

Month	Periods	Core Standard	Strand	Topic	Content	Skills	Activities	Assessments
AUG.	8	L.S.1.4A L.S.1.8A L.S.1.4C.	Life Science	LIVING THINGS	<ul style="list-style-type: none"> * General characteristics of plants *Variety of Plants *How do living things differ? *What are the five kingdoms? *How are living things classified? *What is a species? *What do all living things have in common? *What are living things made up of? *What are cells? *Structures of plant cells *How do animal and plant cells differ? *What is cell division? *What is the basic difference between meiosis and mitosis? *How cell division relates to the growth of the 	<ul style="list-style-type: none"> *Ability to define the characteristics of living things. *Ability to classify unicellular and multicellular living things. *Classification of living things into five kingdoms. *Recognize and describe the characteristics of living organisms. *Make slides to study various cells. *Ability to explain the basic of cell division. *Compare and contrast the two basic types of cell division with the help of a diagram. *Ability to distinguish between heterotrophic and autotrophic nutrition. *Distinguish 	<p>How do living things differ?</p> <p>*Review with students the six easily observable characteristics of living things. (www.exploratorium.edu/imaging_station/students/Characteristics_Students.doc)</p> <p>*Describe one of the specialized cells and your partner has to identify it. Ex: *It has no nucleus. Answer – Red Blood Cells.</p> <p>*Discuss the difference between tissues, organs and systems.</p> <p>What are living things made up of?</p> <p>*Discuss the main differences between Inorganic and organic substances and create a chart within one minute with these differences and compare with your partner.</p> <p>What are cells?</p> <p>*Compare and contrast</p>	<ul style="list-style-type: none"> *Quizzes *Class Test *Research assignments regarding top interesting facts cellular evolution from single cell organisms to multicellular organisms. *Homework: <ul style="list-style-type: none"> -Draw a diagram of a plant and animal cells highlighting the similarities and differences between these and the reason for these differences. -Introduce the activity to the entire class, then have students view the web pages, play the videos, and complete the student pages independently. <p style="text-align: right;">(www.exploratorium.edu/imaging_station/students/Characteristics_Students.doc)</p>

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					cell?	<p>between sexual and asexual reproduction. *Discuss about interaction of living things with environment.</p> <p>*Discuss about the introduction of biodiversity. *Analyze why rain forest have the greatest biodiversity? *illustrate the factors that can reduce biodiversity. correlate biodiversity and evolution</p>	<p>the two basic types of cells with the help of a diagram. Compare your work with your partner. Species *Make a list of animals that show sexual dimorphism</p> <p>How do animal and plant cell differ? *Make a Venn diagram :show the similarities and difference between plant and animal cell</p> <p>How are living things classified *Prepare a Round Robin chart. *Videos on Science Experiments – Fruits and Seeds Dispersal *Project: Helicopter-Seed Dispersal By Building your own helicopter seed.</p> <p>➤ Experiment 1: onion cell ➤ Activity 1 : cell Foldable</p>	<p>*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)</p> <p>*Experiments (Pre-/Post-discussions)</p> <p>*Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams</p>

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		L.S.1.8A L.S.1.4C	Life Science	BIODIVERSITY	*What is Biodiversity? *What factors can reduce biodiversity? Why does biodiversity vary throughout the world? Define evolution.		What is Biodiversity? *Divide the class into four groups. Each group will pick a topic and prepare a short presentation on how these factors reduce biodiversity – <i>a. Pollution</i> <i>b. Destruction of habitats</i> <i>c. Uncontrolled hunting</i> <i>d. Introduction of exotic species</i> *Research about the link or relationship about genetic, habitat and species diversity. *Provide examples of each type of biodiversity. *Video Activity ➤ Activity : Nature Vs. Human activity	
SEPT.	8	L.S.1.4.A L.S.1.8.B	Life Science	THE PLANT AND FUNGI KINGDOM	*What living things make up the plant kingdom? *What are flowering and	*Identification of the main characteristics of the plant and fungi kingdoms. *Recognition of plant and fungi organs, shape and	Flowering and nonflowering plants *Create a chart with your partner to distinguish between the main characteristics of flowering and non	*Quizzes *Class Test *Homework: Research the plants where you live. Classify them into the four main groups in a

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					non flowering plants? *Examples of Flowering and Non-Flowering Plants *Function of ROOTS, STEMS AND LEAVES *How do plants reproduce? *What is plant nutrition? *Can plants react? *What are fungi like?	functions. *Discovery of how plants and fungi reproduce. *Identify the variety of root, stem and leaf *Modifications and explain the adaptive significance of each. *Discuss about the of life cycle of moss. *Compare the characteristic of mosses and ferns. *Discuss about permanent and temporary reactions. *Describe the reproductive stages of plants. *Illustrate life cycle of plants. *Describe the phases of nutrition. *Examine do plants	flowering plants. Further distinguish the differences in Mosses and ferns AND Gymnosperms and Angiosperms. *Studying Germination of seeds by suing bean seeds, cotton wool, beaker or plastic cup. Roots, Stems and Leaves *Draw the complete diagrams of the three parts of a plant. Label and mention the function of each part. *Where do vegetables come from? Make a poster showing the vegetables you eat. Classify them as leaf, stem, root, rhizome etc. Reproduction *Discuss the differences between sexual and asexual reproduction. *Clearly draw and label the various reproductive	chart. Discuss their reproduction and identify stem as vascular or non-vascular, with cones or with fruits. *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

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						breathe and carry out photosynthesis all day. *Identify the different groups of fungi. *Analyze the characteristic of fungi.	stages. Remember to show the various parts of a flower and mention the functions of each. *Detail Study of the parts of the flower by dissecting the flower using fresh China rose, dissecting needles, forceps and blade. Types of reaction *Make a poster showing permanent and temporary reactions. Nutrition *Discuss and draw a diagram of a plant indicating the phases of nutrition for each part of the plant. *Activity Sheet (web.01.cabeard.k12.in.us) Fungi *Compare fungi and plants. Discuss as a class the various differences between the two. *Make a poster of	*Mid-/Final Term Exams

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							<p>mushroom and toadstools.</p> <p>* Project Bud bust: Root Round Up (students make observations of roots and learn about root functions/comparing fibrous and tap root systems)</p> <p>*Diagrammatical representation of the parts and its parts.</p> <p>*Observation and classification of leaves.http://studyjams.scholastic.com/studyjams/jams/science/plants/flowers.htm</p> <p>http://studyjams.scholastic.com/studyjams/jams/science/plants/plant-with-seeds.htm</p> <p>http://studyjams.scholastic.com/studyjams/jams/science/plants/mosses-and-ferns.htm</p> <p>➤ Experiment 2: Leaf chromatography</p>	

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							➤ Activity : What do plants needs?	
OCT.	8	L.S.1.4B	Life Science	IMPORTANCE OF PLANTS	<p>*What is a Seed and its parts? *How many types of fruits and seeds are there?</p> <p>*What is the mode of dispersal of seeds and fruits?</p> <p>*What are the conditions needed for the growth of seeds?</p> <p>*What are the benefits of plants? *What is soil and water conservation?</p> <p>*How can erosion be managed?</p>	<p>*Ability to visualize and diagrammatically interpret structure and function of seeds and fruits.</p> <p>*Recognize the benefits of plants.</p> <p>*Describe the mode of dispersal of seeds and fruits.</p> <p>*Understand the importance of soil conservation.</p>	<p>*Create a chart with your partner explaining methods of controlling soil and water erosion.</p> <p>*Draw and label the parts of the seeds. *Videos about water and soil conservation.</p> <p>*Discuss with a partner different modes of dispersal of seeds.</p> <p>http://studyjams.scholastic.com/studyjams/jams/science/plants/plant-with-seeds.htm http://studyjams.scholastic.com/studyjams/jams/science/plants/gymnosperms.htm http://studyjams.scholastic.com/studyjams/jams/science/plants/angiosperms.htm</p>	<p>*Quizzes *Class Test *Homework: Create a poster about the benefits of plant *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-</p>

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							<ul style="list-style-type: none"> ➤ Experiment 3: plant creating oxygen ➤ Activity : flowering plants life cycle 	/Post-discussions) *Creative extension project *Pre-/Post-Test *Mid-/Final Term Exams
NOV.	4	L.S.1.8B L.S.1.8C	Life Science	THE SIMPLEST LIVING THINGS	*What is the Monera Kingdom? *What is the Protoctist Kingdom? *What are viruses and infectious diseases? *How can we fight infectious diseases? *Are all microorganisms harmful?	*Identification of the main characteristics of microorganisms *Examine the structure and vital functions of bacteria. *Analyze the nutrition habit of bacteria Protozoa and algae. *Discuss the method of reproduction in bacteria *Examine different groups of bacteria, protozoa and algae. *Illustrate the life cycle of plasmodium *Discuss about zooplankton and	Monera Kingdom *Draw a bacteria cell and clearly label each part. *Compare the various types of bacteria using a chart – Parasites, Saprophytes, Symbionts. Protoctist Kingdom *In groups, compare protoctists and monera. *Describe how each group of protozoa move. *Compare algae and plants *Using a Venn diagram, compare protozoa and algae. Viruses *Discuss with your partner -Which vital	*Research Assignment: Investigation: Red Tide Beneficial Microorganisms in the food industry *Draw and label a virus. *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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						phytoplankton. *Analyze the structure of flu virus. *Illustrate virus infection process *Ability to visualize and diagrammatically interpret structure of viruses. *Examine how microorganisms enter body. *Identification of living things in the puddle water. *Discuss how does intestinal flora help human beings?	function do viruses share with other living things. Infectious diseases *Choose five infectious diseases and complete the table. Information should include – Illness, transmitted through and symptoms *Discuss the benefits and differences between vaccines and antibiotics. *Making Venn Diagram: Compare vaccines and antibiotics. ➤ Experiment 4A: Yogurt Bacteria ➤ Activity : 1986 flu	*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
DEC.	8	ESS1.8A ESS1.8D	Earth Science	THE UNIVERSE	*Getting Closer to the Stars *What is the Universe like? *How big is the Universe? *What makes up the Solar System? *What are the inner planets?	*Understand how a telescope works and its various parts. *Understand the characteristics of the Universe *Ability to calculate astronomical sizes and distances *Analysis of the	*Lecture/Discussion/Over head Presentation *Small-group work/Cooperative Learning *Videos related to the subject. *Explanation about revolution and rotation using globe, light source	*Quizzes *Test *Research assignments regarding top interesting facts about the solar system. *Homework: Creation of a poster including the planets and the

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					<p>*What are the outer Planets? *What are smaller solar system bodies?</p>	<p>components of the universe</p> <p>*Comparison of the sizes of the sun and the planets *Creation of a constellation poster</p> <p>*Description of bodies that orbit the sun, including irregular shaped bodies and rocky objects.</p>	<p>and a football.</p> <p><u>What is the Universe like?</u> *Word search *“Imagine an alien friend from another galaxy wants to write to you. Write your galactic address and share with your partner. “</p> <p><u>How Big is the universe?</u> *Expressing the distances between planets and from the respective planets to the sun in kilometers. *Researching the term light years and converting the aforementioned distances in terms of light years. What makes up the Solar System? *Discuss in groups - → Which planet takes the longest to orbit the sun? → Which planet is the fastest to orbit the sun? → Which planet</p>	<p>sun drawn to scale using the skills obtained through studying the calculation involving astronomical sizes and distances. *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)</p> <p>*Creative extension project *Pre-/Post-Test</p>

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							<ul style="list-style-type: none"> ➤ has the longest days? → Which planet has the shortest days? → Why is a “day” on Venus longer than its “year”? → What is an orbit? → What do you call the imaginary plane of the earth’s orbit? <p><u>Inner and Outer Planets</u></p> <ul style="list-style-type: none"> *Discuss in groups – Which planet ... *Has the most satellites? *Is the closest to the sun? *Supports life? *Is the largest in the Solar System *Spins on its axis in the opposite direction? *If you live on Venus, will the sun rise in the East and set in the West? *Compare the main characteristics of inner and outer planets. *Partner work – Describe any planet and the other partner will have to identify the name of the planet. 	*Mid-/Final Term Exams

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							<p><u>Constellations</u> *Look up the constellation for your sign of the zodiac. Find out when and where it is most clearly visible in the sky. In the northern hemisphere or in the southern hemisphere. *Designing and discussing various constellation posters. http://studyjams.scholastic.com/studyjams/jams/science/solar-system/universe.htm http://studyjams.scholastic.com/studyjams/jams/science/solar-system/solar-system-inner.htm</p> <ul style="list-style-type: none"> ➤ Experiment5 : build a solar viewer ➤ Activity: making solar system 	

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JAN.	4	ESS1.8A ESS1.8D	Earth Science	PLANET EARTH	<p>*What is Earth like? *How does the Earth move? *How does the Moon move? *How many “spheres” make up the Earth? *What is the surface of the Earth like? *What are the other three Earth “spheres”?</p>	<p>*Understand the Earth’s characteristics. *Identification of the lunar phases *Describing the Geosphere. *Learn about the Earth “spheres” *Reproduction of the conditions of solar and lunar eclipses.</p> <p><i>* Discuss about the characteristic that makes earth as unique planet.</i> <i>*Discuss about two factors that combine to cause seasons</i> <i>*Illustrate the phases of the moon</i></p> <p><i>*Discuss about main component, temperature and state of the geosphere.</i> <i>*Discuss about</i></p>	<p><u>What is Earth like?</u> *Draw a diagram of the Earth, as seen from space. Draw two people: one at the North Pole and the other at the South Pole. *Find out the mixture of gases and the average temperatures of Venus and Mars. Why do you think life is only possible on Earth?</p> <p><u>How does the Earth move?</u> *Discuss, in groups, the difference between rotation and revolution and it’s impact on Earth.</p> <p><u>How does the Moon move?</u> *Draw a diagram to show the different phases of the moon in the Northern and Southern Hemisphere. *Using a torch (sun), tennis ball (moon) and a football (earth)</p>	<p>*Quizzes *Class Test *Research assignments regarding top interesting facts about the planet Earth. *<u>Homework:</u> Prepare a diagrammatic representation of the layers of the geosphere. Label all the main components, temperature and state of each layer. *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</p>

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						<p><i>continental and ocean relief features</i> <i>*Illustrate the cross-section of the earth's surface</i> <i>*Describe the four sphere that make up the earth</i></p>	<p>reproduce the solar and lunar eclipse. Earth Systems *Discuss the features of the three systems of Earth and quiz your partners on the relief features of each.</p> <ul style="list-style-type: none"> ➤ Experiment 6: make craters with mini meteors ➤ Activity: phases of the moon 	<p>*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</p>
FEB. MAR.	12	PS.1.8D PS.1.8E	Physical Science	MATTER AND ITS PROPERTIES	<p>*What is matter? *What is length? *What is surface area? *What is volume? *What is mass? *What is density?</p>	<p>*Understand what matter is. *Learn how to measure the properties of matter. *create a graph to show the relationship between two variables. *Analyzing equivalences between volume and capacity.</p>	<p><u>What is matter?</u></p> <ul style="list-style-type: none"> • You can't see air. Explain why is it matter? • How long is this book? And how wide? Which unit of measurement would you use in the international System of Units? <p><u>What is volume?</u></p> <ul style="list-style-type: none"> • What is the capacity of a container with a volume of 3.4 	<p>*Quizzes *Class Test *Research assignments regarding top interesting facts about the composition of matters *<u>Homework:</u> Prepare a diagrammatic representation of classification of matter. *3-2-1 count down *Strategic questioning</p>

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					<p>*Measuring the volume of irregular solids and gas.</p> <p>*comparing multiples and submultiples of the units of measurement</p> <p>*analyzing the relationship between mass and volume.</p> <p><i>*Discuss about base and derived unit.</i></p> <p><i>*Measure the surface area of regular and irregular objects.</i></p>		<p>cubic centimeter?</p> <ul style="list-style-type: none"> How many 250 mL bottles do you need to fill a tank with a capacity of 10 L <p><u>What is mass?</u></p> <ul style="list-style-type: none"> A gold chain was weighed using the following weights: <ul style="list-style-type: none"> -one 100 g weight -two 1 g weights -one 500 mg weight Can you calculate the mass of the chain in grams and milligrams? A box of biscuits weighing 1 Kg costs 3 euros. A box weighing 250 g costs 1 euro. <p><u>What is density?</u></p> <ul style="list-style-type: none"> Which of the substances (water, oil, petrol, lead, iron, mercury) float on water? Why do the others sink? 	<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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							<ul style="list-style-type: none"> ➤ Experiment7: solubility ➤ Experiment 8: density ➤ Activity : the air catcher ➤ Activity : the floating egg 	
APR. MAY	12	PS.1.8.D PS.1.8.E	Physical Science	EVERYTHING IS MATTER	<p>*Which are the states of matter? *How can matter change its state?</p> <p>*What are mixtures? *What are pure substances? *What are physical and chemical changes?</p>	<p>*Differentiate changes of state of matter. *Recognize the conditions in which changes occur.</p> <p>*Differentiate pure substances and mixtures. *Describe how the particles move in solids, liquids and gases. *Discuss in group about the arrangement of atoms in solid ,liquid and gas</p>	<p><u>Which are the states of matter?</u></p> <ul style="list-style-type: none"> • In which of the states of matter are the particles closest together? Why is it very difficult to compress solids and liquids? • Describe how the particles move in solids and liquids? • Why do solids generally have a higher density than liquids, and liquids a higher density than gases? <p><u>How can matter change its state?</u></p> <ul style="list-style-type: none"> • Studying a diagram. Which arrows (red or 	<p>*Quizzes *Test</p> <ul style="list-style-type: none"> ➤ *Research assignments ➤ 3-2-1 count down ➤ Strategic questioning ➤ Think Pair share ➤ Round Robin chart Modified Worksheets ➤ 3-2-1 count down ➤ Strategic questioning ➤ Think Pair share ➤ Round Robin chart ➤ Video Analysis ➤ Group Presentations (Posters, PPT, Video, etc...) ➤ Collaborative Discussions

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							<p>blue) indicate changes of state produced by heating? Which arrows correspond to changes produced by cooling?</p> <ul style="list-style-type: none"> • 50 g of iron is melted. How much liquid iron is produced? Why is this? <p><u>What are mixtures?</u></p> <ul style="list-style-type: none"> • Look into your kitchen for mixtures and label them homogeneous or heterogeneous. <p><u>What are physical and chemical changes?</u></p> <ul style="list-style-type: none"> • Activity(Physical and chemical changes of some objects) <p>➤ Experiment 9 : Making solution</p> <p>➤ Experiment 10 : Separation of different sizes</p>	<ul style="list-style-type: none"> ➤ Case-Analysis/Problem Solving ➤ Graphic Organizers ➤ Pop-Quizzes ➤ Research Paper ➤ Question-Answering (check the last page of each Unit/Chapter) ➤ Experiments (Pre-/Post-discussions) ➤ Pre-/Post-Test ➤ Mid-/Final Term Exams <p>-Other methods for separating mixtures. Display the results in a poster. Use diagrams and explanations. *Homework; Find out about the fourth state of matter.</p>