, blood groups and blood transfusions (not in ATP)	p. 38 – 41	p. 61: Q9 & Q10			
		Cloning and stem cell research (not in ATP)	p. 41		- Self-marking quiz on Biotechnology, Cloning & Stem cells here - Revise biological terms for this topic here & on p. 65 Unit 4		

WEEK 4 & 5 28 Apr – 8 May	Support System in Animals 8 school days PAPER 1: 19 marks	Types of skeletons and their advantages/disadvantages (not in ATP)	p. 90 – 91	p. 117: Q1		
		Functions of the human skeleton	p. 91			
		Overview of human skeleton structure	p. 91 – 92			
		Axial skeleton: skull, vertebral column, rib cage	p. 92 – 94	p. 118: Q3 – Q5	- Self-marking quiz on Axial Skeleton 1 here - Self-marking quiz on Axial Skeleton 2 here	
		Appendicular skeleton: pectoral girdle, upper limb, pelvic girdle and lower limb	p. 95 – 96	p. 117: Q2; p. 118/119: Q6 & Q7	Self-marking quiz on Appendicular Skeleton here	
		Bone, cartilage, tendons and ligaments (not in ATP) <i>(already covered in Animal Tissues)</i>	p. 96 – 97			
		Structure of a long bone (not in ATP)	p. 97			
		Joints (not in ATP)	p. 98 – 99	p. 119: Q8 & Q9	- Various activities & colouring pages on bone anatomy here - Various activities & colouring pages on the skeleton here	
		Skeletal muscles: characteristics, structure (briefly), contraction and antagonistic functioning (not in ATP)	p. 99 – 101	p. 119/120: Q10 – Q12	Dissection of chicken wing (Prac) – ENG AFR	
		Diseases that affect the skeleton (not in ATP)	p. 101 – 102	p. 120: Q13	- Revise biological terms for this topic here & on p. 124 Unit 2 - Revision self-marking quiz on the Skeleton here - Skeleton quiz game here - Skeleton exercise: ENG & MEMO AFR & MEMO	
WEEK 6 & 7 11 – 22 May	Transport System in Animals* 10 school days PAPER 2: 32 marks	Blood circulatory systems introduction	p. 102			
		Closed blood circulatory system	p. 102			
		The heart external structure	p. 103		Look at this video for an overview of the heart anatomy	
		The heart internal structure	p. 103 – 105		- Colour in pages: heart external heart internal	
		Functioning of the heart – cardiac cycle	p. 106			
		Blood vessels – arteries, veins and capillaries	p. 106 – 107	p. 121/122: Q1 – Q3		
		Human circulatory system – pulmonary and systemic circulatory systems	p. 108 – 109	p. 122: Q4	- Heart dissection & skeleton: ENG & MEMO AFR & MEMO (Prac) - Heart dissection walk-through here and step-by-step guide with downloads here - A useful video on a pig heart dissection here - A useful video of the cardiac cycle here	
		Mechanisms controlling the heartbeat: how does the heart beat, control of the heartbeat, effect of exercise (not in ATP)	p. 109 – 110	p. 122/123: Q5 & Q6		
		Lymphatic system overview (not in ATP)	p. 110 – 111			
		Structure of the lymphatic system (not in ATP)	p. 111		What is the Lymphatic System? Watch here	
		Functions of the lymphatic system (not in ATP)	p. 112	p. 123: Q7		
		Cardiovascular diseases – blood pressure, stroke, heart attack (not in ATP)	p. 113 – 114		- Revise biological terms for this topic here & on p. 125 Unit 3 - Revision exercise: ENG & MEMO AFR & MEMO - Watch this useful video	
		Treatment of cardiovascular diseases (not in ATP)	p. 114	p. 123: Q8		
WEEK 8 – 12 1 – 26 June	Time for June examinations			Formal assessments: TASK 3 – Assignment (min 50) ENG & MEMO AFR & MEMO TASK 4 – June Exam (150 marks)		





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		Based on The Answer Series Gr 10 Life Sciences 3-in-1 Class Text & Study Guide				
WEEK 1 – 3 21 Jul – 7 Aug	History of Life on Earth 14 school days PAPER 2: 43 marks	History of life - introduction	p. 171		- History of life on earth in 10 minutes – useful video here	
		Important events: increase in oxygen levels, climate change, geological events	p. 171 – 172	p. 186: Q1 & Q2	- Continental drift activity here	
		Fossil evidence for changing sea levels	p. 173		- Continental drift and its evidence – watch here	
		Fossils – ideal conditions for fossilisation	p. 173		- How high oxygen levels almost killed us all – watch here	
		Formation of fossils in sedimentary rocks	p. 174	p. 188: Q9	- What is a fossil? Watch here	
		Different types of fossils – body fossils, moulds, cast and trace fossils	p. 174 – 175	p. 187: Q5	- How to become a fossil? Watch here	
		Fossil dating – radiometric and relative dating	p. 175 – 176	p. 188/189: Q10 & Q11		
		The geological timescale	p. 176 – 177	p. 186: Q3; p. 187: Q7	- How to date fossils – watch here	
		The Cambrian explosion	p. 177		- Practical Fossil dating here	
		Life forms of the past and the present	p. 178 – 179	p. 188: Q8	- Scroll through the geological time scale to get a sense of its size	
		Mass extinctions	p. 179 – 180	p. 187: Q4 & Q6	- Geological timescale activity here	
		The impact of humans on biodiversity and the natural environment	p. 180	p. 189: Q13	The most successful animal ever – watch here	
		Fossils in South Africa – fossil evidence	p. 181 – 182	p. 189: Q12 & Q14	Fossil record labs – Download free activities here	
		Fossil tourism (not in ATP)	182		- An interactive look at the major mass extinction events here	
			- Revise biological terms for this topic on p. 190 Unit 2			
			- Watch this documentary on YouTube to see this chapter’s content in action			
WEEK 4 – 6 11 – 28 Aug	Biosphere to ecosystems 14 school days PAPER 2: 54 marks	Biosphere – atmosphere, lithosphere and hydrosphere	p. 135	p. 153: Q1; p. 155: Q11		
		Biomes – terrestrial (savannah, grassland, nama-karoo, succulent karoo, fynbos, forests and thicket) (ATP does not require detail on the biomes)	p. 136 – 139	p. 153: Q2	Interactive map of South African biomes here	
		Biomes – aquatic (oceans, coral reefs, estuaries, wetlands, streams and rivers, ponds, lakes and dams) (ATP does not require detail on the biomes)	p. 139 – 142	p. 153: Q3; p. 155: Q10		
		Ecosystems – abiotic factors (physiographic, edaphic, light, temperature, water, atmospheric gases and wind)	p. 143 – 147	p. 153: Q4 & Q5; p. 154: Q7 & Q8 p. 156: Q14	NOTE Not all shared resources are TAS creations – some are shared contributions from our Teacher WhatsApp group. 	
		Ecosystems – biotic factors (autotrophic and heterotrophic components)	p. 147	p. 154: Q6		
		Energy flow – trophic levels	p. 147 – 148	p. 155: Q12 & Q13; p. 156: Q15	- Understand energy flow here	
		Energy flow – ecological pyramids	p. 149	p. 157: Q16 – Q18	- Build food chains and food webs activity here	
		Water cycle	p. 145	p. 155: Q9	- Explore trophic cascades / disturbances in food chains here	
		Nutrient cycles – oxygen	p. 150	p. 157: Q19	- Interpreting a food web and trophic levels worksheet here	
		Nutrient cycles – nitrogen	p. 150 – 151	p. 158: Q20		
		Nutrient cycles – carbon	p. 151 – 152	p. 158: Q21	Interactive nitrogen cycle here	
		Ecotourism in South Africa (not in ATP)	p. 152	p. 158: Q22 & Q23	Biosphere and biomes task: ENG & MEMO AFR & MEMO (Prac)	
					Revise biological terms for this topic here & on p. 159	

WEEK 7 & 8 31 Aug – 11 Sept	Biodiversity and classification 10 school days PAPER 2: 21 marks	Biodiversity of life on Earth	p. 165			
		Biodiversity in South Africa – indigenous, exotic/alien and endemic species	p. 165 – 166	p. 183: Q1 – Q4		
		Classification of organisms – History of classification	p. 166 – 167	p. 183: Q5	- Video: Levels of classification here - Video: Classification systems here	
		Prokaryotes and eukaryotes	p. 167		Video: Domains and Kingdoms of life here	
		General characteristics of the five kingdoms:		p. 184: Q6	Class activity: print out these cards of various organisms, mix them up and have learners work in groups to try and classify them into the correct kingdoms	
		• Kingdom Monera	p. 168			
		• Kingdom Protista	p. 168			
		• Kingdom Fungi	p. 168 – 169			
		• Kingdom Plantae	p.169			
		• Kingdom Animalia	p. 169 – 170	p. 184: Q7		
WEEK 9 & 10 14 – 23 Sept		Naming species	p. 170	p. 184: Q8	- Just for fun – 10 ridiculous scientific names video here - Revise biological terms for this topic here & on p. 190 Unit 1	
		Biological keys	p. 170	p. 184/185: Q9 & Q10	- Overview of classification video here	
		Time for consolidation and revision – TERM 3 REVISION ENG & MEMO AFR & MEMO			Formal assessments: TASK 5 – Practical (min 30) TASK 6 – Test (min 50)	

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ACADEMIC WEEKS	CAPS TOPIC	RESOURCES																													
WEEK 1 – 4 6 – 30 Oct	Consolidation & Revision	2023 KZN Step Ahead Revision & Memo Gauteng RELAB booklets AFR Gauteng RELAB booklets ENG Practice Paper 1: ENG AFR MEMO Practice Paper 2: ENG AFR MEMO NOTE Not all shared resources are TAS creations – some are shared contributions from our Teacher WhatsApp group.																													
WEEK 5 – 11 2 Nov – 9 Dec	Final Exams	<table><tr><th>TASK 7: November Exam Paper 1</th><th>150 marks; 2 ½ hours</th></tr><tr><td>Chemistry of life</td><td>33 marks</td></tr><tr><td>Cells: Basic units of life</td><td>19 marks</td></tr><tr><td>Cell division (Mitosis)</td><td>19 marks</td></tr><tr><td>Plant and animal tissues</td><td>28 marks</td></tr><tr><td>Plant organs</td><td>9 marks</td></tr><tr><td>Support and transport in plants</td><td>23 marks</td></tr><tr><td>Support systems in animals</td><td>19 marks</td></tr></table>	TASK 7: November Exam Paper 1	150 marks; 2 ½ hours	Chemistry of life	33 marks	Cells: Basic units of life	19 marks	Cell division (Mitosis)	19 marks	Plant and animal tissues	28 marks	Plant organs	9 marks	Support and transport in plants	23 marks	Support systems in animals	19 marks		<table><tr><th>TASK 8: November Exam Paper 2</th><th>150 marks; 2 ½ hours</th></tr><tr><td>Transport systems in animals</td><td>32 marks</td></tr><tr><td>Biosphere to ecosystems</td><td>54 marks</td></tr><tr><td>Biodiversity and classification</td><td>21 marks</td></tr><tr><td>History of life on earth</td><td>43 marks</td></tr></table>	TASK 8: November Exam Paper 2	150 marks; 2 ½ hours	Transport systems in animals	32 marks	Biosphere to ecosystems	54 marks	Biodiversity and classification	21 marks	History of life on earth	43 marks	
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