

2023

Annual Teaching Plans

LIFE SCIENCES



FET Phase



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INTRODUCTION

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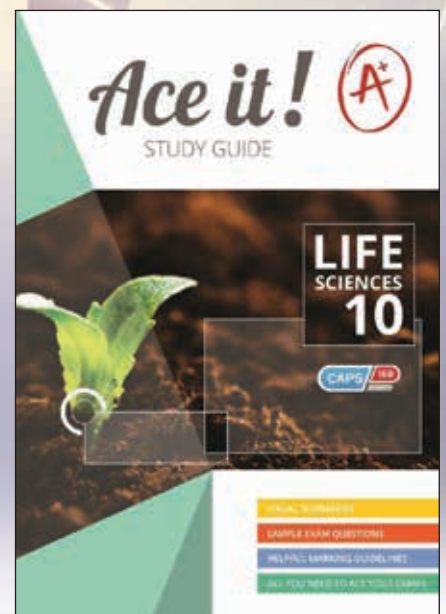
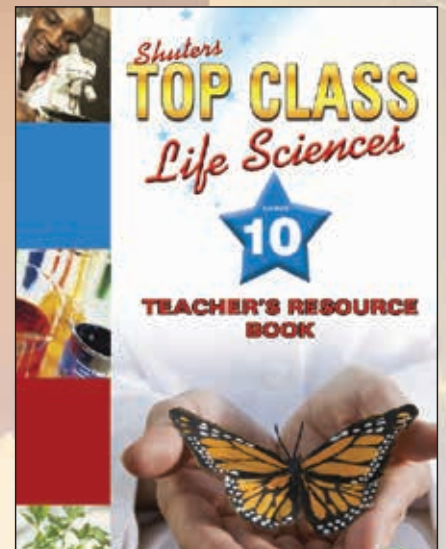
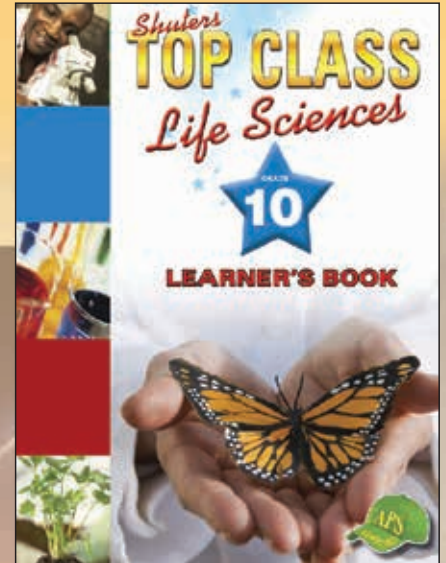
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- Reduce the administrative burden
- Helps save planning and preparation time
- Follows the CAPS precisely, making teaching easier
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Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit	LB	TG
Orientation to Life Sciences: Subject Orientation	How science works based on knowledge and scientific skills, careers, and subject combinations • Graphs • Calculations • Percentage • Percentage increase/decrease • Average	Week 1	Orientation to Life Sciences: subject orientation	v	
	• Scientific method Planning steps, identification of variables, ensuring validity and reliability Brief overview of the history of microscopy: • Light • Electron microscope • Scientific diagrams • Calculations • Actual size • Magnification	Week 3			
Strand: Life at the molecular, cellular and tissue level					
The chemistry of life	Molecules for Life Organic molecules • made up of C, H, O, and some contain N and P • Cells are made up of proteins, carbohydrates, lipids, nucleic acids and vitamins (only basic structural details required) Inorganic compounds • Water: 2 H and 1 O Minerals: e.g., Na, K, Ca, P, Fe, I, nitrates, phosphates, macro, and micro elements: Main functions and deficiency diseases	Week 3	Unit 1: The chemistry of life	2	2
	Organic Compounds Carbohydrates • Monosaccharide's (single sugars) glucose and fructose Disaccharides (double sugars) sucrose + maltose • Polysaccharides (many sugars) starch, cellulose and glycogen Lipids • (Fats and oils) 1 glycerol and 3 fatty acids: Unsaturated and saturated fats, cholesterol in foods, and heart disease	Week 4			

The chemistry of life (contd)	Organic Compounds Proteins: Amino acids (C, H, O and N and some have P, Se, Fe) – are sensitive to temperature and pH: • Loss of structure and function • The role of enzymes in breaking down/synthesising molecules • The influence of temperature and pH on enzyme action • The lock-and-key model of how enzymes work • Enzymes in everyday life (for instance using washing powders): Nucleic acids: • DNA and RNA consisting of C, H, O, N and P (No detail of structure required) Vitamins: • A, one of the B vitamins, C, D and E	Unit 1: The chemistry of life	2	2
Cells: the basic units of life	Cell structure Molecular make-up: • Cells are mostly made of proteins, carbohydrates, lipids, nucleic acids and water Cell structure and function: Roles of organelles • Cell wall – support structure in plant cells only • Cell membrane – boundaries and transport: Movement across membranes: Diffusion, osmosis and active transport Cell structure and function: Roles of organelles • Nucleus, chromatin material, nuclear membrane, nuclear pores, nucleolus – the control centre, heredity • Differences between prokaryotes and eukaryotes • Cytoplasm – storage, circulation of matter • Mitochondria – release of energy during cell respiration • Ribosomes – protein synthesis • Endoplasmic reticulum (rough and smooth) – transport systems • Golgi body – assemble secretions Cell structure and function: Roles of organelles • Plastids – production and storage of food, pigments • Vacuole, lysosomes, vesicles – storage, digestion, osmoregulation • Relate structure and location of organelles to their functions • Cells differ in size, shape and structure in order to carry out specialised functions (<i>link to tissues</i>) • Differences between plant and animal cells	Unit 2: Cells: the basic unit of life	25	15
	Week 5			
	Week 6			
	Week 7			
	Week 8			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit	LB	TG
Strand: Life at the molecular, cellular and tissue level					
Cell division: mitosis	Chromosomes - In nuclei of all cells, two chromatids, centromere Cell division mitosis - The cell cycle including mitosis: - Interphase, mitosis (with names of phases), cytokinesis and growth Role of mitosis: - Growth and repair. Reproduction in some simple organisms - The continuous process of mitosis: The division of a cell to form two identical cells (<i>Simple description with diagrams to show chromosome changes so that one parent cell forms two identical daughter cells</i>) - Difference in telophase between plant and animal cells Cancer: (Only a brief description required) - Uncontrolled cell division and growth - Causes of cancer - Treatments of cancer Medical biotechnology e.g., radiotherapy, chemotherapy (no detail required)	Week 9	Unit 3: Cell division: mitosis	57	30
Consolidation and revision		Week 10			
		Week 11			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit	LB	TG
Strand: Life processes in plants and animals					
Plant and animal tissues	- Introduce concept of a tissue as a group of similar cells adapted for a particular function: Cell differentiation Plant tissues - Emphasis on the relationship between basic structure and function Differentiate between meristematic and permanent tissue Permanent tissue: Epidermis (root hair, guard cells), parenchyma, collenchyma, sclerenchyma, vascular tissue: Xylem & phloem	Week 1	Unit 4: Plant and animal tissues	70	36
Plant organs	Anatomy of dicotyledonous plants: - Root and stem: Distribution of different tissues - Structure of cells in different tissues (link to plant tissues)	Week 2	Unit 5: Organs	99	45
	- Organs consist of a number of tissues e.g., leaf structure Leaf structure: Cross section of a dicotyledonous leaf to demonstrate and explain its structure in terms of its functions i.e., photosynthesis, gas exchange and transport - Link with plant tissues, appropriate cell organelles, movement across membranes and movement of molecules into, through and out of the leaf	Week 3			
Support and transport systems in plants	Transpiration - Relationship between water loss and leaf structure - Factors that affect the rate of transpiration: – Temperature – Light intensity – Wind – Humidity	Week 4	Unit 6: Support and transport systems in plants	110	54
	- Uptake of water and minerals into xylem in roots - The transport of water and minerals to leaves - Translocation of manufactured food from leaves to other parts of plant	Week 5			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit	LB	TG
Strand: Life processes in plants and animals					
Animal tissues	Animal tissues: • 4 basic types – Epithelial (squamous, cuboidal, columnar and ciliated) – Connective (blood, cartilage, tendons, ligaments, bone) – Muscle (skeletal, smooth and cardiac referring to voluntary and involuntary action) – Nerve tissue (sensory-, motor- and interneurons) • Relationship between structure and function (no detail required – some tissues, e.g., blood and nerves in the reflex arc, will be covered in more detail in relevant sections)	Week 6	Unit 4: Plant and animal tissues	70	36
Support systems in animals	Human skeleton: • The axial skeleton: mention of facial bones, cranium, foramen magnum, palate and jaws • appendicular skeleton Functions of skeleton: • Movement • Protection • Support • Storage of minerals • Hearing	Week 7	Unit 7: Support systems in animals	131	65
Transport systems in mammals (humans)	Transport system/circulatory system • Blood circulation system • Pulmonary and systemic (double, closed) circulatory systems heart and associated blood vessels heart: internal and external structure related to functioning, cardiac cycle: Flow of blood through the heart Direction of blood flow: • Difference between oxygenated and deoxygenated blood in different parts of the system (diagram or schematic drawing) • Lungs and pulmonary system, associated blood vessels • Major organs and systemic system: Associated major blood vessels of brain, small intestine, liver and kidney • Blood vessels: structure and functioning of arteries, veins with valves and capillaries	Week 8	Unit 8: Transport systems in mammals (human)	155	74
Consolidation and revision		Weeks 10–11			

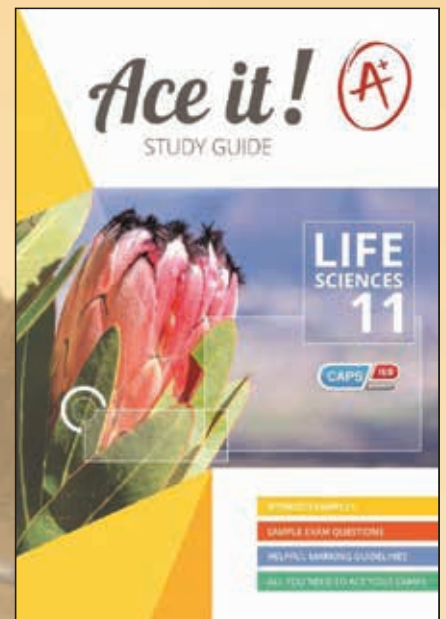
Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit	LB	TG
Strand: Environmental studies					
History of life on Earth	Life's history: Change throughout the history of life on earth - Different representations of the history of life on earth - The relationship to changes in the composition of the atmosphere (e.g., increases in the levels of oxygen) - Changes in the climate (e.g., Ice ages) - Geological events (e.g., movements of continents) and their effect on the distribution of living organisms (biogeography)	Week 1	Unit 11: History of life on Earth	232	105
	Geological timescale: Meaning and use of timescales (<i>details not to be memorised</i>) - The three eras: Palaeozoic, Mesozoic and Coenozoic Each era divided into periods (names of periods not to be memorised) Cambrian explosion: - Origins of early forms of all animal groups - Life-forms have gradually changed to become present life-forms - In the last four million years significant changes have occurred in species occurring in Africa (e.g., humans)	Week 2			
	Mass extinctions: There have been five, two of which are particularly important: 250 MYA (resulted in the extinction of about 90% of all life on earth) and 65 MYA (resulted in the extinction of many species, including the dinosaurs) - The rate of extinction on the earth at present is higher than at any time in the past - The present time has been called the sixth extinction Fossil formation and methods of dating, e.g., radiometric dating and relative dating	Week 3			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit	LB	TG
Strand: Environmental studies					
Biosphere to ecosystems	Biosphere • Concept of the biosphere • Inter-connectedness with and components of global ecosystem: Hydrosphere, lithosphere, atmosphere Biomes • Terrestrial and aquatic biomes of southern Africa and give a general description of how climate, soil and vegetation influence the organisms found in the biomes • Location of the different biomes in South Africa	Week 4	Unit 9: Biosphere to ecosystems	180	88
	Environment • Concept of environment to show human activities in and interactions with the natural environment • Abiotic and biotic factors: Effects on the community Ecosystems • The concept of ecosystem, structure and ecosystem functioning	Week 5			
	Abiotic factors • Physiographic factors (aspect, slope, altitude) • Soil (pH, humus content, texture, water retention capacity and air content) • Light (day length and seasonal changes) • Temperature (effect of day/night and seasons) • Water (water cycle and the importance of wetlands) • Atmospheric gases • Wind Biotic factors • Producers • Consumers • Decomposers	Week 6			
	Energy flow through ecosystems and relationship to trophic structure (food pyramids): • Trophic levels: Producers, consumers (herbivores and carnivores and omnivores, decomposers)	Week 7			

Biosphere to ecosystems (contd)	Cycles Flow charts of the following cycles: • Nutrient • Water • Oxygen	Week 8	Unit 9: Biosphere to ecosystems (contd)	180	88
	Cycles Flow charts of the following cycles: Carbon and nitrogen cycles (Names, e.g., nitrates are required but no detail of chemistry is necessary)	Week 9			
Biodiversity and classification	Classification schemes: a way of organising biodiversity • Brief history of classification: Scientists attempt to classify organisms based on shared features • As information increases classification changes • One of the currently accepted classification systems is the five- kingdom system: Animalia, Plantae, Fungi, Protista and Monera (Bacteria) • Naming things in science: Species concept and binomial system. • Focus on Linnaeus (Carl von Linne) and his role in classification systems: Why do we use Latin? • Differences between prokaryotes and eukaryotes (link to cell structure)	Week 10	Unit 10: Biodiversity and classification`	218	98
Consolidation and revision		Week 11			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 10</i>		
			Unit		
Strand: Diversity, change and continuity					
Biodiversity and classification	- Main groupings of living organisms are bacteria, protists, fungi, plants and animals - Diagnostic features of each of the following: - Bacteria - Protists - Fungi - Plants - Animals	Week 1	Unit 10: Biodiversity and classification	218	98
Revision	Paper 1 and Paper 2	Weeks 2–4			
	Final Examination	Weeks 5–10			

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Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 11</i>	LB	TG
Strand: Diversity, change and continuity					
Orientation	- Baseline assessment based on Grade 10 topics needed for Term 1, e.g., classification schemes, the nitrogen cycle - Revise scientific skills	Week 1			
Biodiversity and classification of micro-organisms	Micro-organisms: Basic structure and general characteristics of the following: - Groups - Viruses - Bacteria - Protista - Fungi - The roles that these groups play in maintaining balance in the environment and web of life	Week 2	Unit 1: Biodiversity and classification of micro-organisms	2	2
	Symbiotic relationships of bacteria such as nitrogen fixing bacteria in plants and <i>E. coli</i> in the human intestine - The effect and management of one disease from each of the four groups: - Viruses (rabies, HIV/AIDS, influenza) - Bacteria (blight, cholera, tuberculosis, anthrax) - Protists (malaria) - Fungi (rust, thrush, ringworm, athlete's foot)	Week 3			
	- Immunity, including plants and animals' immune responses against the infecting micro-organisms - The use of drugs, e.g., antibiotics, effect on micro-organisms, vaccinations (discuss briefly) - The use of micro-organisms to produce medicines (e.g., insulin and antibiotics) - Traditional technology to produce, e.g., beer, wine and cheese	Week 4			

Biodiversity of plants	- Grouping of Bryophytes and Pteridophytes - Grouping of Gymnosperms and Angiosperms - Use simple diagrams to identify an example of each group and a comparative table to demonstrate the presence/absence of following in the four groups: - Vascular tissue (xylem and phloem) - True leaves and roots - Seeds or spores - Fruit - Decreasing dependence on water for reproduction from Bryophytes to Angiosperm	Week 5	Unit 2: Biodiversity of plants and reproduction in plants	45	17
	Asexual and sexual reproduction, name advantages and disadvantages of each	Week 6			
	Flowers as reproductive structures Adaptations for pollination through (different pollinators) wind, insects and birds (South African examples only) differences and similarities	Week 7			
Biodiversity of animals	The concept of a phylum - Relationship between body plan and grouping of animals in phyla Six animal phyla: - Porifera - Cnidaria - Platyhelminthes - Annelida - Arthropoda - Chordata - Use simple diagrams to identify an example of each phylum and a comparative table to demonstrate the following in the six phyla: - Key features in respect of body plans: - Symmetry and cephalisation - The number of tissue layers - Developed from embryo - The number of openings in the gut - Coelom and blood systems - The role of invertebrates in agriculture and ecosystems	Weeks 8–10	Unit 3: Biodiversity of animals: Invertebrates	76	35
Consolidation and revision		Week 11			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 11</i>		
			Unit	LB	TG
Strand: Life processes in plants and animals					
Orientation	- Revise basic cell structure with focus on the chloroplast, leaf structure mitochondria and plant and animal tissues from Grades 9 and 10 - Revise basic photosynthesis and respiration from Grade 8	Week 1			
Photosynthesis	Process of photosynthesis - Using words and symbols: The intake of raw materials, trapping and storing of energy, formation of food in chloroplasts and its storage - The release of oxygen (mention only of light and dark phase – <i>no biochemical detail of light and dark phases is required</i>) Importance of photosynthesis - release of oxygen, uptake of carbon dioxide from atmosphere, food production (trapping energy)	Week 2	Unit 4: Energy transformations to sustain life: Photosynthesis	103	50
	- Effects of variable amounts of light, carbon dioxide and temperature on the rate of photosynthesis Improve crop yields in greenhouse systems, role of ATP as energy carrier in the cell ONE investigation to explain the principles of the scientific process: Light is necessary for photosynthesis (Infuse investigation throughout the topic)	Weeks 3–4			
Cellular respiration	Process of respiration Aerobic respiration: In cytoplasm and mitochondria, use words and symbols: glycolysis, Krebs cycle and oxidative phosphorylation (<i>no biochemical detail is required</i>)	Week 5	Unit 6: Energy transformations to sustain life: Cellular respiration	159	81
	Anaerobic respiration: Production of lactic acid in muscles during exercise, word and symbols (<i>no biochemical detail of process is required</i>) - The role of anaerobic respiration in the industry, e.g., beer brewing and bread making Comparison between aerobic and anaerobic respiration TWO investigations to explain the principles of the scientific process: O₂ is required by respiration, CO₂ is produced by living organisms during respiration (infuse investigations throughout the topic)	Week 6			

Animal nutrition	- The differences in dentition for herbivorous, carnivorous and omnivorous lifestyles in terms of nutritional requirements and energy relationships (link with ecology – food chains) Human nutrition - The macro-structure of the alimentary canal and associated organs and the functions of the different parts	Week 7	Unit 5: Animal nutrition (mammals)	121	60
	The process of ingestion, digestion, absorption, assimilation and egestion and the significance of each: Mechanical or physical digestion: Types and functions of different kinds of teeth, processes of chewing Peristalsis Chemical digestion: Enzymes: functions of carbohydrases, proteases and lipases: Where produced, substrate, pH and end-products (Specific enzymes need not be named – link to enzyme activity)	Week 8			
	Absorption - Small intestine as a region of most absorption of digested food, adaptations to increase surface area - Structure (to tissue level) and significance of villi - Importance of hepatic portal system in the transport of absorbed food to the liver and then through hepatic vein to the rest of the body Assimilation: Incorporation of glucose and amino acids, and the breakdown of alcohol, drugs and hormones Egestion	Week 9			
	Homeostatic control, which involves the hormonal control of blood sugar levels (Links with Grade 12)	Week 10			
	Consolidation and revision	Week 11			

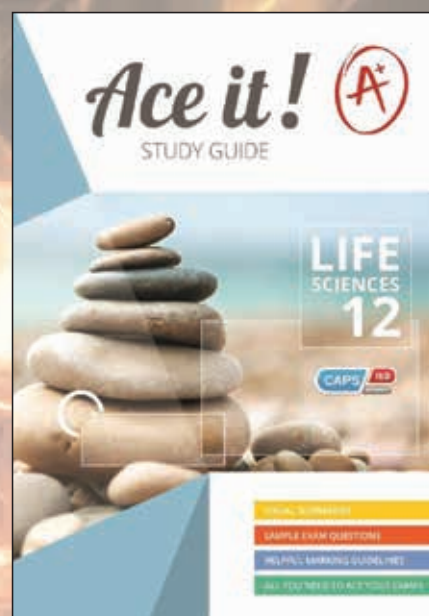
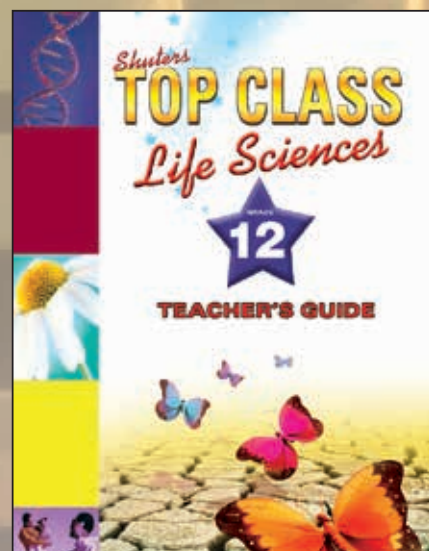
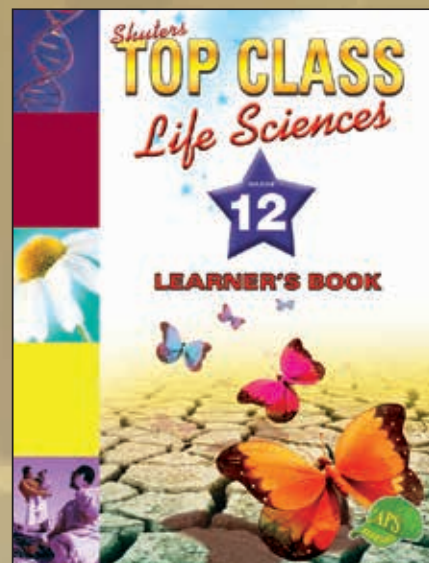
Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 11</i>		
			Unit	LB	TG
Strand: Life processes in plants and animals					
Orientation	Revise relevant body systems from Grade 9 and ecology from Grade 8	Week 1			
Gaseous exchange	Gaseous exchange - Distinguish between cellular respiration, breathing and gas exchange - Requirements of efficient gas exchange organs: - Large surface area, thin, moist, well ventilated, protected, transport system	Week 2	Unit 7: Gaseous exchange	171	93
	Human gas exchange: - The structure (macro and tissue level), location, adaptations and functioning of the ventilation system: Trachea, epiglottis, bronchi, bronchioles, lungs, ribs, intercostal muscles, diaphragm, alveoli - Ventilation of the lungs: - Gaseous exchange in alveoli - The transport of gases around the body - Gaseous exchange in tissues - Composition of inspired air vs expired air – analyse data	Week 3			
	Homeostatic control of breathing (Links with Grade 12)	Week 4			
	Excretion in various organs: - Brief role of the following: - The lungs - The kidneys - Bladder - The liver - The alimentary canal (gut) - The skin - Substances secreted by each and the origins of these substances	Week 5			
Excretion in humans	Urinary system The structure of the: - Urinary system: Position of kidneys, ureters, bladder, urethra - Kidney: structure and functioning, removal of urea and excess water and salts, re-absorption of glucose and some salts - Nephron: structure and functioning: Ultra-filtration, re-absorption, tubular excretion, pH control, formation of urine	Week 6	Unit 8: Excretion in humans	212	110
	Homeostatic control of water and salts: Role of ADH and aldosterone (Links with Grade 12)	Week 7			

Strand: Environmental studies			
Population ecology	Population size	Unit 9: Population ecology	123
	- influenced by: Immigration, emigration, mortality, natality, fluctuations and limiting factors carry capacity - Logistic and geometric growth curves with phases		235
	Interactions in the environment: Predation: Two South African examples of predator-prey relationships: graphs Competition: Interspecific: for light, space, water, shelter, and food Intraspecific: for food, access to mates, water, space, and shelter; survival is determined by access to the above, ecological niches Specialisation: Competitive exclusion and resource partitioning; discuss one example of co-existence in animals and one example in plants Parasitism: Two examples from South Africa; one species benefit Mutualism: Two examples from South Africa; both species benefit - Commensalism: Two examples from South Africa	Week 8	
Consolidation and revision	Human population - Reasons for exponential growth: Age and gender distributions for different countries including South Africa - Forecast of South Africa's population growth over the next twenty years and predict possible consequences for the environment	Week 9	
		Week 10	
		Week 11	

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 11</i>		
			Unit	LB	TG
Strand: Environmental studies					
Human impact on the environment	Causes and consequences of the following (relate to conditions and circumstances in South Africa): The atmosphere and climate change - Carbon dioxide emissions - Concept of "carbon footprint" and the need to reduce the carbon footprint - Deforestation - Greenhouse effect enhanced global warming: desertification, drought and floods - Methane emissions - Ozone depletion	Week 1	Unit 10: Human impact on the environment	273	147
	Water availability - Construction of dams - Destruction of wetlands - Poor farming practices - Droughts and floods - Exotic plantations and depletion of water table - Boreholes and effects on aquifers - Wastage - Cost of water Quality - Water for domestic use, industry, agriculture and mining: Pollution, diseases, eutrophication and algal bloom - The effect of mining on quality of water - Thermal pollution - The need for water purification and recycling - Alien plants e.g., Eichhornia Food security (link with population ecology dynamics) - Human exponential population growth - Droughts and floods (climate change) - Poor farming practices: monoculture, pest control, loss of topsoil and the need for fertilisers - Alien plants and reduction of agricultural land - The loss of wild varieties: Impact on gene pools - Genetically engineered foods, wastage	Week 2			

Human impact on the environment (contd)	Loss of biodiversity (the sixth extinction) - Habitat destruction: Farming methods, e.g., overgrazing and monoculture, golf estates, mining, urbanisation, deforestation, loss of wetlands and grasslands - Poaching, e.g., for rhino horn, ivory and "bush meat" - Alien plant invasions: Control using mechanical, chemical and biological methods - Indigenous knowledge systems and the sustainable use of the environment e.g., devils' claw, rooibos, fynbos, the African potato (Hypoxis) and Hoodia Solid waste disposal - Managing dumpsites for rehabilitation and prevention of soil and water pollution - The need for recycling - Using methane from dumpsites for domestic use: Heating and lighting - Safe disposal of nuclear waste	Week 3	Unit 10: Human impact on the environment (contd)	273	147
Revision	Paper 1 and 2	Week 4			
	Final Examination	Weeks 5–10			

12



Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 12</i>		
			Unit		
			LB	TG	
Strand: Life at molecular, cellular and tissue level					
DNA: The code of life	DNA: location, chromosomes, genes and extra-nuclear DNA and discovery of DNA	Week 1	Unit 1: DNA: the code of life		2
	- Structure, role and replication of DNA, DNA - profiling (Extract DNA and observe and examine the threads) - RNA: Types, location, structure Genetic code Protein synthesis (transcription and translation)	Week 2			
		Week 3			
Meiosis	Structure of a chromosome and associated terminology, process of meiosis, importance of meiosis (Observe diagrams/micrographs of cells in selected stages of meiotic division)	Week 4	Unit 2: Meiosis		11
	Abnormal meiosis and consequences, similarities and differences between meiosis and mitosis	Week 5			
Strand: Life processes in plants and animals					
Reproduction in vertebrates	Diversity of reproductive strategies	Week 6	Unit 3: Reproduction in vertebrates		22
Human reproduction	Structure of male and female reproductive systems, puberty, gametogenesis	Week 7	Unit 4: Human reproduction		28
	Menstrual cycle, fertilisation and development of zygote to blastocyst	Week 8			
	Implantation, gestation and the role of the placenta	Week 9			
Revision and consolidation		Weeks 10–11			

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 12</i>			
			Unit		LB	TG
Strand: Life at molecular, cellular and tissue level						
Strand: Diversity, change and continuity						
Genetics and inheritance	Concepts of inheritance, Monohybrid crosses, sex determination, sex-linked inheritance	Week 1	Unit 5: Genetics and inheritance		78	48
	Dihybrid crosses, Blood grouping	Week 2				
	Genetic lineages/pedigree diagrams, mutations	Week 3				
	Genetic engineering, paternity testing and genetic links	Week 4				
Strand: Life at molecular, cellular and tissue level						
Responding to the environment: humans	Human nervous system – central, peripheral and autonomic, nerve, reflex arc, disorders	Week 5	Unit 6: Responding to the environment: humans		113	72
	Human eye	Week 6				
	Human ear	Week 7				
Strand: Life processes in plants and animals						
Human endocrine system and homeostasis in humans	- Endocrine and exocrine glands, glands, hormones, and functions of hormones - Negative feedback mechanism involving TSH and thyroxin (and the result of an imbalance: Thyroid disorders), insulin and glucagon (and the result of an imbalance: diabetes mellitus)	Week 8	Unit 7: Human endocrine system		157	88
	Negative feedback mechanisms – glucose, carbon dioxide, water, salts, thermoregulation	Week 9				
	Plant hormones, tropisms, plant defence mechanisms	Week 10				
Responding to the environment: plants		Week 11	Unit 9: Responding to the environment: plants		186	106
Revision and consolidation						

Topic	Content	Time allocation	Where to find it in <i>Top Class Life Sciences Grade 12</i>		
			Unit	LB	TG
Strand: Diversity, change and continuity					
Evolution	Introduction to evolution, e.g., biological evolution, hypothesis, theory Evidence for evolution and variation	Week 1	Unit 10: Evolution by natural selection	201	115
	Lamarckism, Darwinism and punctuated equilibrium, artificial selection and speciation	Week 2			
	Reproductive isolation mechanisms evolution in present times	Week 3			
	Evidence of common ancestors for living hominids, including humans	Week 4	Unit 11: Human evolution	238	134
	Out of Africa hypothesis	Week 5			
Revision and consolidation		Week 6			
	Trial Examination	Weeks 7–11			

PROGRAMME OF ASSESSMENT

Grade 10

Term	Assessment task
1	Practical
	Test
2	Practical
	Mid-year exam
3	Project/Assignment
	Test
4	Final examination

Grade 11

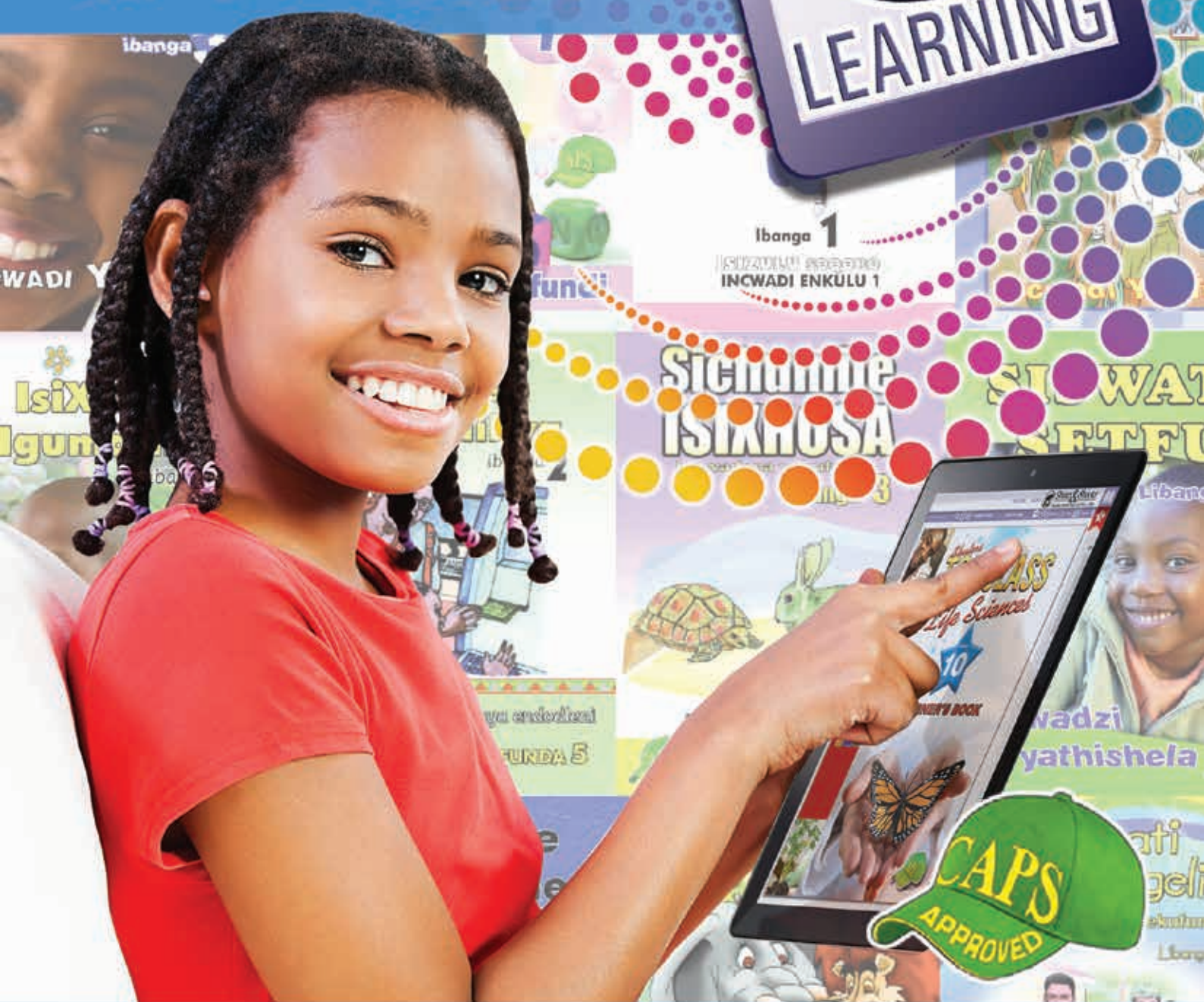
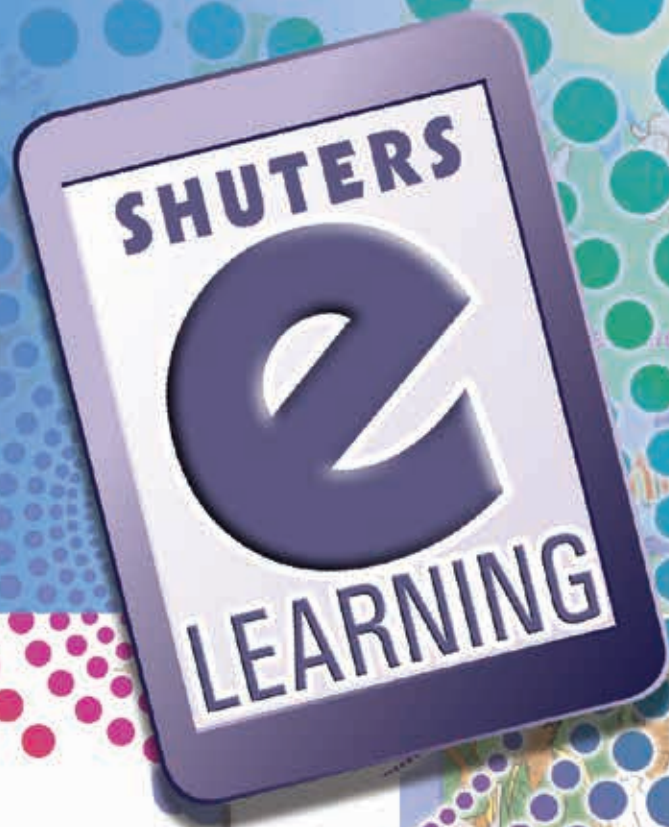
Term	Assessment task
1	Practical
	Test
2	Practical
	Mid-year exam
3	Project/Assignment
	Test
4	Final examination

Grade 12

Term	Assessment task
1	Practical
	Test
2	Practical
	Test
3	Assignment
	Trial examination



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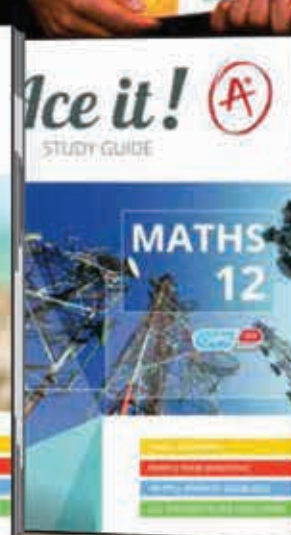
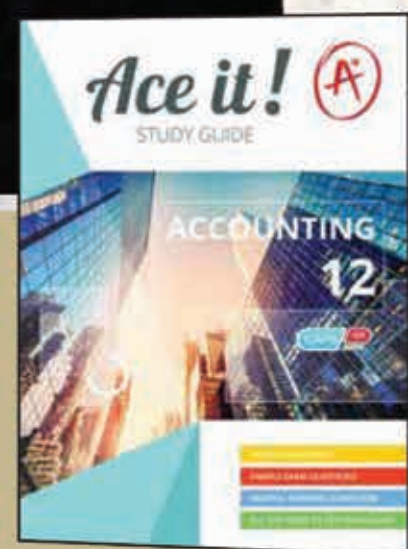
8-12

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