INFANT JESUS CONVENT SCHOOL
ANNUAL PLAN (2024-25)
SCIENCE
CLASS: VIII

MONTH/NO OF DAYS	TOPIC: SUB TOPIC	OBJECTIVES	AIDS/ACTIVITIES	MULTIPLE INTELLIGENCE SKILLS	LEARNING OUTCOME
APRIL No of Days: 18	**TOPIC** **FOOD** • Crop Production & Management • Microorganisms- Friend and foe **SUB-TOPICS** • Basic Practices of Crop Production • Preparation of soil • Agricultural Implements • Preparation of soil • Sowing • Adding manure and fertilizers • Irrigation • Protecting from weeds • Harvesting • Storage • Food from Animals • Microorganisms • Microorganisms and Us • Friendly microbes	**Students will be able to:** • Classify the major crops based on the time they are sown in the field. • Sequence the tasks involved in cultivating the crop. • Compare the advantages of major tools used for tilling, ploughing and sowing. • Identify commonly known food items based on their sources to define animal husbandry • List four major categories of microorganisms • Differentiate between microorganisms and viruses	**KNOWLEDGE:** • Mind map: Agricultural Practices • Cover Page: Draw the major categories of microorganisms. **SKILLS:** • Observation • Problem solving skill • Critical and Creative thinking **APPLICATION:** • Study the preservatives used in packaged food. • Investigates the tools used in farming and explain its working. • Crossword puzzle on crop production	• Visual and spatial • Interpersonal • Intrapersonal	**Students will be able to:** • Classifies materials and organisms based on properties / characteristics. • Draws labelled diagram / flow charts, • Apply the use of microbes in our daily life. • Makes efforts to protect environment, e.g., using resources judiciously. • Conducts simple investigations to seek answers to queries.

	• Harmful microorganisms • Food preservation • Nitrogen cycle	• Explain the role of micro-organisms(friend and foe) • List various methods of preserving food • Illustrate nitrogen cycle • Apply acquired knowledge of the concept in daily life.	• To identify and study the features of different microbes.(Spirogyra, fungi and lactobacillus) **UNDERSTANDING:** • Distinguish between modern and traditional methods of farming. • Describes the various uses of microbes. • Identify the various methods of food preservation.		
MAY No of Days: 14	**REVISION : PT – 1**				
CONDUCTION OF PT-1 ASSESSMENT (Third week of May)					
JULY No of Days: 27	**<u>TOPIC</u>** **NATURAL RESOURCES** • Coal and Petroleum **<u>MATERIAL</u>** • Combustion and flame **<u>SUB-TOPIC</u>** • Natural resources • Coal • Story of coal	**Students will be able to:** • Remember the origin and importance of fossil fuels. • Differentiate between combustible and non-combustible substances. • Understand the formation of	**KNOWLEDGE:** • Mind map (fossil fuels). • Crossword **SKILLS:** • Observation • Classification • Creative thinking • Problem solving skill **APPLICATION:**	• Visual and spatial • Bodily-Kinesthetic Intelligence • Intrapersonal • Naturalistic	**Students will be able to:** ● Explains properties / characteristics of materials in order to classify them ● Conducts simple investigations on his/her own in order to seek answers to queries.

	• Coke, coal tar and coal gas • Petroleum • Refining of Petroleum • Natural Gas • Some Natural Resources are Limited • What is combustion • How do we control fire? • Types of Combustion • Flame • Structure of a flame • What is a fuel? • Fuel efficiency • Burning of Fuels Leads to Harmful products.	petroleum and coal. • List the useful products & by-products of processing of coal and petroleum. • Classify different constituents of petroleum according to their use. • Plan suitable methods to conserve fossil fuels. • Define combustion and explain the necessary conditions for combustion to take place. • Create awareness on Ignition temperature of a substance. • Explain how a fire can be extinguished. • Explain types of combustion • Comprehend on flame and its zones. • Calculate calorific value • List the harmful effects of burning fuel.	• Show that fuel/substance should be heated to its ignition temperature to make it burn. • Burning of Mg ribbon *Burning of wood • Draw different zones of flame. **UNDERSTANDING:** • Discuss the process of formation of coal and petroleum • Compare types of combustion.		● Differentiates materials on the basis of their properties. ● Makes efforts to apply to daily life the understanding of environment and steps to conserve it, in order to contribute to the protection of the environment. ● Constructs models using materials from surroundings and explains their working in order to demonstrate scientific knowledge and understanding of how it works.

AUGUST No of Days: 23	**TOPIC** **THE WORLD OF LIVING** • Conservation of plants and animals **MOVING THINGS, PEOPLE AND IDEAS** • Force and Pressure • Friction **SUB-TOPIC** • Deforestation and its cause • Consequences of Deforestation • Conservation of forest and wildlife • Biosphere Reserve • Flora and Fauna • Endemic Species • Wildlife Sanctuary • National Park • Red data book • Migration • Recycling and reforestation • Force-Push or Pull	**Students will be able to:** • List causes and consequences of deforestation • Conservation of forest and wildlife • Describe flora and fauna • Gain knowledge about endemic and endangered species. • Cite sanctuaries and national parks in India. • Importance of red data book • Describe ways to reduce deforestation • Explain reforestation • Classify the common actions of push/pull • To find net resultant force when the force is applied in any direction • Cite examples from daily life to predict the changes brought about by force.	**KNOWLEDGE:** • Map work: Mark the National parks and sanctuaries on the physical map of India. • Mind map: Force and its types • Cover Page: List the cases in which friction is one of the forces acting on an object. **SKILLS:** • Observation • Classification • Creative thinking • Problem solving skill **APPLICATION:** • Comprehend the need of conserving the extinct and endemic species. • Identification of hydra and Amoeba through permanent slides. • To show that liquid pressure depends only upon the height of the liquid column and not the volume of the liquid.	• Visual and spatial • Bodily-Kinesthetic Intelligence • Intrapersonal • Naturalistic	**Students will be able to:** • Comprehend the need to conserve flora and fauna • Explain the effects of deforestation on the environment & methods adopted to conserve forests. • List the methods to conserve wild life. • Explains processes and phenomenon • Classifies materials and organisms based on properties / characteristics . Conducts simple investigations on his/her own in order to seek answers to queries. ●Illustrate the actions of push/pull as force applied

	• Forces are due to an Interaction • Exploring Forces • Effects of Force • Contact forces • Non-contact forces • Pressure • Pressure exerted by liquids and gases • Atmospheric Pressure •Force of Friction • Factors affecting Friction • Friction : A Necessary Evil • Increasing and Reducing Friction • Wheels Reduce Friction • Fluid Friction	• Compare contact and non-contact forces. • Derive the formula & units of pressure with its factors & explore this formula in day to day life • Demonstrate the properties, effects & advantages of pressure due to air & liquid. • Relate frictional force with the force applied. • Identify the factors affecting friction. • Classify the type of friction. • Illustrate advantages and disadvantages of friction • Understand the methods to minimize and maximize friction • Describe fluid friction	• slogan writing for conservation of plants and animals • Demonstration of liquid pressure - Cartoon making on types of friction. **UNDERSTANDING:** • Discuss the threats to biodiversity. • Solve the numerical on pressure. • Identify the types of friction.		●Assess everyday actions of motion as an interaction between two objects. ●Recognize & classify the types of forces & able to list the examples with simple activities. ●Discover & compare the properties of air and liquid pressure • Relate friction force and the factors that contribute to friction force. ●Justify friction as necessary evil & identify the methods to minimize or maximize friction. ● Explains Fluid Friction
SEPTEMBER No of Days: 05	**REVISION: TERM -1**				

CONDUCTION OF TERM -1 ASSESSMENT(Second week of September)					
OCTOBER No of Days: 22	**TOPIC** **THE WORLD OF LIVING** • Reproduction in animals • Reaching the age of adolescence **SUB-TOPIC** • Modes of reproduction • Sexual reproduction • Male and Female reproductive organ • Fertilisation • Viviparous and oviparous animals • Development of an embryo • Young Ones to Adults • Asexual reproduction • Puberty & adolescence • Changes at puberty • Secondary Sexual Characters	**Students will be able to:** • Differentiate between asexual and sexual reproduction • Describe the process of fertilization • Differentiate between internal and external fertilization • Distinguish between viviparous and oviparous animals • Describe the process of embryo and foetus formation. • Explain metamorphosis • Define adolescence • Identify the changes at puberty • Define endocrine system and differentiate between gland and hormone.	**KNOWLEDGE:** • Mind map(Modes of reproduction) • State the changes seen in the body. **SKILLS:** • Observation • Classification • Creative thinking **APPLICATION:** • Show the diagrammatic illustration of glands where they are located. • To observe the permanent slides of Budding in hydra • Binary fission in Amoeba • JAM(Just a minute talk) **UNDERSTANDING:** • Classify animals based on their ability to give birth or lay eggs. • Select proper methods/aids to resolve the problems faced by the adolescents	• Visual and spatial • Intrapersonal • Logical-Mathematical Intelligence	**Students will be able to:** ● Explains processes and phenomena in order to relate to science behind the phenomena/processes and develop scientific thinking skills ● Applies learning of scientific concepts in daily life ● Classifies materials and organisms based on properties / characteristics. ● Draws labelled diagram human reproductive organs.

	• Role of Hormones in Initiating Reproductive Function • Reproductive Phase of Life in Humans • How is the Sex of the Baby Determined? • Hormones other than Sex Hormones • Role of Hormones in Completing the Life History of Insects and Frogs • Adolescent Health	• Explore the 6 glands of endocrine system, their functions and connection between endocrine system and puberty. • Explain the role of hormones • Understand sex determination of the baby. • Elucidate the need for a balanced diet in order to explain the nutritional needs of adolescents.	and figure out the consequences of health risks.		
NOVEMBER No of Days: 23	**<u>TOPIC</u>** **MOVING THINGS, PEOPLE AND IDEAS** • Sound **<u>SUB-TOPIC</u>** • What is Sound? • Sound is Produced by a Vibrating Body • Sound Produced by Humans • Sound Needs a Medium for Propagation	**Students will be able to:** • Explain the production, propagation of sound in the medium. • Describe the characteristics of vibrations and sound waves • Comprehend audible and inaudible sound.	**KNOWLEDGE:** • Cover Page: List examples of body moving in, to and fro motion. **SKILLS:** • Observation • Classification • Creative thinking • Problem solving **APPLICATION:** • Relate the quality by interpreting the	• Visual and spatial • Logical-Mathematical Intelligence	**Students will be able to:** • • Show the relation between loudness and amplitude and pitch and frequency with the help of graphs. • List out the harmful effects of noise pollution and

	• We Hear Sound through Our Ears • Amplitude, Time Period and Frequency of a Vibration • Audible and Inaudible Sounds • Noise and Music • Noise Pollution	• Explain the structure and function of human ear with the help of diagram	graphical representation of the sound waves. • Sketching different types of musical instruments (Stringed, wind, and percussion) and representing the sound waves produced by the musical instruments with the help of craft work (wool). **UNDERSTANDING:** • Describe the characteristics of vibrations and sound waves.		choose the correct ways to reduce it. ● Inculcate the scientific temper regarding observation and interpretations
	REVISION : PT – 2				
CONDUCTION OF PT-2 ASSESSMENT (Fourth week of November)					
DECEMBER No of Days: 11	**TOPIC** **HOW THINGS WORK** • Chemical effects of Electric Current **SUB-TOPIC**	**Students will be able to:** • Explain the process of conduction (in liquids) of electricity	**KNOWLEDGE:** • Mind map (Effects of electric current) **SKILLS:** • Observation • Classification • Creative thinking	• Visual and spatial • Logical-Mathematical Intelligence	**Students will be able to:** • Inculcate the scientific temper regarding observation and

	• Conductors and insulators • Do Liquids Conduct Electricity? • Chemical Effects of Electric Current • Electroplating	• Describe the chemical effects of electric current • Illustrate the applications of electroplating.	• Problem solving **APPLICATION:** • Illustrate the applications of electrolysis. • Demonstration of chemical effects of current (Electrolysis of water) **UNDERSTANDING:** • To suggest ways of safe disposal of the conducting solution.		interpretations . • Identify the application of electroplating industrially and day to day life.
JANUARY No of Days: 21	**TOPIC** **NATURAL PHENOMENA** • Light • Some Natural Phenomena **SUB-TOPIC** • Light • Laws of reflection • Regular and Diffused Reflection • Reflected Light Can be Reflected Again • Multiple Images • Sunlight — White or Colored • What is inside Our Eyes? • Care of eyes • Visually Challenged Persons Can Read and Write	**Students will be able to:** • Explain the laws of reflection • Describe the nature of image formed by a plane mirror • Explain diffused and regular reflection. • Explain the dispersion of light with the help of prism and discuss the formation of rainbow. • Explore the parts of human eye and their functions. • Identify the various defects	**KNOWLEDGE:** • Cover Page (Properties of light) • Crossword **SKILLS:** • Observation • Classification • Creative thinking • Problem solving **APPLICATION:** • To verify Laws of Reflection. • To verify Laws of Reflection. *Draw ray diagram for image formation by plane mirror. **UNDERSTANDING:** • To study the mirror images when plane mirror is in	• Visual and spatial • Logical-Mathematical Intelligence	**Students will be able to:** • Demonstrate an experiment to prove the laws of reflection. • Name & review the location of different parts of the human eye with the help of diagram. • Differentiate the defects of human eye and suggest correction for the defective vision. • Recall the dot positions in Braille and list

	• What is the Braille System? • Lightning • Charging by Rubbing • Types of Charges and Their Interaction • Transfer of Charge • The Story of Lightning • Lightning Safety • Earthquakes	of vision and analyze its root cause and correction. • Choose the correct measures to take care of eye. • Distinguish between current & static electricity. • Explain the types & origin of charges. • Explain the principle of an electroscope. • Describe the reasons for atmospheric electricity & earthquake. • Prepare the list of measures to be taken during lightning & earthquake.	horizontal and vertical position. • Understand the disasters causes and consequences		the correct measures to be taken for eye care. • Differentiates between charges. • Describes the working of an electroscope. • Explain the reasons behind lightning & earthquake. • List the safety measures to be taken during these natural phenomena
FEBRUARY No of Days: 22	**REVISION: TERM -2**				
MARCH	**CONDUCTION OF TERM -2 ASSESSMENT**				