ASCOT HIGH SCHOOL

DEPARTMENT OF SCIENCE

BIOLOGY

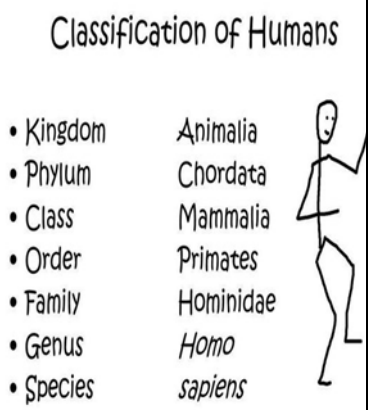
GRADE: 10

TERM 1: SEPTEMBER-DECEMBER 2025

National Goals: Jamaica Has A Healthy Natural Environment

Jamaicans are empowered to achieve their fullest potential.

Unit	Duration	Topic	Specific Objectives	Suggested Teaching and Learning Activities	Assessment/ Practical Activities
Orientation Activities & Diagnostic Test: September 1-12					
Living Organisms In The Environment	3 weeks Sept. 15-Oct.3	**Classification of Living Organisms**	Group living organisms found in a named habitat based on observed similarities and differences.	Nature walks. Organize students in groups to observe organisms (plants and/or animals) in their natural habitat. Classify organisms based on visible characteristics, such as hairiness, colour, shape, venation, number of legs and wings, and body segmentation of organs found in both plants and animals as appropriate. Common names of organisms and groups are acceptable**. (Simple Classification)** Make drawings and construct tables to record observations where necessary.	**Practical Based Activity1**: Worksheet on Grouping Organisms based on Visible Features **Practical Based Activity 2:** Construct a table and Group at least ten (10) organisms

					based on similarities/differences.
Living Organisms In The Environment			Classify organisms into taxonomic groups based on physical similarities.	Classify organisms into Five Kingdoms (Plantae, Animalia, Fungi (mushroom), Prokaryotae (bacteria) and Protoctista (Amoeba). Further subdivision of the Animal Kingdom into Phyla, for example, Chordata which includes Classes (fish, reptiles, insects, birds mammals). These are further classified to the level of species. Mention that **Modern classification uses DNA** sequences to determine ancestry. **Video Links** https://www.youtube.com/watch?v=SIbFuiCfkr8	**GRADED CLASSWORK (10%)** **Past Paper Questions on Classification** 
Unit	**Duration**	**Topic**	**Specific Objectives**	**Suggested Teaching and Learning Activities**	**Assessment/ Practical Activities**
Living Organisms In The Environment	3 weeks Oct. 6-24	**Ecology**	Carry out a simple ecological study using the most appropriate collecting and sampling methods.	Use quadrats to investigate the distribution of species in a particular habitat. Estimate the density of a particular species.	**Practical Based Activity 3:** **Use a quadrat to calculate species density and frequency.**

				Calculate average (mean)/density. Discuss the use of pooters, bottles, jars, nets, sieves, quadrats, line and belt transects, mark, release and recapture methods to collect data on organisms from a named habitat. **Video Link** https://www.youtube.com/watch?v=ZhQpbkvA13U	**GRADED HOMEWORK (10%)** **PAST PAPER QUESTION ON ECOLOGICAL STUDY**
			Distinguish between the following pairs of terms: a. Abiotic and Biotic factors b. Niche and Habitat c. Population and Community d. Species and Population	Differentiate between the following terms: Ecology, Environment, Ecosystem, Abiotic and Biotic Factors, Habitat, Niche, Species, Population and Community. **Video Link** https://www.youtube.com/watch?v=dvfQqL1VVTI	
			Discuss the impact of the abiotic factors (soil, water, and climate) on living organisms.	1.Discuss the importance of soil in providing water, mineral, nutrients and oxygen. 2.Importance of air in providing various raw materials (water, oxygen, carbon dioxide, nitrogen)	**Practical Based Activity 4: TEST 2 (20%)** To determine air content and water holding capacity of three samples of soil.

				light and temperature to living organisms.	
MID-TERM BREAK: October16-20					
SESSIONAL TEST 1 WRITTEN PAPER (20%)					
Unit	**Duration**	**Topic**	**Specific Objectives**	**Suggested Teaching and Learning Activities**	**Assessment/ Practical Activities**
Living Organisms In The Environment	3 weeks November 3-21	**Food Chains and Food Webs**	Identify the relative positions of producers and consumers in food chains.	Differentiate between producers and consumers. Provide a number of organisms from which to construct food chains and a food webs. Construct simple pyramids	Construct food chains and webs.
			Identify from each habitat, a food chain containing at least four organisms.	Construct food chains using organisms in each habitat (Terrestrial, marine and freshwater)	
			Identify from each habitat: herbivore, carnivore and omnivore.	Define the following terms: Herbivore, Carnivore, Omnivore.	
			Identify from each habitat predator/prey relationships.	Define the following terms: Predator, Prey. Example of the application of predator relationships.	

				The use of 'Biological Controls	
			Construct a food web to include different tropic levels.	Identify different trophic levels in food webs. **Video Link:** https://www.youtube.com/watch?v=BKB6-NbaPTE	
Unit	**Duration**	**Topic**	**Specific Objectives**	**Suggested Teaching and Learning Activities**	**Assessment/ Practical Activities**
			Explain the role of decomposers.	Define the term decomposers. Discuss the role of fungi and bacteria in converting complex compounds to simple substances.	**HOMEWORK (10%)** **PAST PAPER QUESTIONS**
			Explain energy flow within a food chain or web.	Draw a simple diagram of the non-cyclic energy flow from the sun.	
Living Organisms In The Environment	Nov. 24-28	**Symbiosis**	Assess the special relationships among organisms.	Simple treatment of symbiotic relationships: parasitism, commensalism, mutualism using local examples.	**Research Project and Group Presentations on Symbiosis**
EXAM PREP & EXAMINATION: DECEMBER 1-16					


All living things
Protists
Fungi
Plants
Monera
Animals

Classification of Animals