

**SCHEME OF WORK
BIOLOGY
FORM 2 2022
TERM II
SECONDARY SCHOOL**

WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES	L/T ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
1	1	TRANSPORT IN PLANTS AND ANIMALS	Immune responses.	By the end of the lesson, the learner should be able to: To differentiate between natural and acquired immunity. To explain the role of vaccines in immune responses.	Detailed explanations and open discussion. To explain the role of vaccination / immunization. Open discussion on HIV / AIDS.	Chart- Diseases that children are immunized against; Resource person.	K.L.B. BOOK 2 Pages 40 - 41	
	2-3	TRANSPORT IN PLANTS AND ANIMALS GASEOUS EXCHANGE	Allergic reactions. Organ transplant. Introduction. Gaseous exchange in plants.	By the end of the lesson, the learner should be able to: To define an allergic reaction. To identify ways in which allergy presents itself. To explain cause of allergic reactions. To identify organs that are normally transplanted. To explain importance of gaseous exchange. To describe gaseous exchange in plants.	Q/A: Manifestations of allergy. Exposition and brief explanations. Q/A: Organs transplanted. Superficial discussion. Topic review. Discussion Explanations Q/A: Products of respiration. Detailed discussion.	text book	K.L.B. BOOK 2 Page 43 K.L.B. BOOK 2 P. 48	
	4	GASEOUS EXCHANGE	Introduction. Gaseous exchange in plants.	By the end of the lesson, the learner should be able to: To explain importance of gaseous exchange. To describe gaseous exchange in plants.	Discussion Explanations Q/A: Products of respiration. Detailed discussion.	text book	K.L.B. BOOK 2 P. 48	

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2	1	GASEOUS EXCHANGE	Release of CO ₂ by plants.	By the end of the lesson, the learner should be able to: To describe an experiment to show release of CO ₂ by plants.	Class experiments including control experiments. Explain the observations made.	Bicarbonate indicator, boiling tubes, Aluminum foil.	K.L.B. BOOK 2 P. 49	
	2-3	GASEOUS EXCHANGE	Release of O ₂ by plants. Stomata. Opening & closing of stomata. Stomata and habitats of plants.	By the end of the lesson, the learner should be able to: To describe an experiment to show release of O ₂ by plants. To describe the structure and explain the functions of stomata. To describe and explain the mechanism of opening & closing of stomata. To relate plant habitats and the no. of stomata. To explain the variation between number of stomata on the upper and lower face.	Teacher demonstration: Test for the gas evolved. Discuss observations. Detailed discussion. Drawing diagrams. Detailed discussion. Observe number of stomata of prepared slides of hydrophytes and xerophytes. Discuss the observations.	Gas jar, Glass funnel, Water plant, Beaker. text book text book Prepared slides of hydrophytes and xerophytes.	K.L.B. BOOK 2 P. 49 K.L.B. BOOK 2 P. 51	
	4	GASEOUS EXCHANGE	Lenticels.	By the end of the lesson, the learner should be able to: To describe and explain the mechanism of lenticels.	Detailed discussion.	text book	K.L.B. BOOK 2 P. 52	

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3	1	GASEOUS EXCHANGE	Respiratory surfaces in animals. Gaseous exchange in protozoa.	By the end of the lesson, the learner should be able to: To define a respiratory surface. To state characteristics of respiratory surfaces. To identify the environment or medium of operation of respiratory surfaces. To describe the mechanism of gaseous exchange in an amoeba.	Teacher exposes meaning of a respiratory surface. Discuss at length, giving examples of organisms that have a given respiratory surface. Q/A: Review diffusion, structure of an amoeba. Discuss briefly gaseous exchange in and out of amoeba.	text book	K.L.B. BOOK 2 P. 53	
	2-3	GASEOUS EXCHANGE	Gaseous exchange in insects.	By the end of the lesson, the learner should be able to: To describe the mechanism of gaseous exchange in insects	Drawing tracheal system of a grasshopper. Discuss at length the structure of the tracheal system. Detailed discussion.	text book	K.L.B. BOOK 2 PP. 53, 54	
	4	GASEOUS EXCHANGE	Breathing in insects. Number, position and shape of spiracles of insects.	By the end of the lesson, the learner should be able to: To describe the breathing mechanism in an insect. To give an account of the number, position and shape of spiracles of insects.	Observe breathing movements of live specimens of grasshoppers, locusts or cockroaches. Drawing the abdomen and showing the position and shape of spiracles, and giving reasons thereof.	Live specimens of insects, Hand lenses, Boiling tubes. Live specimens of insects.	K.L.B. BOOK 2 P. 56	

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6	1	GASEOUS EXCHANGE	Thoracic cavity model.	By the end of the lesson, the learner should be able to: To identify similarities between a model thoracic cavity and an actual thoracic cavity.	Teacher presents a model thoracic cavity. Q/A: Comparing parts of the model cavity and the actual rib cage.	Thoracic cavity model.	K.L.B. BOOK 2 PP. 61-63	
	2-3	GASEOUS EXCHANGE	Gaseous exchange in an alveolus. Rate of breathing in man.	By the end of the lesson, the learner should be able to: To describe gaseous exchange in an alveolus. To explain regulation of breathing in man. To state and explain briefly factors affecting the rate of inhalation / exhalation processes.	Discussion and explanations.	text book	K.L.B. BOOK 2 P. 64 K.L.B. BOOK 2 P. 63	
	4	GASEOUS EXCHANGE	Intercostal muscles.	By the end of the lesson, the learner should be able to: To explain the function of intercostal muscles during the breathing system.	Detailed discussion. Counting number of inhalations before and after an exercise blow.	Lime water, rib cage model.	K.L.B. BOOK 2 P. 66	
7	1	GASEOUS EXCHANGE	Inhaled and exhaled air.	By the end of the lesson, the learner should be able to: To test for CO ₂ in the air we inhale/ exhale.	Observe colour changes of lime water, and make deductions. Brief discussion.	Lime water.	K.L.B. BOOK 2 P. 67	

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	2-3	GASEOUS EXCHANGE RESPIRATION	Diseases of the respiratory system. Introduction ? Definition and importance of respiration. Burning food.	By the end of the lesson, the learner should be able to: To state the causes, symptoms and prevention of respiratory diseases. By the end of the lesson, the learner should be able: To define respiration. To explain significance of respiration. To describe an experiment investigating the gas given off when food is burnt.	Discuss cause, symptoms and prevention of whooping cough TB, bronchitis, etc. Q/A: Definition Brief discussion of significance of respiration. Teacher demonstration: Burning a food sample. Testing for the gas evolved during combustion.	Resource person. text book	K.L.B. BOOK 2 PP. 67-70 K.L.B. BK 2 PP. 73-74	
	4	RESPIRATION	The mitochondrion. Aerobic respiration.	By the end of the lesson, the learner should be able to: To state functions of mitochondrion in respiration. To explain phases of aerobic respiration. To state difference between aerobic and anaerobic respiration.	Drawing structure of the mitochondrion. Explain function of the mitochondrion. Detailed discussion. Writing down equations of food breakdown.	Wall charts- The mitochondrion text book	K.L.B. BK 2 P. 74	
8	1	RESPIRATION	Anaerobic respiration. Oxygen ? debt?.	By the end of the lesson, the learner should be able to: To describe anaerobic respiration. To explain the term ? oxygen debt?. To explain the effect of ?oxygen debt? on the amount of energy released during respiration.	Observe set up experiments. Detailed discussion punctuated with probing questions: Probing questions. Detailed discussion.	Glucose Yeast Thermometer text book	K.L.B. BK 2 P.77	

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	2	RESPIRATION	Applications of anaerobic respiration.	By the end of the lesson, the learner should be able to: To explain applications of anaerobic respiration.	Q/A: Products of fermentation process. Listing down various applications of anaerobic respiration.	text book	K.L.B. BK 2 P. 79	
	2-3	RESPIRATION	Applications of anaerobic respiration. Respiratory substrates & respiratory quotient.	By the end of the lesson, the learner should be able to: To explain applications of anaerobic respiration. To identify respiratory substrates in the body. To define respiratory quotient. To calculate R.Q.	Q/A: Products of fermentation process. Listing down various applications of anaerobic respiration. Brief discussion/ explanations. Exposition of definition and its significance. Problem solving.	text book	K.L.B. BK 2 P. 79	
	4	RESPIRATION	Rate of respiration.	By the end of the lesson, the learner should be able to: To state and explain factors affecting rate of respiration.	Detailed discussion and explanations.	text book	K.L.B. BK 2 PP. 80-81	
9	END TERM EXAMS							
10	MARKING REVISION AND CLOSING							