ASCOT HIGH SCHOOL

DEPARTMENT OF SCIENCE

INTEGRATED SCIENCE

GRADE 8

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
	Sept 1 – 12	**Orientation Activities & Diagnostic Test**			
Photosynthesis and Energy Chains	Sept. 15 – Oct.3	**Photosynthesis**	At the end of the lesson, students should be able to: 1. Recall that plants are producers and are the source of energy for animals. 2. Define the term Photosynthesis. 3. Identify the raw materials and conditions necessary for Photosynthesis to take place. 4. Construct the word equation for photosynthesis. 5. Investigate the raw materials and conditions necessary for photosynthesis. 6. Examine the	• In peers, students will discuss the raw materials that are needed for Photosynthesis to take place. • In small groups, investigate the adaptations of the leaf to carry out photosynthesis. Examine the leaves as they are found attached to the plant. Make a list of the external adaptations and present to the class in a variety of ways. • Students will do a lab report entitled 'Testing a Leaf for Starch'.	• Photosynthesis Worksheets • Find a Word Puzzle. • Photosynthesis CARD SORT (linking structures to function). **GRADED CLASSWORK (10%):** • Crossword puzzle on Photosynthesis. • Acceptable list of external adaptations of a leaf given. **Lab Activity**: • Testing a leaf for starch previously exposed in sunlight.

			external adaptations of the leaf for photosynthesis.	• Predict what will happen if a variegated leaf which was exposed to sunlight was tested for starch. Make an annotated drawing of a variegated leaf. Map the areas that are green and non-green. Indicate on the drawing the areas that starch should be present and absent. Explain why chlorophyll is needed for photosynthesis.	• Procedures carried out accurately and safely. • Experimental report done in acceptable format. • Suitable observations recorded and correctly explained. • Acceptable conclusions drawn and noted. • Accurately drawn lines and labelling of the leaf • Areas should be properly mapped indicating the presence and absence of starch. • Answer should be correctly explained

	October 6-24	**Energy Chains and Webs**	At the end of the lesson students should be able to: 1. Formulate definitions of the terms: producer, consumer, carnivore, herbivore, omnivore, food chain and habitat. 2. Construct terrestrial and aquatic food chains using familiar organisms. 3. Create food webs using the constructed food chains. 4. Explain energy flow in a food chain.	• Classify the organisms identified from the nature walk as producers, primary, secondary or tertiary consumers. • Construct food chains using the organisms identified. [Each Food chain should have at least three (3) organisms.] • Create Food webs using the food chains constructed. • Brainstorm and suggest whether all the energy from one organism is transferred to the organism that consumes it and justify their suggestions. Share their suggestions in a class discussion. • Complete worksheet on food chains and food webs after viewing a video	Acceptable definition of terms and classification of organisms in a Table. **GRADED HOMEWORK – 10%):** Food chains and webs constructed accurately from the organisms given. **SESSIONAL PROJECT (20%):** Students will work in GROUPS of Fours to construct Food web using Pictures and Cartridge Paper. A list of the organisms will be provided. Logical arguments given to justify suggestions. Worksheet correctly completed

OCTOBER 16-20 NATIONAL HEROES DAY & MID TERM BREAK SESSIONAL TEST ONE 20%					
Working Like a Scientist 2	Nov. 3 - Nov. 28	**Respiration and Gaseous Exchange**	At the end of the lesson students should be able to: 1. Describe the structure and basic function of the human respiratory system. 2. Trace the pathway of oxygen from the atmosphere to the alveoli. 3. Describe respiration as the process in which energy is released from food either in the presence or absence of oxygen (aerobic and anaerobic respiration). 4. Describe the exchange of oxygen and carbon dioxide across the alveoli. 5. Write a simple word equation to	• Name the structures that make up the Respiratory system. • Use the tags provided to label the chart of the Respiratory system. • Trace the pathway taken by oxygen and carbon dioxide in the Respiratory system. • Write the function of each structure in the Respiratory system. • Write and discuss the equation for respiration including the raw materials and products. • Discuss the difference between respiration and breathing. • Discuss the relationship between respiration and photosynthesis.	• Respiratory System Worksheet. • Respiratory System CARD SORT (Linking structure to function). • Draw and label the Human Respiratory system based on the criteria given. • Crossword Puzzle on Respiratory System. • Lab Activity and Write-up on the presence of water and carbon dioxide in exhaled air. • Aerobic and Anaerobic Respiration Worksheet.

			describe the process of aerobic respiration. 6. Explain the importance of energy to organisms. 7. Distinguish between respiration and breathing. 8. Perform investigations to identify the products of aerobic respiration. 9. Compare photosynthesis and respiration and explain how they are linked.		
	Dec. 1 - 5		**REVISION FOR EXAM**		
December 8 - 16 **END OF YEAR EXAMINATION**					