basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

2023/24 ANNUAL TEACHING PLANS: LIFE SCIENCES: GRADE 12 (TERM 1)

TERM 1	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
CAPS TOPIC	**DNA: THE CODE OF LIFE (NATIONAL EXAMINATION GUIDELINE PG. 5)**			**MEIOSIS (NATIONAL EXAMINATION GUIDELINE PG. 6)**		**REPRODUCTION IN VERTEBRATES (NATIONAL EXAMINATION GUIDELINE PG. 7)**	**HUMAN REPRODUCTION (NATIONAL EXAMINATION GUIDELINE PG. 8)**			**Consolidation and revision**	
CORE CONCEPTS, SKILLS AND VALUES	DNA: location, chromosomes, genes and extra-nuclear DNA and discovery of DNA	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)	Structure of a chromosome and associated terminology, process of meiosis, importance of meiosis (Observe diagrams/micrographs of cells in selected stages of meiotic division)	Abnormal meiosis and consequences, similarities and differences between meiosis and mitosis	Diversity of reproductive strategies	Structure of male and female reproductive systems, puberty, game to genes is	Menstrual cycle, fertilisation and development of zygote to blastocyst	Implantation, gestation and the role of the placenta		
REQUISITE PRE-KNOWLEDGE	Grade 10: Revise cell structure with emphasis on the ribosome, cytoplasm and parts of the nucleus, nucleic acids	Grade 10: Revise cell structure with emphasis on the ribosome, cytoplasm and parts of the nucleus, nucleic acids	Grade 10: Revise cell structure with emphasis on the ribosome, cytoplasm and parts of the nucleus, nucleic acids	Grade 10: Revise mitosis and cell structure with emphasis on parts of the nucleus, the centrosome and the cytoplasm	Grade 10: Revise mitosis and cell structure with emphasis on parts of the nucleus, the centrosome and the cytoplasm	Grade 9: reproductive system, Grade 12: Meiosis	Grade 9: Reproductive system Grade 12: Meiosis				
RESOURCES (OTHER THAN TEXTBOOK) TO ENHANCE LEARNING	PowerPoint slides and videos of DNA and RNA structure, replication and protein synthesis, Past examination papers	PowerPoint slides and videos of DNA and RNA structure, replication and protein synthesis Past examination papers	Watch Telematics video on protein synthesis and mutations at: https://bit.ly/2lkL83C	Mind the Gap diagrams of different stages of meiosis Past examination papers	Watch Telematics video on Meiosis at: https://bit.ly/2klX05k	Mind the Gap Study Guide Past examination papers, videos and PowerPoints	Mind the Gap Study Guide Past examination papers Videos and PowerPoints				
INFORMAL ASSESSMENT	Revision questions	Case studies and questions from past papers of DNA profiling, tests	Questions from past papers on transcription and translation, tests	Questions from past papers, tests	Past examination paper questions especially application questions, tests	Past examination paper questions, tests	Questions from past papers, tests, scientific investigations				
SBA (FORMAL ASSESSMENT)	**TASK 1: PRACTICAL (Minimum 30 marks) TASK 2: TEST (Minimum 50 marks)**										

2023/24 ANNUAL TEACHING PLANS: LIFE SCIENCES: GRADE 12 (TERM 2)

TERM 2	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
CAPS TOPIC	**GENETICS AND INHERITANCE (NATIONAL EXAMINATION GUIDELINE PG. 9)**				**RESPONDING TO THE ENVIRONMENT (HUMANS) (NATIONAL EXAMINATION GUIDELINE PG. 10)**			**HUMAN ENDOCRINE SYSTEM AND HOMEOSTASIS IN HUMANS (NATIONAL EXAMINATION GUIDELINE PG. 12)**		**RESPONDING TO THE ENVIRONMENT (PLANTS) (NATIONAL EXAMINATION GUIDELINE PG. 13)**	**Consolidation and revision**
CORE CONCEPTS, SKILLS AND VALUES	Concepts of inheritance, Monohybrid crosses, sex determination, sex-linked inheritance	Dihybrid crosses, Blood grouping	Genetic lineages/pedigree diagrams, mutations	Genetic engineering, paternity testing and genetic links	Human nervous system – central, peripheral and autonomic, nerve, reflex arc, disorders	Human eye	Human ear	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)	Negative feedback mechanisms – glucose, carbon dioxide, water, salts, thermoregulation	Plant hormones, tropisms, plant defence mechanisms	
REQUISITE PRE-KNOWLEDGE	Revise cell structure and differentiate between chromatin and chromosomes, genes and alleles	Revise format of genetic cross diagrams	Interpreting pedigree diagrams	Grade 10: Revise stem cell research and cloning	Human nervous system (Grade 9)			Grade 12: Revise nervous system, human reproduction Grade 11: Revise animal nutrition	Homeostatic control in nutrition, gaseous exchange and excretion (Grade 11)	Hormones (Grade 12)	
RESOURCES (OTHER THAN TEXTBOOK) TO ENHANCE LEARNING	Mind the Gap Genetic crosses Past examination papers	Past examination papers	Past examination papers	Past examination papers Videos and PowerPoints on genetic engineering	Mind the Gap Study Guide Past examination papers Videos and Power Points Models of the brain, spinal cord, eye and ear Watch Telematics video on sense organs at: https://bit.ly/2lkTLv2			Mind the Gap Study Guide Past examination papers Videos and PowerPoints	Watch Telematics video on homeostasis at: https://bit.ly/2l kTLv2	Mind the Gap Study Guide Past examination papers Videos and PowerPoints	
INFORMAL ASSESSMENT	Past examination paper questions Practice questions on genetic crosses Pedigree diagrams Scientific investigations Tests				Questions from past papers, tests, scientific investigations				Questions from past papers, tests, scientific investigations	Past examination papers questions, tests	Past examination papers questions, tests
SBA (FORMAL ASSESSMENT)	**TASK 3: PRACTICAL (minimum 30 marks)** **TASK 4: JUNE EXAMINATION (150 marks) OR CONTROLLED TEST (minimum 50 marks)**										

2023/24 ANNUAL TEACHING PLANS: LIFE SCIENCES: GRADE 12 (TERM 3)

<table>
<tr><th>TERM 3</th><th>WEEK 1</th><th>WEEK 2</th><th>WEEK 3</th><th>WEEK 4</th><th>WEEK 5</th><th>WEEK 6</th><th>WEEK 7</th><th>WEEK 8</th><th>WEEK 9</th><th>WEEK 10</th><th>WEEK 11</th></tr>
<tr><td>CAPS TOPIC</td><td colspan="5">EVOLUTION (NATIONAL EXAMINATION GUIDELINE PG. 13)</td><td>Data response questions, case studies, questions from past papers Revision - Mind the Gap study guide, past examination papers, videos and PowerPoints</td><td colspan="5">TRIAL EXAMINATION</td></tr>
<tr><td>CORE CONCEPTS, SKILLS AND VALUES</td><td>Introduction to evolution, e.g., biological evolution, hypothesis, theory Evidence for evolution and variation</td><td>Lamarckism, Darwinism and punctuated equilibrium, artificial selection and speciation</td><td>Reproductive isolation mechanisms evolution in present times</td><td>Evidence of common ancestors for living hominids, including humans</td><td>Out of Africa hypothesis</td><td rowspan="3">Consolidation and revision</td><td colspan="5" rowspan="3">TRIAL EXAMINATION
PAPER 1
Marks: 150 Time: 2½ hours
Learners must answer all 3 questions
<table><tr><th>TOPIC</th><th>MARKS</th></tr><tr><td>Reproduction in vertebrates</td><td>8</td></tr><tr><td>Human reproduction</td><td>41</td></tr><tr><td>Responding to the environment (humans)</td><td>54</td></tr><tr><td>Human endocrine systemand homeostasis</td><td>34</td></tr><tr><td>Responding to the environment(plants)</td><td>13</td></tr></table>PAPER 2
Marks: 150 Time: 2½ hours
Learners must answer all 3 questions
<table><tr><th>TOPIC</th><th>MARKS</th></tr><tr><td>DNA: Code of life</td><td>27</td></tr><tr><td>Meiosis</td><td>21</td></tr><tr><td>Genetics and inheritance</td><td>48</td></tr><tr><td>Evolution (evolutionthrough natural selection)</td><td>54</td></tr></table>Cognitive levels:
Knowing science – 40%
Understanding science-25%
Applying scientific knowledge- 20%
Evaluating, analysing and synthesising – 15%
Degrees of difficulty for examination and test questions:
Easy -- 30%
Moderate – 40%
Difficult – 25%
Very difficult – 5%</td></tr>
<tr><td>REQUISITE PRE-KNOWLEDGE</td><td>Revise fossil record and biogeography (Grade 10), Genetics (Grade 12)</td><td colspan="2">Revise genetics and variation (Grade 12)
Human skeleton (Grade 10)</td><td>Revise genetics and variation (Grade 12)
Human skeleton (Grade 10)</td><td></td></tr>
<tr><td>RESOURCES (OTHER THAN TEXTBOOK) TO ENHANCE LEARNING</td><td>Past examination papers, videos and PowerPoints on an introduction to evolution</td><td>Watch Telematics video on natural selection, punctuated equilibrium and speciation at: https://bit.ly/2lq6 LzI</td><td></td><td>Mind the Gap study guide, past examination papers, videos and PowerPoints</td><td></td></tr>
<tr><td>INFORMAL ASSESSMENT</td><td>Past examination papers questions, tests</td><td>Questions from past papers, tests, scientific investigations</td><td></td><td>Questions from past papers, tests, scientific investigations</td><td colspan="6"></td></tr>
<tr><td>SBA (FORMAL ASSESSMENT)</td><td colspan="11">TASK 5: FORMAL ASSIGNMENT (minimum 50 marks), 1-1½ hrs
TASK 6: TRIAL EXAMINATION (150 marks)</td></tr>
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2023/24 ANNUAL TEACHING PLANS: LIFE SCIENCES: GRADE 12 (TERM 4)

<table>
<tr><th>TERM 4</th><th>WEEK 1</th><th>WEEK 2</th><th>WEEK 3</th><th>WEEK 4</th><th>WEEK 5-10</th></tr>
<tr><td>CAPS TOPIC</td><td colspan="2">Revision – Mind the Gap study guide, past examination papers, videos and power points
Data response questions, case studies, questions from past papers</td><td colspan="2">STUDY LEAVE FOR GRADE 12/NSC CANDIDATES</td><td rowspan="2">FINAL EXAMINATION

PAPER 1
Marks: 150
Time: 2½ hours
Learners must answer all 3 questions.
<table><tr><th>TOPIC</th><th>MARKS</th></tr><tr><td>Reproduction in vertebrates</td><td>8</td></tr><tr><td>Human reproduction</td><td>41</td></tr><tr><td>Responding to the environment (humans)</td><td>54</td></tr><tr><td>Human endocrine system and homeostasis</td><td>34</td></tr><tr><td>Responding to the environment(plants)</td><td>13</td></tr></table>
PAPER 2
Marks: 150
Time: 2½ hours
Learners must answer all 3 questions.
<table><tr><th>TOPIC</th><th>MARKS</th></tr><tr><td>DNA: Code of life</td><td>27</td></tr><tr><td>Meiosis</td><td>21</td></tr><tr><td>Genetics and inheritance</td><td>48</td></tr><tr><td>Evolution (evolution through natural selection)</td><td>54</td></tr></table>
Cognitive levels:
Knowing science – 40%
Understanding science – 25%
Applying scientific knowledge - 20%
Evaluating, analysing and synthesising science knowledge - 15%
Degrees of difficulty for examination and test questions:
Easy - 30%
Moderate – 40%
Difficult – 25%
Very difficult – 5%</td></tr>
<tr><td>CORE CONCEPTS, SKILLS AND VALUES</td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td>REQUISITE PRE-KNOWLEDGE</td><td colspan="4"></td></tr>
<tr><td>RESOURCES (OTHER THAN TEXTBOOK) TO ENHANCE LEARNING</td><td colspan="4">Revision-Mind the Gap study guide, past examination papers, videos and power points
Data response questions, case studies, questions from past papers</td></tr>
<tr><td>INFORMAL ASSESSMENT</td><td colspan="4">Informal tests and activities</td></tr>
<tr><td>SBA (FORMAL ASSESSMENT)</td><td colspan="4">PREPARATION FOR FINAL NSC EXAMINATION
FINAL NSC EXAMINATION</td><td></td></tr>
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