

# INTEGRATED SCIENCE YEAR PLAN

## Form 2

August 2019- June 2020

### TERM-1

Week	Topic/Sub-topic	Objective	Learning activity	Assessment
1	Mixtures	To understand the common properties of mixtures  To outline the difference between a homogenous and an heterogeneous mixture	Students will identify useful mixtures in nature and those that are found around the home  Students will give examples of heterogeneous and homogeneous mixtures that they are familiar with	
2-3	Suspensions, and colloids	To understand the difference between solutions, suspensions and colloids To understand the distinct nature and properties of suspensions and colloids To understand the uses of suspensions and colloids	Students will be presented with different types of mixtures and they will use knowledge of the colloids and suspension to determine the difference	Quiz
4	Techniques used to separate mixtures	To outline the various separation techniques that can be used to separate mixtures	Laboratory exercise	Graded Lab report  Paper pen test
5	Solution and Solubility	To describe the nature of solutions To distinguish between solute, solvent and a solution	Students will identify solute and solvent that can be used to make different types of solutions	Graded. Lab

		<p>To understand what is meant by dilute solution, concentrated solution and saturated solution.</p> <p>To identify the factors that affect solubility of a solute in a solvent</p>	<p>Students will dissolve varied portions of solutes in a fixed amount of solvent (water) to demonstrate dilute, concentrated and saturated solutions</p> <p>Laboratory exercise to investigate how the solubility of a solute is affected by the nature of solvent</p>	report
6-7	Solutions in our daily life	<p>To identify solutions that are common in homes and the laboratory</p> <p>To distinguish between acid and base (alkali) on their properties</p>	<p>Conduct simple pH test to determine the acidity and alkalinity of a some household products and laboratory chemicals</p>	<p>Paper pen test</p> <p>Students will make their personalized pH scale using appropriate materials and colours</p>
8-10	<p>Water – An important Solvent</p> <p>*Treatment of water</p> <p>Water consumption and conservation</p> <p>Water Pollution</p>	<p>To understand that water dissolves many substances</p> <p>To outline the processes involved in water treatment</p> <p>To understand the importance of water conservation</p> <p>To identify the common sources of water pollution</p> <p>To describe methods of water</p>	<p>Students will perform simple water treatment procedures in the laboratory by using the following techniques: Filtering, disinfectant using a common household chemical (bleach) and boil</p>	<p>Project (Water pollution and its effect on living organisms)</p>

		pollution control		
11-12	From Cells to Tissues – organs- system-organism	To relate a cell’s structure to its function To differentiate between cell, tissue, organ and system To understand multicellular organisms have several different types of tissues that make up an organ and several organs and several organs can be organized into systems	Students will identify unmarked organs found in humans and plans	Quiz
13	The sensory organs	To describe the function of our sensory organs		
14	<b>EXAM REVISION</b>			

## TERM-2+3

Week	Topic/Sub-topic	Objective	Learning activity	Assessment
1-2	The Nervous, Muscular and Skeletal System	To describe the functions of the nervous, muscular and skeletal systems		
3-4	Food- Our Source of Energy *Nutrients in food *Energy Value of Food *A Balanced Diet	To understand that food is a source of energy for living things and it also stimulates growth and maintains life.  To investigate nutrients in food  To identify sources from which people from various societies obtain nutrients	Laboratory exercise to determine the nutrients present in different food samples	Test  Graded lab report  Project Prepare and present meals based on an individual's need
5 - 6	Food- To Make or To Break	To describe the process by which green plants make their food.	Laboratory exercise. Test green leaf for starch	
7	Life processes; Respiration and	To understand the importance of respiration in living organisms		

8 - 9	Digestion  The Human digestive system	To understand why food must be digested  To relate the structure and function of the digestive system	Label a blank diagram of the human digestive system	Test
	Transport Systems	To understand why multicellular organisms need a transport system  To distinguish between the transport system in plants and animals	To observe the movement of water up a stem	
10	Excretion	To define and explain the importance of Excretion  To distinguish between Excretion and Egestion		Test
11-13	Reproduction *Sexual Reproduction and Puberty	To understand that the human body has the potential to replicate itself	Group presentations on each person experiences during puberty	In-Class presentation

	<p>* The human Reproductive System</p> <p>*Heredity</p> <p>*Birth Control</p> <p>* Pre-Marital sex and Abortion</p> <p>*STDs</p>	<p>To describe the physical changes that occur during puberty</p> <p>To understand the process of heredity</p> <p>To discuss the temporary and permanent methods of birth Control</p> <p>To discuss the consequences and issues relating to abortion and Pre-marital sex</p> <p>To Outline the harmful consequences of sexually Transmitted Diseases</p>		<p>Test</p>
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