

ASCOT HIGH SCHOOL
DEPARTMENT OF SCIENCE
HUMAN AND SOCIAL BIOLOGY
GRADE 10

TERM 1: SEPTEMBER-DECEMBER 2025

National Goals: Jamaica Has A Healthy Natural Environment

Jamaicans are Empowered To Achieve their Fullest Potential

Duration	Unit	Topic	Specific Objectives	Suggested Teaching and Learning Activities	Assessment
2 Weeks Sept. 1 – 12		<ul style="list-style-type: none"> ▪ Revision ▪ Orientation 	Students will: <ol style="list-style-type: none"> 1. To identify a student's strengths and weaknesses in Human and Social Biology. 2. To help students achieve mastery of the concepts and skills being assessed. 3. Build confidence in the ability to recall and apply information. 4. Encourage peer learning through collaborative review activities. 5. Identify and address learning gaps before moving forward. 	<ul style="list-style-type: none"> ▪ Learning Style Self-Assessment 	<ul style="list-style-type: none"> ▪ <i>Diagnostic Test</i>
3 weeks Sept. 15 - Oct. 3	Living Organisms and the Environment	Diffusion, Osmosis, and Active Transport	<ol style="list-style-type: none"> 1. Explain the importance of passive and active transport in living systems. 	<ul style="list-style-type: none"> ▪ Experimental activity to demonstrate diffusion using 	<p><u>GRADED CLASSWORK AND HOMEWORK:</u></p> <ul style="list-style-type: none"> ▪ Comparison table for

			<ol style="list-style-type: none"> 2. Define osmosis, diffusion and active transport. 3. State examples of Osmosis, Diffusion and Active Transport occurring in plant and animal cells. 4. Distinguish between osmosis and diffusion. 5. Describe hypotonic, hypertonic and isotonic solutions. 6. Conduct simple investigations on osmosis and diffusion. 	<p>potassium permanganate and Kool aid/tea bag and water and osmosis using a potato.</p> <ul style="list-style-type: none"> ▪ Students will watch videos on diffusion, osmosis and active transport. 	<p>simple diffusion, osmosis and active transport.</p> <ul style="list-style-type: none"> ▪ Worksheet on Diffusion, Osmosis and Active Transport.
1 Week Oct.6-15	Living Organisms and the Environment	Photosynthesis	<p>Students should be able to:</p> <ol style="list-style-type: none"> 1. Define photosynthesis. 2. State the word and chemical equation for photosynthesis. 3. Identify the internal and external structure of the leaf. 4. State the conditions necessary for photosynthesis. 5. State the function of 	<ul style="list-style-type: none"> ▪ Students will pick leaves from trees on the compound and make observations. They will be engaged in a discussion to help them understand how the features of a leaf help the plant to make its food. ▪ Testing a leaf for 	<p><u>GRADED CLASSWORK AND HOMEWORK:</u></p> <ul style="list-style-type: none"> ▪ Photosynthesis Worksheet 1 consisting of CSEC Past Paper Questions. ▪ Photosynthesis Worksheet 2 consisting of CSEC Past Paper Questions.

			chlorophyll in photosynthesis. 6. State the site of photosynthesis. 7. State the fate of the products of photosynthesis. 8. Investigate the effect of light and chlorophyll on the production of starch.	starch.	
<i>NATIONAL HEROES DAY & MID-TERM BREAK October 16-20</i> <i>SESSIONAL TEST ONE:20%</i>					
2 weeks Nov. 3 – 14	Living Organisms and the Environment	Food Chains and Food Webs	Students should be able to: <ol style="list-style-type: none"> Justify why organisms depend on plants directly or indirectly for food. Define food chain. Formulate definitions for the terms producer, consumers, trophic levels, carnivore, herbivore, omnivore. Identify the trophic level of organisms in a food chain. Identify the two types of food chains as terrestrial and aquatic. 	<ul style="list-style-type: none"> Students will conduct research on the following terms: food chain, food web and trophic level; naming and identification of organisms feeding at each trophic level (omnivore, carnivore, herbivore, producer, primary and secondary consumers) In pairs, students will go on a nature walk around the 	<u>GRADED CLASSWORK AND HOMEWORK:</u> <ul style="list-style-type: none"> Food Chain Worksheet consisting of CSEC Past Paper Questions. Food Web Worksheet consisting of CSEC Past Paper Questions. Case Study Assignment on Bioaccumulation

			<p>6. Distinguish between terrestrial and aquatic food chains.</p> <p>7. Identify from each habitat, a food chain containing at least four organisms.</p> <p>8. Justify why energy decreases across a food chain.</p> <p>9. Construct food chains from both terrestrial and aquatic habitats.</p> <p>10. Define food web.</p> <p>11. Construct a food web to include different trophic levels.</p> <p>12. Justify the effect on a food web if a particular organism is removed.</p>	<p>school compound and identify terrestrial food chains & webs.</p> <ul style="list-style-type: none"> ▪ In groups, students will be given picture cards of organisms (e.g., grass, grasshopper, frog, snake, eagle, mushroom) and tasked to arrange the cards to create different food chains. ▪ Students will construct a local ecosystem food web using organisms found in their community (e.g., mango tree, goat, human, chicken). ▪ In groups students will discuss the reduction of available energy at each trophic level; 	
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				<ul style="list-style-type: none"> ▪ Students will write a letter to the editor on the dangers of bioaccumulation (e.g., “Think Before You Litter – It Comes Back to You”). ▪ Students will apply the 10% Rule to calculate the utilization of energy at each trophic level 	
2 weeks Nov. 17 – 28	Living Organisms and the Environment	Carbon Cycle	Students should be able to: <ol style="list-style-type: none"> 1. Identify the processes involved in the carbon cycle. 2. Explain each process involved when carbon is recycled. 3. Discuss the impact of human activities on the carbon cycle. 4. Suggest steps that can be taken to adapt to climate change. 	<ul style="list-style-type: none"> ▪ Students will draw a diagram of the carbon cycle. ▪ Students will participate in the Carbon cycle game in which they simulate the movement of the carbon molecule through the cycle. ▪ In groups, students will represent various Caribbean 	<u>GRADED CLASSWORK AND HOMEWORK:</u> <ul style="list-style-type: none"> ▪ Carbon Cycle Worksheet ▪ Students will complete questions from a case study on the effects of human activity on the carbon cycle.

				Countries in a model CARICOM summit to discuss the impact of global warming on the well-being of humans.	
DECEMBER 1-16 REVISION & END OF YEAR EXAMINATION					