

AL AMIN JUNIORS SCHOOL INDIAN SYSTEM														
NAME OF THE DEPARTMENT - SCIENCE SYLLABUS BREAK UP 2021-22 -AJI														
Name of the Subject Teacher:- ANNIE SURESH														
Grade-9														
MONTH	WEEK	Unit/Section	No of Periods	Topic Break Down / for Periods/Learning objectives / progression	Learning Outcomes/ Skills acquired	Activities (Formative assessment tasks, projects, Visits) INCLUDING VIRTUAL LEARNING	Teaching Aids / Reference/ Resources	Competencies and Values	MY IDENTITY	Cross curricular link	Art Integration	Artificial Intelligence	Critical Thinking Questions- Descriptive	Critical Thinking Questions- Objective (ASSET BASED)
April	5	FUNDAMENTAL UNIT OF LIFE	2	Cell - Basic Unit of life: Cell as a basic unit of life: prokaryotic and eukaryotic cells, multicellular organisms	Compare prokaryotes and eukaryotes. Assess the parts of prokaryotic cell. Identify the structure of animal cell	Draw and prepare a model on bacteria, plant and animal cell	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	Conducting a research work on Bacteria	Measurement of cells- MATHS Atoms and molecules that form cells- CHEMISTRY	Model of bacteria	The data can also be used to build a biologically accurate model of an idealized cell	cook, you generally add salt into the vegetables. After adding salt, vegetables release water. Why? 2.How will absence of any one of the cell organelle affect the cell's working? 3Why does the skin of your finger shrink when you wash clothes for a long time?	(a) The concentration of water molecules in the cell is higher than the concentration of water molecules in surrounding medium (b) The concentration of water molecules in surrounding medium is higher than water molecules concentration in the cell (c) The concentration of water molecules is same
		FUNDAMENTAL UNIT OF LIFE	2	cell membrane and cell wall, cell organelles: chloroplast	• Analyze the different cell organelles Evaluate the characters of mitochondria Describe the function of cell membrane, cell wall Compare the difference of plant vacuoles	• Prepare the different names of museum ,botanical gardens ,parks , sanctuaries. Etc. Plant and animal kingdom Collect a list of types of different	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	Assigning a project to find the difference between plant and animal cell	Measurement of cells- MATHS Atoms and molecules that form cells- CHEMISTRY	Paper craft of plant and animal cell	Membrane-bound organelles, like the nucleus and mitochondria, are very easy to predict by fluorescent analysis	4.In brief state what happens when: (a) dry apricots are left for sometime in pure water and later transferred to sugar solution? (b) a red blood cell is kept in concentrated saline solution? (c) the plasma membrane of a cell breaks down? (d) rhen leaves are boiled in water first and then a drop of sugar syrup is put on it?	4.Select the odd one out (a) The movement of water across a semi permeable membrane is affected by the amount of substances dissolved in it. (b) Membranes are made of organic molecules like proteins and lipids (c) Molecules soluble in organic solvents can easily pass through the membrane.
APRIL	5	FUNDAMENTAL UNIT OF LIFE	2	mitochondria, vacuoles, endoplasmic reticulum, Golgi apparatus	• Determine the parts of endoplasmic reticulum	• Prepare a chart for Mitochondria, chloroplast	Smart board internet facility Text book Research on google	Competencies Collaboration, Critical thinking and creativity. Values	Mitochondria -respiration	Measurement of cells- MATHS Atoms and molecules that form cells- CHEMISTRY	Painting of endoplasmic reticulum	The software is predicting a localization pattern of a thing inside the cell — for example, mitochondria. When we observe mitochondria in our	water get reduced? f a potted plant is covered with a glass jar, water vapour appears on the wall of the glass jar.	
				UNIT TEST - 1 From 18th May (Tuesday) to 27th May (Thursday), 2021		PERIODIC ASSESSMENT - 1 From 15th June (Tuesday) to 24th June (Thursday), 2021								
MAY AND JUNE	10	PLANT TISSUES, ANIMAL TISSUES	2	the different types of simple and complex tissues	Discuss the different tissues in plants. Different types of simple ,complex tissues t	Prepare the chart work of plant ,tissues	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	Detail explanation	Measurement of cells- MATHS Atoms and molecules that form cells- CHEMISTRY	Diagram as painting in cloth, Clay model of nerves, Beads decoration of meristematic tissues	The software is predicting a localization pattern of a thing inside the cell — for example, mitochondria. When we observe mitochondria in our label-free model, what we're showing is the expected outcome of mitochondrial localization	Give reasons: (a) Meristematic cells have a prominent nucleus and dense cytoplasm but they lack vacuole. (b) Intercellular spaces are absent in sclerenchymatous tissues. (c) We get a crunchy and granular feeling when	intestine absorb the digested food materials. What type of epithelial cells are responsible for that? (a) Stratified squamous epithelium (b) Columnar epithelium (c) Spindle fibres (d) Cuboidal epithelium
SUMMER VACATION														
July														
August														
September		UNIT-7-DIVERSITY OF LIVING ORGANISMS	2	Basis of classification, Classification and evolution, Hierarchy of classification	Correlate the different classifications, Express the importance of Evolution, Inspect the hierarchy of classification	Prepare a chart of Hierarchy of classification, Charles Darwin Life History	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	potentially empowering for the students, helping to develop their skills as learners, and will also give the research a more precise focus by involving with students.	Geography-Flora and fauna	Waste paper to make animals	Identify different plant species	Give the appropriate term for each of the following: (a) Complex sugar that makes the fungal cell wall. (b) Plants which bear naked seeds. (c) Blue-green algae.	1 In desert plants, rate of water loss gets reduced due to the presence of (a) cuticle (b) stomata (c) lignin (d) suberin
				SEPT-14TH TO 23RD- HALF YEARLY EXAM										
		UNIT-7-DIVERSITY OF LIVING ORGANISMS	5	Thallophyta, Bryophyta, Pteridophytes, Angiosperms, Gymnosperms, Porifera, Coelenterata, Platyhelminthes, Nematodes, Pisces, Chordate characters, amphibians, mammals, aves, reptiles	Compare the features of reptiles and aves, Generalize the characters of mammals, Instruct the characters of pisces and fundamental characters of chordates	Prepare a model of chordate characters	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	Discussion board for research ideas	Geography-Flora and fauna	Foam board decoration of fundamental characters	Identify different plant species	You are given Leech, Nereis, Scolopendra, Prawn and Scorpion; and all have segmented body organisation. Will you classify them in one group? If no, give the important characters based on which you will separate these organisms into different groups. 2. Which of the following is not a criterion for	Associate the following features with groups in which they first appeared. ... (a) Vascular tissues (b) Notochord (c) Seeds inside fruits
OCTOBER	4	WHY DO WE FALL ILL?	2	Health and its failures, Personal and community issues, Distinction between Healthy and disease free	Analyze the significance of health, Assess the different environment and issues that matter health, State any two conditions essential for being health.	Prepare a list of diseases that's common in Al Ain	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	Health survey in UAE	Health survey-Graphic representation in Economics, Maths	Image data to detect bacterial ,viral ,fungal infection	1. "On exposure with an infectious microbe does not necessarily mean developing noticeable disease". Do you agree? Explain with reason. If yes, how severe infections occur in our body? 2. Becoming exposed to or infected with an infectious microbe (does not necessarily mean	1.If you live in an overcrowded and poorly ventilated house, it is possible that you may suffer from which of the following diseases (a) Cancer (b) AIDS (c) Air borne diseases	
				UNIT TEST - 2 From 31st October (Sunday) to 9th November (Tuesday), 2021 PRE BBOARD EXAMINATION-1 From 5th December (Sunday) to 14th										
NOVEMBER		WHY DO WE FALL ILL	2	Organ specific and tissue manifestations, Principles of treatment and prevention	Examine the organ specific diseases, Describe the treatment and prevention	Prepare a list of diseases	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	Health survey in UAE	Health survey-Graphic representation in Economics, Maths	Model of nature		3. You have suffered from chickenpox, when you were in class three. Why will you not suffer from it again? 4. Penicillin is not effective against common cold. Why 5. Common cold spreads faster and is difficult to control. Give reason	Under which of the following conditions is a person most likely to fall sick? (a) When she is recovering from malaria. (b) When she has recovered from malaria and is taking care of someone suffering from chickenpox.
		THE NATURAL RESOURCE	4	Resources on earth- AIR, Role of atmosphere in climate control, water cycles, pollution	Discriminate the resources on earth, Estimate the wind formation and the land breeze and sea breeze.	Paintings of cycle, Model of polluted and unpolluted city	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty		CHEMISTRY , GEOGRAPHY- POLLUTION	Data mining technology for identifying p	1. "A change in temperature in the water body affects aquatic organisms". Explain in brief. 2. Why does the percentage of gases like oxygen, nitrogen and carbon dioxide remain almost the same in the atmosphere? 3. Why does Mathura refinery pose problems to the Taj Mahal? 4. There is low rainfall in a village throughout the year, what measures will you suggest to the farmers for better cropping? 2. What would happen if poultry birds are larger in size and have no summer adaptation capacity? In order to get small-sized poultry birds having summer	1. Among the given options, which one is not correct for the use of large amount of fertilisers and pesticides? (a) They are eco-friendly (b) They turn the fields barren after some time (c) They adversely affect the useful component	
	4	IMPROVEMENT OF FOOD RESOURCES	6	crop variety improvement , production management, nutrient management, manure Determine the different cropping patterns, poultry food, different cattles reared	Analyze the protection management, Assess the different diseases and variety improvement.	List of poultry farms in UAE, Al Ain dairy form	Smart board internet facility Text book Research on google.	Competencies Collaboration, Critical thinking and creativity. Values Respect, integrity and honesty	List of poultry farms in UAE, Al Ain dairy form	Geography-Flora and fauna	Model of Dairy farm, aquarium	analyze three-dimensional shapes of the branches and leaves of a plant. The study may help scientists better quantify how plants respond to climate change, genetic mutations or other factors	1. (a) Using the symbols given below make a diagrammatic representation of intercropping, Crop A – 0, Crop B-A. (b) Give two examples of crops selected for intercropping. 2. Ravi started poultry farming and brought few	
WINTER VACATION														
January		REVISION		PERIODIC ASSESSMENT - 2 From 16th January (Sunday) to 25th January (Tuesday), 2022										
		REVISION												
		REVISION												

