



T	A	M	Unit/Chapter	Concepts/Sub topic	Learning Outcomes	Essential Questions
TERM 1	FORMATIVE ASSESSMENT 1	April	Force and Friction	<p>Idea of force What happens when we push or pull anything?</p> <p>How can we change the speed, direction of a moving object? How can we change the shape of an object?</p> <p>Friction – factors affecting friction, sliding and rolling friction, moving; advantages and disadvantages of friction for the movement of automobiles, airplanes and boats/ships; increasing and Decreasing friction</p>	<ul style="list-style-type: none"> Idea of force-push or pull; shape of objects by applying force; contact and non-contact forces. <ul style="list-style-type: none"> change in speed, direction of moving objects Observing and analyzing the relation between force and motion in a variety of daily-life situations. Demonstrating change in speed of a moving object, its direction of motion and shape by applying force. <p>Measuring the weight of an object, as a force pull) by the earth using a spring balance</p> <ol style="list-style-type: none"> Collection of data from the footwear shops to observe soles of shoes. Crossword puzzle Group discussion on advantages and disadvantages of friction. Individual activities on <ul style="list-style-type: none"> factors affecting friction sliding and rolling friction, moving; advantages and disadvantages of friction for the movement of automobiles, airplanes and boats/ships; 	<p>Compare and contrast different types of forces in nature Draw Draw</p> <p>Questions related to daily life situations.</p> <ul style="list-style-type: none"> Compare the characteristics of motion and types of forces Daily life questions related to topic Numericals <p>MCQ Solving more examples</p> <p>Compare rolling friction and sliding friction.</p> <p>Discuss the different methods to reduce friction</p>



SPLIT UP OF SYLLABUS (2017-18)

GRADE: VIII

Subject: SCIENCE

Teacher Name: ASHNA BABU

SYSTEM				
	Materials in daily life	<p>Types of materials Synthetic fibre Advantages and disadvantages of synthetic fibre</p> <p>Kinds of plastics characteristics of plastics Plastic and environment</p>	<p>increasing and reducing friction</p> <p>Students learn about synthetic materials, other synthetic materials</p> <p>Students learn about uses of plastics Relation of Plastics and Environment</p>	<p>Discussion on the excessive use of plastics and their harmful effects</p>
	Crop Production and Management	<p>Production of crops. -different methods of crop production. -usage of tools and implements.</p> <p>improvement of crops. -nitrogen cycle. -food from animals</p>	<p>The students learn about different types of crops . The students learn about different methods involved In crop production. The students learn about different tools and implements used in agriculture</p> <p>The students know the importance of hybridization and improvement in crop production. The students become aware of different foods obtained from animals and their nutritive value</p>	<p>Explain the modern methods in the field of animal husbandry Draw diagrams on charts of irrigation methods. Draw a nitrogen cycle on chart</p>



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May	Pressure	<p>Archemides principle</p> <p>Liquid Pressure and its characteristics</p> <p>Variation of liquid pressure with depth</p> <p>Atmospheric pressure- Its characteristic features.</p>	<p>Explain the principle by analyzing the relation with weight of a body.</p> <p>Experiments showing the different characteristics of liquid pressure.</p> <p>Construction of a U tube manometer and analyze its working.</p> <p>Comparison of Pressure among different objects in relation with their surface area Numerical for finding Pressure exerted by a given object. Define atmospheric pressure with its unit. Compare atmospheric pressure with altitude Construction of Manometer.</p>	<p>MCQ</p> <p>Real life examples.</p> <p>List the characteristics of liquid pressure.</p> <p>Real life questions related to pressure and its variation with change in area of an object.</p> <p>Explain the working of manometer with a diagram.</p>
	Metals and Non metals	<p>Physical and chemical properties of metals</p> <p>Chemical properties of metals and non metals</p>	<p>Students learn about Physical and chemical properties of metals through different chemical reactions.</p> <p>Lab Activities Reactivity Series Experiments in lab by the action of metals with acids, bases and carbonates Reaction with oxygen, Water, and Acids. Introduction to chemical equation and word equations for different reactions</p>	<p>. Compare the reactivity or metals and non metals Explain displacement reaction with an example</p> <p>Compare the chemical reactions of different metals and non metals with acids with equations.</p>

Recommended Books:

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	<p>The Micro organisms</p>	<p>Micro organisms and its classifications</p> <p>Food preservation. -food poisoning</p>	<p>The students acquire knowledge of micro organisms and diseases caused by them. Lab activity Observation of permanent slides of Amoeba, Paramecium, Spirogyra, Rhizopus in lab.</p> <p>The students learn importance of food preservation .The carelessness in food preservation leads to food poisoning Draw different microbes on A4 size paper. Make a chart of microbes with their diseases</p>	<p>Compare the diseases caused by different micro organisms with examples</p> <p>Explain the different methods of food preservation</p>
	<p>Sound</p>	<p>Various types of sound; sources of sound; vibration as a cause of sound; frequency; medium for propagation of sound; idea of noise as unpleasant and unwanted sound and need to minimize noise</p>	<ul style="list-style-type: none">• . Various types of sound;• sources of sound;• vibration as a cause of sound;• frequency; medium for propagation of sound; <p>idea of noise as unpleasant and unwanted sound and need to minimize noise. Group discussion on Sound Pollution SONAR and its importance Ear as an organ to detect sound-Characteristics</p>	<p>Structure of Human Ear Write the different steps to control noise pollution</p>

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T	A	M	Unit/Chapter	Concepts/Sub topics	Learning Outcomes	Essential Questions
TERM 2	FORMATIVE ASSESMENT 3	October	Chemical effects of electric current	Water conducts electricity depending on presence/absence of salt in it. Other liquids may or may not conduct electricity. Chemical effects of current. Basic idea of electroplating.	<ul style="list-style-type: none"> Water conducts electricity depending on presence/absence of salt in it. Other liquids may or may not conduct electricity. Chemical effects of current. Basic idea of electroplating. Activity to study whether current flows through various liquid samples (tap water, salt solution, lemon juice, kerosene, distilled water if available). Simple experiment to show electroplating	Explain the process of electroplating iron nail with copper . Compare and contrast electrolysis and electroplating Draw representation of electrolytic cell
			Fuel combustion and flame	Classification of fuels Properties of good fuels Fossil fuels Combustion, types of combustion and characteristics of combustion	Students learn about the classification of fuels, learn about the properties of a good fuel Students understand about fossil fuels and fractional distillation of petroleum ,its product and their uses Students learn about combustion and the types of combustion Students understand about the conditions necessary for combustion	List out the characteristics of an ideal fuel Draw the fire triangle

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		TEM	<p>Conservation of forest and Natural Resources</p>	<p>Aims of conservation. -forest and wild life conservation. project tiger</p>	<p>The students understands the significance of forest and wildlife conservation. -The students apply the knowledge by planting trees and making pamphlets of on wildlife conservation to make the common man aware of it. Power point presentation on conservation of forest and wild life</p>	<p>Explain about Red Data Book</p>
			<p>Light</p>	<p>Laws of reflection. Characteristics of image formed with a plane mirror. Regular and diffused reflection. Reflection of light from an object to the eye. Multiple reflection. Dispersion of light. Structure of the eye.</p>	<ul style="list-style-type: none"> • Exploring laws of reflection using ray source and another mirror. • Locating the reflected image using glass sheet and candles. • Discussion with various examples. Activity of observing an object through an object through a straight and bent tube; and discussion. Observing multiple images formed by mirrors placed at angles to each other. • Making a kaleidoscope. Observing spectrum obtained on a white sheet of paper/wall using a plane mirror inclined on a water surface at an angle of 45°. • Observing reaction of pupil to a shining torch. Demonstration of blind spot. 	<ul style="list-style-type: none"> • Draw structure of human eye and label the parts <p>Draw the ray diagram of short sight and long sight</p> <p>Explain multiple reflection with examples.</p>

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	SEM				
		Coal and Petroleum	Lens becomes opaque, light not reaching the eye. Visually challenged use other senses to make sense of the world around. Role of nutrition in relation to blindness Coal Types of Coal Fractional Distillation of Coal Refining of Petroleum	Description of case histories of visually challenged people who have been doing well in their studies and careers. Activities with Braille sheet Students understand about fossil fuels and fractional distillation of petroleum ,its product and their uses. PPT on related topic Importance of natural gas.	Explain the different steps involved in refining petroleum Explain the fractional distillation of coal

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FORMATIVE ASSESSMEN 4	TEM	The Cell	The cell theory. -names of scientists. -unicellular and multi cellular organisms.	The students learn about the cells. -The students have the knowledge of unicellular and multi cellular organisms Structure of a typical cell	MCQ Inference of lab visit Describe the structure of a living cell
	December	Recommended Books:			



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January	<p>Stars and the solar System</p>	<p>Idea about heavenly bodies/celestial objects and their classification – moon, planets, stars, constellations</p>	<p>Observing and identifying the objects moving in the sky during the day and at night.</p> <p>Observing and identifying some prominent stars and constellations.</p>	<p>Explain the different constallations</p>
	<p>Pollution of air and water</p>	<p>Motion of celestial objects in space; the solar system</p> <p>Air pollution</p> <p>Sources of air pollution</p> <p>Gaseous pollutants</p> <p>Particulate pollutants</p> <p>Biogradable and non-biodegradable pollutants</p> <p>Water pollution</p>	<p>Observing and identifying some prominent planets, visible to the naked eye, (Venus, Mars, Jupiter) in the night sky and their movement.</p>	<p>Compare and contrast natural and artificial satellites</p>
	<p>The Cell</p> <p>Reproduction and Endocrine System</p>	<p>Control of water pollution</p>	<p>Students learn that our environment is under great threat due to air and water pollution</p> <p>Students understand that air pollution is caused by natural and human activities</p> <p>Students understand about various gaseous pollutants</p> <p>Students understand that particulate pollutants are in the form of minute particles</p> <p>Students understand about biodegradable and non biodegradable pollutants</p>	<p>Discuss the different steps t prevent air pollution</p>
	<p>Recommended Books:</p>		<p>The students learn about the cell organelles present in the cell.</p> <p>The students learn about the glands present in human body.</p>	<p>Explain the impact of gaseous pollutants towards eco system</p>
				<p>Explain the different cell organelles in a cell</p> <p>Draw plant cell and animal cell</p> <p>Explain the functions of different glands present in our body .</p>



AL AIN JUNIORS SCHOOL

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	SEM				
	February	Revision			
	March	Exams			•

Recommended Books: