

Month	Periods	Core Standard	Strand	Topic	Content	Skills	Activities	Assessments
AUGUST	8	LS1.8A	Life Science	INTRODUCTIO N	<p>STAY HEALTHY Nat Science 2A (pp.6-7)</p> <p>*What is BMI? *What are the ways to stay healthy? *What is the difference between mass and weight? *What is a food pyramid?</p>	<p>*Measuring mass and height and able to apply it real life. *Analyzing the weight (overweight/underweight/normal) *Ability to compare and analyze their weights *Analyzing the relationship of Physical activity and Body Mass Index to the Risk of Hypertension *How to interpret a BMI graph?</p>	<p>*Getting each individual's BMI or Body Mass Index *Use the BMI Calculator (http://nhlbisupport.com/bmi/bmi-m.htm) *Prepare a Healthy Heart Activities (www.nourishinteractive.com) *Drawing a line graph showing their mass and weight. *Videos related to the subject. *Class Survey about safety precautions. *Create a personal food pyramid.</p> <p>➤ Hands on activity 1: Getting the BMI</p>	<p>*Quizzes *Homework: -Create the chart about Each Individual's Body Mass Index -Make a list of Natural Ways to Stay Healthy. -Prepare a poster about the result of the safety precautions. *Create a personal exercise pyramid. *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of</p>

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								each Unit/Chapter) *Experiments (Pre- /Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
		LS2.8A	Life Science	BASIS OF LIFE	*What are the vital functions? *What are biomolecules? *What are cells? *What is cellular nutrition? *How many types of Nutrition are there? *What is cellular respiration? *What is cellular division?	*Ability to identify and describe the vital functions. *Knowledge about the cells and their components. *Ability to compare and contrast animal and plants cells. *Ability to analyze information regarding cellular nutrition, respiration. *Discovering how cellular division occurs. *Studying the effect of temperature on yeast cell division. *Indicate some substances into organic and inorganic biomolecules.	*Lecture/Discussion/Over head Presentation *Small-group work/Cooperative Learning *Videos related to the subject. What are the vital functions? *Classification of the various vital functions and the actions needed for completion. Provide information in a tabular format to increase efficiency. What are biomolecules? Class Discussion Questions: *What are the two most important functions of the carbohydrates? Give an example of a carbohydrate for each.	*Quizzes *Class Test *Homework: Experimentation – Put moist bread in a plastic box. Observe the changes after a few days. Record your findings and provide reasons for this change. *Research Assignment -Catabolism and Anabolism *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video,

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					<p>*Elaborate some functions of organelles.</p> <p>*Explain the processes in which cell obtain matter and energy to perform vital functions.</p> <p>*Correlate Mitochondria as the powerhouse of the cell.</p>		<p>*Would you expect the following foods to contain carbohydrates or lipids:</p> <ul style="list-style-type: none"> → Sugar → Banana → Rice → Honey → Pasta → Apple → Olive oil → Milk <p>*Write the meaning of monosaccharide, protein, and nucleic acid.</p> <p>*What function do proteins carry out?</p> <p>*What are nucleic acids and where do you find them in living things?</p> <p><u>What are cells?</u></p> <p>*What two differences are there between animal and plant cells?</p> <p>*Diagrammatically represent these structural differences.</p> <p><u>What is cellular nutrition?</u></p> <p>*Where do cells of living beings obtain nutrients?</p> <p>*Diagrammatically differentiate between</p>	<p>etc...)</p> <p>*Collaborative Discussions</p> <p>*Case-Analysis/Problem Solving</p> <p>*Graphic Organizers</p> <p>*Pop-Quizzes</p> <p>*Research Paper</p> <p>*Question-Answering (check the last page of each Unit/Chapter)</p> <p>*Experiments (Pre-/Post-discussions)</p> <p>*Creative extension project</p> <p>*Pre-/Post-Test</p> <p>*Mid-/Final Term Exams</p>

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							<p>catabolism and anabolism.</p> <p><u>How many types of Nutrition are there?</u> *What type of nutrition takes place in human cells? In a spinach leaf? Diagrammatically represent the heterotrophic and autotrophic nutrition process.</p> <p><u>What is cellular respiration and cellular division?</u> *Is cellular respiration a catabolic or an anabolic reaction? Choose one of the types of unicellular cell division. Draw process and describe it *What is the main result of cellular division in unicellular organisms? How does it differ from cellular division in pluricellular organism?</p> <p>*Creating a Flow Chart showing the basic respiration equation. *Make a drawing of cellular respiration in a</p>	

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							cell mitochondrion. ➤ Experiment 1: Yeast Cell Division at Different Temperature	
	8	LS1.8A	Life Science	INTERACTION AND COORDINATION	*What is interaction? *How do receptors work? *How does coordination work in animals? *How does coordination work in animal and plants? *What is tropism? *What are nastic movements?	*Ability to distinguish between the nervous and endocrine systems. *Analyzing the processes involved in the nervous system in different animals. *Identifying motor responses and endocrine responses in animals *Describing geotropism in plants.	<u>How do receptors work?</u> *Which of the five senses of a mammal provides more information about the environment? Draw a chart with the five sense organs and the stimuli they detect and how they work. <u>How does coordination work in animals?</u> Look at the photo of the gazelle. Why is it running? Does the gazelle react quickly or slowly? Which coordination system functions in the gazelle when it runs away from the predators <u>How does coordination work in plants?</u> Discuss the role of hormone as chemical messenger	*Quizzes *Class Test *Homework; Complete the charts made in class and also include a diagram of the examples mentioned. This will be used to assist the student for various pop quizzes. *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving

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							<p><u>What is tropism?</u> Give an example of a movement provoked by hydrotropism. *Is the phototropism of stems positive or negative? Is the geotropism of a root positive or negative? Give reasons for your answers.</p> <p><u>What are nastic movements?</u> *Correlate nastic movements to temporary response.</p> <p>*What is the main difference between tropism and nastic movement?</p> <p>➤ Experiment 2: Geo tropism Plant</p> <p>➤ Hands on: Getting Heart rate</p>	*Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
OCTOBER	8	LS.1.8A LS.1.8C	Life Science	Nervous System	*How does the nervous system work? *Structure and function of	*Analyzing the organization of nervous system in different animal. *Ability to distinguish	*Make a concept map about the components and functions of the nervous system. *Video: Structure of the	*Quiz *Class Test *Homework: Create a poster about the nervous system.

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					nervous system. *Structure and function of Eyes (http://www.bbc.co.uk/schools/gcsebitesize/science/ocr_gateway_pire_2011/ourselves/3_keeping_in_touch2.shtml) Brain.(https://www.youtube.com/watch?v=sjyI4CmBOA0)	between myopia and hypermetropia. *Identifying the parts of the eyes.	Eye and Brain. *Illustrate myopia and hypermetropia. ➤ Hands on activity: HOW TO MAKE BRAIN MODEL	*3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
					*How do the responsive organs work? *Structure and	*Identifying motor responses and endocrine responses in animals.	<u>How do responsive organ work?</u> Discuss about the two types of responses to	Quiz *Class Test *Homework: Research assignments

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					function of the Ears(https://study.com/academy/lesson/the-parts-of-the-ears.html)	<ul style="list-style-type: none"> *Examining and analyzing the knee-jerk reflex action. *Discussing about the average frequency range of human hearing. 	<p>stimuli.</p> <p>The motor system in vertebrates consists of two other systems. What are they called?</p> <p>In vertebrate which functions are regulated by the nervous system And which one by endocrine system?</p> <ul style="list-style-type: none"> *Information card activity for receptors and stimuli. <p>Knee-Jerk Reflex action Super Science Book, p. / Reference book from library/ 500SAN)</p> <ul style="list-style-type: none"> *Hearing Test (online). <p>➤ Experiment 3: Nervous system</p>	<ul style="list-style-type: none"> *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
NOVEMB	8	LS.1.8A LS.1.8C	Life Science	NUTRITION Circulatory System	*What is a circulatory system?	*Analyzing the blood type chart.(https://www.y	<u>What is a circulatory system?</u> <ul style="list-style-type: none"> • Compare open 	<ul style="list-style-type: none"> *Quizzes *Class Test *Homework:

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					<p>*Structure and function of circulatory system(https://study.com/academy/lesson/the-function-of-the-circulatory-system-lesson-for-kids.html)</p> <p>*WBC/RBC(https://www.youtube.com/watch?v=aFFLKIk1x04)</p>	<p>outube.com/watch?v=L06TJTMVkB0)</p> <p>*Comparison of RBC and WBC</p> <p>*Description of Circulatory System in Animals</p> <p>*Analyzing and interpreting how hard our heart really works does.</p>	<p>and close circulatory systems using a venn diagram.</p> <ul style="list-style-type: none"> • Draw the open circulatory system of the grasshopper label the parts. • Blood Type Chart • RBC VS WBC <p>➤ Experiment 4A: Blood Typing</p> <p>➤ Experiment 4B: How Hard is your Heart working</p> <p>➤ Hands on activity: observing pulse</p>	<p>Create a chart clearly showing the parts of the circulatory system.</p> <p>*3-2-1 count down</p> <p>*Strategic questioning</p> <p>*Think Pair share</p> <p>*Round Robin charts</p> <p>* Modified Worksheets</p> <p>*Video Analysis</p> <p>*Group Presentations (Posters, PPT, Video, etc...)</p> <p>*Collaborative Discussions</p> <p>*Case-Analysis/Problem Solving</p> <p>*Graphic Organizers</p> <p>*Pop-Quizzes</p> <p>*Research Paper</p> <p>*Question-Answering (check the last page of each Unit/Chapter)</p> <p>*Experiments (Pre-/Post-discussions)</p> <p>*Creative extension project</p> <p>*Pre-/Post-Test</p> <p>*Mid-/Final Term Exams</p>

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		<p>LS.1.8A LS.1.8C</p>	Life Science	NUTRITION Respiratory System	<p>Respiratory System</p> <ul style="list-style-type: none"> *How do animals breathe? *Structure and function of the respiratory system. *Gas exchange 	<ul style="list-style-type: none"> *Describing the respiration in animals. *Examination of the process of gas exchange. *Analyzing and interpreting Balloon exercise. *Examining and Measuring the Air Capacity of lungs. 	<p>How do animals breath?</p> <ul style="list-style-type: none"> *Amphibians have very moist skin. They carry out two types of respiration. Which types are they? Classify these animals by type of respiration: sardine, dog, pigeon, spider, frog, whale, earthworm and grasshopper. *Mention how classifying these animals help understand them better. <p>➤ Experiment 4C: Lung Volume Capacity</p>	<ul style="list-style-type: none"> *Quiz *Class *Homework: Create a poster of different types of respiration and respiratory organs and Explain the system. *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project

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								*Pre-/Post-Test *Mid-/Final Term Exams
	4	LS.1.8A LS.1.8C	Life Science	NUTRITION Digestive System	*What is nutrition? *What is the digestive process? *What digestive systems are there? *What is cellular nutrition?	*Comparison of the digestive system in animals. *Investigation of nutrient transport in plants. *Examining the taste buds.	<u>What is nutrition?</u> *Distinguish between autotrophs and heterotrophs and give examples of each. *Why is nutrition necessary for living things? *Match each type of energy with a living thing: chemical energy, solar energy <u>What is the digestive process?</u> *With the help of a diagram, describe how you digest a banana. Use the stages ingestion, digestion, absorption and egestion. <u>What digestive systems are there?</u> *Why do animals need to digest their food? What do they obtain during the digestive process? Name and describe the different	*Quiz *Class Test *Homework: Illustrate the different organs in the digestive system. *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-

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							types of digestive systems. How do plants carry out nutrition? *Illustrate the processes of plant nutrition and label your drawings. *Discuss: Can photosynthesis take place if a leaf surface is covered in wax? .Experiment 5: Fool Your Tongue	/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
JANUARY	8	LS.1.8A LS.1.8C	Life Science	Excretory System	*What is excretion? *Structure and function of the excretory system.	*Describing excretion in plants and animals. *Analyzing the model of the excretory system. *Describing the function of kidney.	*Look at the diagram of the vertebrate excretory system. Describe how urine flows through the excretory organs and is expelled by the body. *Make a list of the words on this topic that indicates direction. ➤ Experiment 6: Dissection of Kidney related to their function. ➤ Hands on activity: Investigate your kidney.	*Quiz *Class Test *Homework: Illustrate the different organs in the excretory system. *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative

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								Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
FEBRUARY	4	LS.4.8A	Life Science	REPRODUCTIO N	*What is reproduction? *What is asexual reproduction in animals? *How does sexual reproduction occur?	*Ability to distinguish between asexual from sexual reproduction. *Identification of asexual reproduction. *Understanding sexual reproduction in plants *Identification of asexual reproduction in plants. *Understanding sexual reproduction in plants.	<p><u>What is reproduction?</u> <u>What is asexual reproduction in animals?</u> *What is the main difference between sexual and asexual reproduction. Describe these processes.</p> <p><u>How does sexual reproduction occur?</u> *Distinguish between male and female characteristics. Provide this information in a</p>	<ul style="list-style-type: none"> • • Quizzes • Group Discussions • Research assignments *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video,

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MARCH	8	LS.4.8A						
					<p>*What is fertilization? *What is embryonic development? *Does asexual reproduction occur in plants?</p>	<p>*Making a detailed drawing of a flower.</p>	<p>tabular form.</p> <p><u>What is fertilization?</u></p> <ul style="list-style-type: none"> Is external fertilization more advantageous than internal? Discuss <p><u>What is embryonic development?</u></p> <ul style="list-style-type: none"> Discuss the advantages and disadvantages of the three types of embryonic development. <p><u>Sexual and Asexual Reproduction in Plants</u></p> <ul style="list-style-type: none"> Describe fertilization and the formation of seeds. Describe the two reproduction processes and their differences. <p>➤ Experiment 7: Plant Reproduction</p> <p>➤ <u>Hands on activity: reproductive parts of the flower</u></p>	<p>etc...)</p> <p>*Collaborative Discussions</p> <p>*Case-Analysis/Problem Solving</p> <p>*Graphic Organizers</p> <p>*Pop-Quizzes</p> <p>*Research Paper</p> <p>*Question-Answering (check the last page of each Unit/Chapter)</p> <p>*Experiments (Pre-/Post-discussions)</p> <p>*Creative extension project</p> <p>*Pre-/Post-Test</p> <p>*Mid-/Final Term Exams</p>

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							➤ Hands on activity: <u>sperm and egg</u>	
		LS.2.8B		STRUCTURE OF ECOSYSTEMS	*What are the biosphere and ecosphere? *How do living things obtain food? *What are a habitat and an ecological niche? *What is trophic dynamics?	*Analysis of the ecosystem: Biocenosis and biotope *Ability to represent and model food chains. *Understanding and discovering how living beings depends on other living beings for their survival.	: <u>What are the biosphere and ecosphere?</u> <ul style="list-style-type: none"> Discuss the differences between biotic and abiotic factors <u>How do living things obtain food?</u> <ul style="list-style-type: none"> What are the trophic levels? Describe the animals present in each of them. <u>What are a habitat and an ecological niche?</u> <ul style="list-style-type: none"> Describe the difference between a habitat and ecological niche. Why don't two species usually share the same ecological niche? <u>What are trophic pyramids?</u>	*Quizzes *Group Discussions *Research Assignments *3-2-1 count down *Strategic questioning *Think Pair share *Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project *Pre-/Post-Test
APRIL	4	LS.2.8B			*What are trophic pyramids? *How are matter and energy transmitted? *What are biotic relations?			

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							<ul style="list-style-type: none"> How are carnivores that are secondary consumers different from carnivores that are tertiary consumer? <p>What are biotic relations?</p> <ul style="list-style-type: none"> Describe all interspecific and intraspecific relations between living things. <ul style="list-style-type: none"> ➤ Experiment 8: Balance Nature Experiment ➤ Experiment 9: Energy dilution Laboratory ➤ Hands on activity: Food Web 	*Mid-/Final Term Exams
MAY	8	LS.2.8B LS.3.8A		ECOSYSTEM	*What are terrestrial ecosystems? *What are aquatic ecosystems?	*Recognizing the main factors that influence terrestrial and aquatic ecosystems. *Analysis of some terrestrial and	<p>Class Discussion Questions -</p> <ul style="list-style-type: none"> What are terrestrial ecosystems? Why is light necessary in 	*Quizzes *Group Discussions *Research Assignments *3-2-1 count down *Strategic questioning *Think Pair share

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					aquatic ecosystems and identify the beings in these places *Analyzing soil samples and collect data.		terrestrial ecosystems? And humidity? • Which of the ecosystems (Tundra, Taiga, Deciduous forest, Mediterranean forest, Grassland, Desert, Rainforest) has the highest density of living and the lowest ➤ Experiment 10: Soil Analysis ➤ Hands on activity: the Rain Cycle in the forest	*Round Robin charts * Modified Worksheets *Video Analysis *Group Presentations (Posters, PPT, Video, etc...) *Collaborative Discussions *Case-Analysis/Problem Solving *Graphic Organizers *Pop-Quizzes *Research Paper *Question-Answering (check the last page of each Unit/Chapter) *Experiments (Pre-/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams