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 1-2  K.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 - 9  K.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 book  Chart - phloem tissue. | K.L.B. BOOK 2 Page 18  K.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 - 22  K.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. | Discussion  Drawing 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 25  K.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 - 34  K.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 Pages  K.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 book  Chart- the lymphatic system. | K.L.B. BOOK 2 Page 38 |  |
| **10** | END OF TERM EXAMS | | | | | | | |