SCHEME OF WORK BIOLOGY

FORM 2 2022 TERM I

ENDARASHA BOYS

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **L/T ACTIVITIES** | **L/T AIDS** | **REFERENCE** | **REMARKS** |
| **2** |  |  |  | By the end of the lesson, the learner should be able to: |  |  |  |  |
|  | 1 | TRANSPORT IN PLANTS AND ANIMALS | Introduction. Transport in plants Transport in simple plants. | Define transport.Explain importance of transport in plants and animals.Describe transport in simple plants. | Q/A and discussion; Discuss transport in simple animals and plants e.g. mosses. | text book | K.L.B. BOOK 2 Page 1 |
|  | 2-3 | TRANSPORT IN PLANTS AND ANIMALS | External structure of the root.Internal structure of the root. | By the end of the lesson, the learner should be able to:Relate the external structure of the root to its function.State primary functions of roots.Relate the internal structure of a root to its functions. | Class experiment- to examine a piece of a taproot.Drawing and labeling a diagram of the taproot. Discussion of adaptation of the root hairs to their functions.Q/A: Functions of roots.Drawing and labeling diagrams of sections of roots and root hairs for monocotyledon and dicotyledonous roots. Discuss functions of the labeled parts. | Tap root, bean / pea seedlings.Petri-dish Razor blade.Permanent slides of roots,microscope, wallchart. | K.L.B. BOOK 2 Pages 1-2K.L.B. BOOK 2 Pages 2-4 |  |
|  | 4 | TRANSPORT IN PLANTS AND ANIMALS | Structure and functions of the stem. | By the end of the lesson, the learner should be able to:To describe structural organization of stems. To state primary functions of the stem. | Observing permanent stem slides under a microscope.Detailed discussion. | text book | K.L.B. BOOK 2 Page 5 |  |
| **3** | 1 | TRANSPORT IN PLANTS AND ANIMALS | Internal structure of the stem. | By the end of the lesson, the learner should be able to:To draw and label internal stem structures. | Drawing and labeling transverse sections of stems. | Wall charts - Internal structure of the stem. | K.L.B. BOOK 2 Pages 5- 7 |  |

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|  | 2-3 | TRANSPORT IN PLANTS AND ANIMALS | Absorption of water and mineral salts. Significance and types of Transpiration. | By the end of the lesson, the learner should be able to:To explain processes through which water and mineral salts move through plants.To explain significance of transpiration.To state and explain types of transpiration. | Discussion and Explanations. Probing questions, Discussion, Explanations. | Wall charts ? Root hairs.Wall charts ?Internal structure of a leaf. | K.L.B. BOOK 2 Pages 7 - 9K.L.B. BOOK 2 Pages 9-10, 12 |  |
| 4 | TRANSPORT IN PLANTS AND ANIMALS | Factors affecting rate of transpiration. | By the end of the lesson, the learner should be able to:To state and explain factors affecting transpiration. | Q/A:Discussion Explanations. | text book | K.L.B. BOOK 2 Pages 12- 14 |  |
| **4** | 1 | TRANSPORT IN PLANTS AND ANIMALS | The Xylem tissue. Forces involved in transport of water and mineral salts. | By the end of the lesson, the learner should be able to:To describe the structure of xylem tissue.To explain the forces involved in transport of water and mineral salts. | Q/A:Discussion Explanations Drawing diagrams. | Wall charts-The xylem tissue. | K.L.B. BOOK 2 Pages 10-12 |  |
| 2-3 | TRANSPORT IN PLANTS AND ANIMALS | Rates of transpiration on leaf surfaces.Translocation of organic compounds. | By the end of the lesson, the learner should be able to:To describe simple experiments to show rates of transpiration on leaf surfaces.To define translocation. To describe the structure of phloem tissue. | Discuss above observations.Draw graphs to show rates of transpiration on leaf surfaces.Answer questions. Q/A: To review photosynthesis.Discussion and explanations of structure of phloem tissue.Drawing and labeling phloem tissue. | text bookChart - phloem tissue. | K.L.B. BOOK 2 Page 18K.L.B. BOOK 2 Page 17 |  |
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|  | 4 | TRANSPORT IN PLANTS AND ANIMALS | Transport in Animals.Open and closed circulatory systems.Open circulatory system in insects. | By the end of the lesson, the learner should be able to:To differentiate between open and closed circulatory systems.To discuss open circulatory system in insects. | Exposition and discussion.Drawing and labeling diagrams. | Charts- Circulatory systems. | K.L.B. BOOK 2 Pages 18 - 19 |  |
| **5** | MID TERM EXAMS AND BREAK |
| **6** | 1 | TRANSPORT IN PLANTS AND ANIMALS | Single and double circulatory systems. | By the end of the lesson, the learner should be able to:To differentiate between single and double circulatory systems. | Exposition and discussion.Tracing the path followed by blood from a point and back to the same point. | Chart- Mammalian double circulation system. | K.L.B. BOOK 2 Pages 18-20 |  |
| 2-3 | TRANSPORT IN PLANTS AND ANIMALS | The mammalian heart ? external structure.Internal structure of mammalian heart. | By the end of the lesson, the learner should be able to:To describe the external structure of the heart.Draw compartments of the heart and label major parts. | Exposition; Identifying compartments of the heart.Drawing and labeling a diagram of a mammalian heart. | Model of a heart. Model of a heart, wallcharts. | K.L.B. BOOK 2 Pages 21 - 22K.L.B. BOOK 2 Pages 22 -23 |  |
| 4 | TRANSPORT IN PLANTS AND ANIMALS | Pumping mechanism of the heart. | By the end of the lesson, the learner should be able to:To differentiate between systolic and diastolic heart movements. | Discussion and Explanations. Experiment- To investigate pulse rate at the wrist. | Stopwatches. | K.L.B. BOOK 2 Pages 23 - 24 |  |
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| **7** | 1 | TRANSPORT IN PLANTS AND ANIMALS | Pulse rate. | By the end of the lesson, the learner should be able to:Explain the origin of pulse.Explain effect of exercise on pulse rate. | Record number of pulses before and after an exercise.Brief discussion. | Stopwatches. | K.L.B. BOOK 2 Pages 30 - 31 |  |
| 2-3 | TRANSPORT IN PLANTS AND ANIMALS | Structure of arteries.Major arteries. Veins. | By the end of the lesson, the learner should be able to:To describe the structure of arteries.To identify major arteries in the circulatory system.To describe the structure of veins.To explain the need for valves in veins.To state differences between veins and arteries. | DiscussionDrawing and labeling internal structure of an artery.Drawing and labeling diagram of an artery. Discussion and explanations. | Chart- cross-section of an artery.Chart-circulatory system.Chart-cross-sections of major blood vessels in the body. | K.L.B. BOOK 2 Page 25K.L.B. BOOK 2 Pages 27-29 |  |
| 4 | TRANSPORT IN PLANTS AND ANIMALS | Capillaries. | By the end of the lesson, the learner should be able to:To describe the structure of capillaries.To explain the role of capillaries in transport | Discussion and explanations. | text book | K.L.B. BOOK 2 Pages 25-26 |  |
| **8** | 1 | TRANSPORT IN PLANTS AND ANIMALS | Diseases and defects of the circulatory system.Composition of blood. The plasma. | By the end of the lesson, the learner should be able to:To discuss various diseases and defects of the circulatory system. To state the constituents of blood plasma.To identify functions of plasma. | Discussion of various diseases and defects of the circulatory system. Suggest methods of prevention and control. Detailed discussion and explanations. | text book | K.L.B. BOOK 2 Pages 31 - 32 |  |

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|  | 2-3 | TRANSPORT IN PLANTS AND ANIMALS | Red blood cells.White blood cells. | By the end of the lesson, the learner should be able to:To state the functions of red blood cells.To explain the functions of haemoglobin in r.b.c.To describe the structure of white blood cells.To state functions of white blood cells. | Detailed discussion and explanations. | Wall charts. text book | K.L.B. BOOK 2 Pages 33 - 34K.L.B. BOOK 2 Pages 34 - 35 |  |
| 4 | TRANSPORT IN PLANTS AND ANIMALS | Platelets. | By the end of the lesson, the learner should be able to:To describe the structure of platelets.To state functions of platelets. | Detailed discussion and explanations. | text book | K.L.B. BOOK 2 Page 35 |  |
| **9** | 1 | TRANSPORT IN PLANTS AND ANIMALS | Blood clotting. | By the end of the lesson, the learner should be able to:To describe the blood clotting process.To explain importance of blood clotting. | Exposition of new concepts.Detailed discussion. | Blood smear, microscope. | K.L.B. BOOK 2 Page 36 |  |
| 2-3 | TRANSPORT IN PLANTS AND ANIMALS | Blood groups, Antigens and antibodies.Blood transfusion. | By the end of the lesson, the learner should be able to:To identify the four blood groups.To identify compatible blood groups.To define blood transfusion.To identify compatible blood groups.To identify the universal donor and universal recipient. | Completing a table of blood groups and the corresponding antigens and antibodies present. Q/A: Identifying compatible blood groups.Open discussion. Completing a table of compatible blood groups. | Chart-blood groups, antigens and antibodies.Blood transfusion resource person. | K.L.B. BOOK 2 PagesK.L.B. BOOK 2 Pages 30 - 31 |  |

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|  | 4 | TRANSPORT IN PLANTS AND ANIMALS | The Rhesus factor.Lymph. | By the end of the lesson, the learner should be able to:To describe the Rhesus factor and its significance.To describe formation and functions of lymph. | Review blood groups, antigens and antibodies. Exposition, discussion and explanations. | text bookChart- the lymphatic system. | K.L.B. BOOK 2 Page 38 |  |
| **10** | END OF TERM EXAMS |