## Curriculum

Class: 8 I.P. Subject: Biology Cycle:

## Textbook: Leaving Certificate Biology Plus Micheal O'Callaghan

Units	Objectives	Learning Outcomes
1- The Organism	<u>The Organism</u> 1- Blood	The Organism1- Blood- To describe the composition of blood and the role of red blood cells, white blood cells, platelets and plasma- To name the four common blood groups and the rhesus factor- To describe the structure and function of red 
	2- The Human Defence System	<ul> <li><u>2- The Human Defence System</u></li> <li>To describe the general defence system in humans</li> <li>To describe the specific defence system in humans and define the term "induced immunity"</li> <li>To describe vaccination and immunization</li> <li>To describe the role of lymphocytes including B cells in antibody production and the four types of T cells</li> </ul>
	3- Human Nutrition	<ul> <li><u>3- Human Nutrition</u></li> <li>To understand heterotrophic organisms and define: omnivore, herbivore and carnivore</li> <li>To define "digestion" and explain the importance of digestion and the digestive system</li> <li>To explain: ingestion, digestion absorption and egestion</li> </ul>

	<ul> <li>To describe the structure and function of the alimentary canal and associated glands in digestion and transporting nutrients</li> <li>To describe the mechanical breakdown of food including teeth, peristalsis and the stomach</li> <li>To describe the chemical breakdown of food including bile salts and enzymes</li> <li>To describe the structure and function of the small and large intestines</li> <li>To describe two functions of symbiotic bacteria in the human digestive tract</li> <li>To explain the importance of balanced diet</li> </ul>
4- Human Breathing	<ul> <li><u>4- Human Breathing</u></li> <li>To describe the structure and function of the breathing system in humans</li> <li>To describe the features of alveoli and capillaries</li> <li>To describe the mechanism of the human breathing system in gas exchange</li> <li>To describe asthma and bronchitis</li> <li>To explain the importance of carbon dioxide as a controlling factor in the breathing system</li> <li>To examine the effect of exercise on breathing rate</li> </ul>
5- The Heart and Blood Vessels	<ul> <li><u>5- The Heart and Blood Vessels</u></li> <li>To describe the structure and organization of tissues in the heart and vessels</li> <li>To explain the role of muscles and valves</li> <li>To describe the human circulatory system as a two-circuit system</li> <li>To draw the structure of the heart and the main blood circulation pathways</li> <li>To describe the supply of blood to the heart</li> <li>To understand how the heart beat is controlled</li> <li>To be aware of the heart tissue and of the SA and AV nodes</li> </ul>

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		- To understand the effects of smoking, diet and exercise on the circulatory system
2- The Cell	<u>The Cell</u> 1- Genetic Crosses and Heredity	<ul> <li><u>The Cell</u></li> <li><u>1- Genetic Crosses and Heredity</u></li> <li>To define "gamete", describe how gametes are formed and understand their role</li> <li>To define: fertilization, allele, homozygous,, heterozygous, genotype, phenotype, dominance and recessive</li> <li>To study inheritance to the first filial (F1) generation of a single unlinked trait in a cross</li> <li>To study sex determination</li> <li>To describe the work of Gregor Mendel</li> <li>To use the Punnet square technique to study inheritance</li> </ul>