

Integrated Science Syllabus

Form 3

August 2020 – June 2021

Term 1				
Week	Topic	Objectives	Activities and	Assessments
1	<u>The Cell</u>	<ul style="list-style-type: none"> ▪ Understanding cells are the basic unit of life. ▪ Draw and label plant and animal cells 	Draw diagram of plant and animal cells.	
2	Cell organelles.	Explain the importance of the cell organelles		Quiz
3	Movement of substances in organisms.	<ul style="list-style-type: none"> ▪ Explain the movement of substances in organisms. ▪ Turgidity in plant cells 		
4	Diffusion	<ul style="list-style-type: none"> ▪ Explain the process of diffusion and osmosis using an experimental approach 	Lab: Investigate the effects of osmosis in a storage organ <i>(TBD based on COVID status)</i>	Unit Test September 7rd – 12th 2020
5	Unit 2 <u>Photosynthesis</u>	<ul style="list-style-type: none"> ▪ Describe the process of photosynthesis 	Practical: Establish conditions for photosynthesis test for starch as a product <i>Online: you tube video</i>	

6	The different stages of photosynthesis.	Explain the light and dark reactions during the process of photosynthesis.		Quiz
7 - 8	Food chains	Discuss parts of a food chain Look at trophic levels and energy transfer	Activity: Identify parts of the food chain / web and relationships	Test October 13-16 th 2020
9 - 10	Food webs	<ul style="list-style-type: none"> • Use food chains to create food webs • Discuss symbiotic relationships 	Lab: Food web lab <i>Online: Lab demonstration on you tube</i>	Food web
11		Discuss the nitrogen cycle and energy pyramids		Test October 13-16 th 2020
12	Revision	The Cell Photosynthesis Food webs	Revision for End of Term Exam.	End of term Exam

Term 2

1	Nutrition	Discuss food chains, food webs and their role in human nutrition. Discuss the role of carbohydrates in the body	Lab: Food test # 1	
2		Discuss the role of protein and fats in the body.	Lab: Food test # 2	
3		Discuss the role of reducing vitamins and minerals in the body	Lab: Food test # 3	Test December 7 th - December 11 th ,2020
4		.Discuss the role of water in the body	Quiz	
5		Discuss the role of fiber in the body	Lab: Food test # 4	
6		Discuss dietary needs for specific activities and the timing of meals prior to physical activities	Lab: Food test # 5	
7		Food additives and dietary health problems	Quiz	
8	Balanced diet	Explain what a balanced diet is.	Lab: Collect food labels to discern nutritional content	Test January 4 th - January 8 th 2020
9		Nutritional need of humans in relation to physical activities. Nutritional disorders and		

		corrections		
10	Teeth	Explain the role of teeth in digestion. Care of teeth		Unit Test Test February 1st – February 5th 2020

Term 3

1	Teeth	Tooth structure Types of teeth Role of teeth and their function	Draw and label a diagram of a vertical cross-section of a tooth.	
2	Teeth	Discuss dental caries Healthy teeth		
3	Types of digestion	<ul style="list-style-type: none"> ▪ Understand and define digestion. ▪ Explain the process of digestion in humans. 	Draw and label the digestive system in humans	Quiz
4	Digestive organs	<ul style="list-style-type: none"> ▪ Parts of the digestive system and their function 		Test: March 1 st – March 5 th 2020
5	Enzymes	<ul style="list-style-type: none"> ▪ Discuss the role enzymes play in the process of digestion. 		
6	Respiration	<ul style="list-style-type: none"> ▪ Understand how important respiration is to living things 		Unit Test
7	Aerobic and Anaerobic_ respirations	<ul style="list-style-type: none"> • Understand the process of aerobic and anaerobic respiration. • Understand the similarities and differences between aerobic and 	Lab – Aerobic respiration	

		anaerobic respiration.		
8	Breathing	<ul style="list-style-type: none"> • Understand the economic importance of anaerobic respiration (fermentation) in yeast. • Explain how you breathe in and out. • Explain how gases are exchanged in the lungs. 	The difference between inhaled and exhaled air.	Test: March 29 th – April 2 nd 2020
9	Diseases associated with respiration.	<ul style="list-style-type: none"> • Understand that the structure which absorb and release gases in living things have many features in common and be able to explain why. • Understand how some illnesses affect our lungs and breathing. 		Quiz
10		<ul style="list-style-type: none"> • Discuss the effects of smoking on the lungs. • Discuss the effects of smoking on the unborn. 		Group presentations on respiratory diseases
11	Respiratory diseases	<ul style="list-style-type: none"> ▪ Discus cause, effect and control of respiratory ailments 		Test
12	Respiratory surfaces in plants	<ul style="list-style-type: none"> ▪ Gas exchange in plants 		Test: May 10 th – May 14 th 2020
13	Revision for End of Term Exam.	<ul style="list-style-type: none"> ~ Nutrition ~ Digestion ~ Respiration ~ The circulatory system in plants . 		End of Term Exam

