

# BIOLOGY – FORM 4 SCHEME OF WORK – Term 3

WEEK	TOPIC	SYLLABUS OBJECTIVES	NUMBER OF SESSIONS	ACTIVITIES/LABS	RESOURCES
1 - 3	<b>Review of exam script</b>	<ol style="list-style-type: none"> <li>To clear up misconceptions and other problems</li> <li>To complete outstanding labs from Term 2</li> </ol>	4	<p>Answers to be done on the board/verbally by students</p> <p><b>Lab 12 – Enzyme</b></p> <p><b>Lab 13 – Respiration (fish gills)</b></p> <p><b>Lab 14 – Respiration (exercise)</b></p>	Hydrogen peroxide, chicken liver, glowing splints, matches
3- 5	<b>Transport in Animals</b> (Section B Obj. 4.1- 4. 4)	<ol style="list-style-type: none"> <li>Explain the need for transport systems in multi-cellular organisms with respect to diffusion and surface area to volume ratio – compare with Amoeba</li> <li>Identify the different materials transported in animals</li> <li>Describe and relate the structure of the heart to its function (explain why the walls of the ventricles are thicker than the atrium and why the left side of the heart thicker than the right)</li> <li>Explain the role of the heart as a double pump</li> <li>Describe the function of the pacemaker of the heart</li> <li>Relate the blood vessels to their structure and function</li> <li>Blood:               <ul style="list-style-type: none"> <li>- Components</li> <li>- Function of each component</li> <li>- Structure and function of RBC and WBC</li> <li>- Mechanism of blood clotting</li> </ul> </li> <li>Explain the causes and effects of heart attacks</li> <li>Describe the structure and function of the lymphatic system</li> </ol> <p>Identify the lymph nodes in humans and state their function</p>	6	<p>Examine external and internal features of fresh or preserved specimens of mammalian hearts</p> <p>Draw diagrams to show the differences in the structures of arteries, veins and capillaries</p> <p>Draw diagrams of RBC and WBC</p>	<p>Cow’s heart and/or prepared slide of heart, microscope</p> <p>Prepared slide of blood vessels, microscope</p> <p>Prepared slide of blood smear, microscope</p>
5 - 6	<b>Transport in Plants</b> (Section B Objs 4.7 – 4.13)	<ol style="list-style-type: none"> <li>Explain how the structure of the xylem and phloem are suited to their functions.</li> <li>Discuss the role of the process of transpiration in plants</li> <li>Describe the effect of external factors on transpiration</li> <li>Discuss adaptation in plants to conserve water</li> </ol>	6	View micrographs/microscope of xylem and phloem	<ol style="list-style-type: none"> <li>Slides of xylem and phloem</li> <li>Microscope</li> <li>Fan</li> <li>Plants</li> <li>Dye</li> </ol>

		<ol style="list-style-type: none"> <li>5. Identify the products stored in plants and animals and the sites of storage</li> <li>6. Discuss the importance of food storage in living organisms</li> </ol>		<p>Experimental demonstration to illustrate the effect of wind intensity on the rate of transpiration</p> <p><b>Lab 15 - To observe and draw the features of different storage organs</b></p>	<ol style="list-style-type: none"> <li>6. Storage organs -onion, potato, cassava, ginger, carrot</li> </ol>
7	<b>Excretion in Plants</b> (Section B Objs 5.1 -5.2)	<ol style="list-style-type: none"> <li>1. Discuss the importance of excretion in living organism</li> <li>2. Give examples of substances excreted by plants</li> <li>3. State the means by which excretory products are eliminated from plants</li> </ol>	1	Reference to Field trip to Aripo Savannah in Form 3 – tannins in water caused brown coloration.	
8	<b>Excretion in Animals</b> (Section B Objs 5.1 -5.3)	<ol style="list-style-type: none"> <li>1. Give examples of substances excreted by animals</li> <li>2. State the means by which excretory products are eliminated from animals</li> <li>3. Identify parts of the excretory system</li> <li>4. Relate the structure of the kidney to its excretory function</li> </ol>	4	Identify and label simple diagrams of the urinary system and a tubule	<ol style="list-style-type: none"> <li>1. Videos illustrating process in nephron</li> <li>2. Videos illustrating the process of dialysis</li> </ol>