

REPUBLIC OF RWANDA

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MINEDUC

SCHEME OF WORK 2021-2022

NUMBER OF PERIOD PER WEEK: 4

SCHOOL NAME :	SUBJECT: BIOLOGY
CLASS : S2	SUBJECT LEADER:

FIRST TERM: From 11 Oct 2021 to 24 December 2021

WEEK	UNIT TITLE	LESSON/ CONTENT	TEACHING METHODS AND TECHNIQUES+ EVALUATION PROCEDURES	SOURCES& REFERENCES	OBSERVATION
WEEK 1: 11- 15/10/2021	Unit 1: Classification of kingdom Animalia.	Lesson 1: General characteristics of animals. Lesson 2: Phylum Chordata (fish, amphibians)	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents from internet.	
WEEK2: 18- 22/10/2021	Unit 1: Classification of kingdom Animalia.	Lesson3: Phylum Chordata (class of mammals) Lesson 4: Key classes of phylum arthropods (insects, crustaceans, diplopods, Chilopoda, arachnids)	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
WEEK3: 25- 29/10/2021	Unit 1: Classification of kingdom Animalia.	Lesson 5: Other phyla in the kingdom Animalia (Platyhelminthes; nematodes, annelids,	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	www.edufeds.online

		mollusks, coelenterates, cnidarians, Porifera, sponges, echinoderms).			
WEEK 4: 01- 05/11/2021	Unit 1: Classification of kingdom Animalia.	Lesson 6: Other phyla in the kingdom Animalia (Platyhelminthes; nematodes, annelids, mollusks, coelenterates, cnidarians, Porifera, sponges, echinoderms). End of unit 1 assessment	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
Week 5: 08- 12/11/2021	Unit 2: Introduction to environmental Biology.	Lesson 1: Biosphere and biome, ecosystem population, community, habitat, ecological niche, Lesson 2 biotic and abiotic factors. Lesson 3: Trophic level in food chain and web End of unit 2	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	

		assessment			
Week6: 15- 19/11/2021	Unit 3: passive movement of substances across the cell membrane	Lesson 1: Importance of diffusion of gases and solutes. Lesson 2: Importance of diffusion of gases and solutes Lesson 3: Factors that influence rates of diffusion End of unit 3 assessment	*Discussion *Group discussion *Discovery approach *Question and Answer *Inquiry approach *Brainstorming *Role plays *Charts *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
Week 7: 22- 26/11/2021	Unit 4: Active transport	Lesson 1: Active transport and its importance. Lesson 2: Role of proteins in active transport across the membrane.	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
Week 8: 29/11- 3/12/20221	Unit 4: Active transport	Lesson 3: Factors affecting active transport. Lesson 4: Endocytosis Lesson5: Exocytosis. End of unit 4 assessment	*Discussion *Group work *Questioning *Brainstorming *Role plays *Inquiry approach	New biology for Senior 2 Biology and health science for Rwanda schools S2 Biology for tropical schools Soft documents internet	
WEEK:9 & 10: 06 /12- 17/12/2021	EXAMINATION				www.edufeds.online
WEEK:11; 20- 24/12/2021	MARKING & SCHOOL REPORTS				

SECOND TERM FROM 10/01 - 31/03/2022

WEEK	UNIT TITLE	LESSON/ CONTENT	TEACHING METHODS AND TECHNIQUES+ EVALUATION PROCEDURES	SOURCES& REFERENCES	OBSERVATION
Week 1: 10- 14/01/2022	Unit 5: Identification of food components	Lesson 1: Chemical tests for starch ,reducing sugarsl tests for proteins, fats and vitamin C End of unit 5 assessment	*Discussion *Group work *Questioning *Brainstorming *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
Week 2: 17- 21/01/2021	Unit 6: Enzymes.	Lesson 1: catalyst lesson 2: Enzymes Lesson 3: Characteristics of enzymes. Lesson 4: Factors affecting enzyme activity.	*Discussion *Group work *Questioning *Brainstorming *Role plays *Inquiry approach *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
WEEK3 : 24- 28/01/2022	Unit 6: Enzymes.	Lesson 5: Importance of enzymes in all living organisms in Lesson 6: Mode of action of enzymes in terms of shapes and interactions with substrate and products. End of unit 6 assessment	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
WEEK4: 31/01-	Unit 7: Photosynthesis	Lesson 1: The necessity for	*Discussion *Group work	New biology for Senior 2	www.edufeds.online

04/02/2022		chlorophyll, light energy and carbon dioxide for photosynthesis Lesson 2: Limiting factors of photosynthesis Lesson 3: Adaptations of the leaf for photosynthesis	*Questioning *Inquiry approach *Brainstorming *Role plays *Field visits.	Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents from internet	
WEEK 5:07 - 11/02/2022	Unit 7: Photosynthesis	Lesson 4: Importance of photosynthesis Lesson 5: Mineral requirements (nitrate ions for protein synthesis and magnesium ions for chlorophyll synthesis). Lesson 6: Use and dangers of nitrogen and other fertilizers End of unit 7 assessment	*Discussion *Group work *Questioning *Brainstorming *Inquiry approach *Role plays *Field visits.	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
Week 6 14 - 18/02/2022	Unit 8: Transport of water, mineral and organic foods in plants.	Lesson 1: Transport system in plants. Lesson 2: Water and minerals uptake. Lesson 3: Source and sink of food products.	*Discussion *Group work *Questioning *Inquiry approach *Brainstorming *Role plays	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	

		Lesson 4: Transpiration		from internet	
WEEK 7 21 - 25/02/2022	Unit 8: Transport of water, mineral and organic foods in plants.	Lesson 5: Adaptations of plants to different environment conditions. Lesson 6: Translocation of organic foods. End of unit 8 assessment	*Discussion *Group work *Questioning *Brainstorming *Role plays *Inquiry approach *Discussion *Group work *Inquiry approach *Questioning *Brainstorming *Role plays	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	www.edufeds.online
WEEK 8: 28/02 - 04/03/2022	Unit 9: Gaseous exchange in humans and plants.	Lesson 1: Characteristic features of respiratory surfaces. Lesson 2: Mechanism of breathing in humans. Lesson 3: Gaseous exchange at the alveoli.	*Discussion *Group work *Questioning *Brainstorming *Role plays *Discovery approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents from internet	

WEEK 9: 07- 11/03/2021	Unit 9: Gaseous exchange in humans and plants.	Lesson 4: Respiratory diseases, their causes, spreads and preventive measures. Lesson 5: Structure of a leaf. Lesson 6: Gaseous exchange in plants. End of unit 9 assessment	*Discussion *Discovery approach *Group work *Questioning *Brainstorming *Role plays *Inquiry approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents from internet	
WEEK 10: 14/3- 18/3/2022	REVISION				
WEEK11 21- 25/3/2022	EXAMINATION				
WEEK 12: 28- 31/03/22	MARKING & SCHOOL REPOTRS				

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THIRD TERM FROM 18/04 -15/07/2022

Week	Unit title	Lesson/content	Teaching methods and techniques+ evaluation procedures	sources& References	Observation
Week 1:	Unit 10:	Lesson 1: Need	*Discussion	New biology	

18- 22/4/2022	Excretion in humans.	for excretion and human excretory organs. Role of the liver In excretion. Lesson 2: Structure of human kidney and Process of urine formation. Lesson 3: Factors affecting concentration of urine and Practices that maintain healthy urinary system. End of unit 10 Assessment.	*Group work *Questioning *Brainstorming *Role plays *Discovery approach	for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
WEEK2; 25- 29/4/2021	Unit 11: Joints and movement	Lesson1: Types of joints. Lesson 2: Structure of a synovial joint and Action of antagonistic muscles in movement of a hinge joint. Lesson 3: Practices that promote healthy bones and joints. End of unit 11 Assessment	*Discussion *Group work *Questioning *Discovery approach *Brainstorming *Role plays *Charts *Inquiry approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools Soft documents	
Week3: 02- 06/05/2021	Unit 12: Infectious diseases.	Lesson 1: Pathogens. Lesson 2: Transmission of infectious diseases.	*Discussion *Group work *Discovery approach *Questioning *Brainstorming *Discovery	New biology for Senior 2 Biology and health science for Rwanda	www.edufeds.online

		Lesson 3: Defense against infection (first line of defense, second line of defense, immunity).	approach	schools s2 Biology for tropical schools	
Week4: 09- 13/5/2021	Unit 12: Infectious diseases.	Lesson 4: Symptoms, prevention and control, treatment of common diseases (cholera, TB, malaria, salmonellosis, typhoid, Ebola and HIV/AIDS)	*Discussion *Group work *Questioning *Brainstorming	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools	
Week5: 16 - 20/5/2022	Unit 13:Immunity and Vaccination	Lesson 1: Antigens and antibodies. Lesson 2: Immune response. Lesson 3: Types of immune system. Lesson 4: Autoimmune response and Type 1 diabetes.	*Discussion *Group work *Discovery approach *Questioning *Brainstorming *Discovery approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools	
Week6: 23- 27/5/2022	Unit 14: Sexual behaviour and sexual response	Lesson1: Male and female sexual responses and Sexual stimulation (physical or mental) for physical response. Lesson 2: Puberty (boys and girls), sexual thought and feelings, love	Discussion *Group work *Discovery approach *Questioning *Brainstorming *Discovery approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools	

		<p>and care.</p> <p>Lesson 3: People and sexual relationships and Sexual problems and disappointment,</p> <p>lesson 4: Sexuality, age and culture; and Violation of human rights (sex harassment, coercion and human Trafficking).</p> <p>End of unit14 assessment</p>			
<p>Week 7 30/05-3/06/2022</p>	<p>Unit 15: Pregnancy prevention. .</p>	<p>Lesson 1: Abstinence and Common myths about contraceptives</p> <p>lesson 2: Importance methods of the use contraceptive methods.</p> <p>Lesson 3: Natural contraceptive methods.</p> <p>Lesson 4: Artificial contraceptive methods</p> <p>lesson 5: Barrier methods, male and female condoms, spermicides.</p>	<p>Discussion</p> <ul style="list-style-type: none"> *Group work *Discovery approach *Questioning *Brainstorming *Inquiry approach 	<p>New biology for Senior 2</p> <p>Biology and health science for Rwanda schools s2</p> <p>Biology for tropical schools</p>	

Week 8: 6- 10/06/2022	Unit 15: Pregnancy prevention. .	Lesson 6: Hormonal based contraception methods (oral contraceptive pills, injectable and implants lesson 7: Non hormonal based contraception methods (intrauterine device (IUD). Lesson 8: Permanent contraceptive methods (tubal ligation, vasectomy), abortion and menopause End of unit 15 assessment	Discussion *Group work *Questioning *Brainstorming *Discovery approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools	www.edufeds.online
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Week 9: 13- 17/06/2022	Unit 16: Reducing risk of STIs and HIV.	Lesson1: Transmission of STIs & HIV infection. Lesson 2: Ways of reducing STIs and HIV infection avoiding penetrative sex, mutual faithfulness, reducing the number of sexual partners). Lesson 3: Role of artificial contraceptive methods (barrier methods, male and female condoms,)	Discussion *Group work *Questioning *Brainstorming *Discovery approach	New biology for Senior 2 Biology and health science for Rwanda schools s2 Biology for tropical schools	
Week 10 20- 24/06/2022		Lesson4: Treatments of STIs End of unit 16 assessment	Discussion *Group work *Questioning *Brainstorming *Discovery approach	New biology for Senior 2 Biology and health science for Rwanda schools	
Week11 27/06- 01/07/2022	Examination www.edufeds.online				
WEEK1104- 08/07/2021	Examination				
WEEK 1 12: 11- 15/07/2022	Marking & school reports				