

Term Wise Syllabus
Session – 2019-20
Class-VIII
Subject: Science

Term-I (April 2019 To September 2019)

Theme	Content	Suggestive Learning Outcomes	Suggestive activity
Food	<p><u>Ch-1 Crop Production And Management</u></p> <ul style="list-style-type: none"> ❖ Agricultural Practices ❖ Basic Practices of crop production ❖ Preparation of soil Sowing ❖ Adding manure and Fertilizers ❖ Irrigation ❖ Protection from weeds ❖ Harvesting ❖ Storage ❖ Food from Animals. 	<ul style="list-style-type: none"> • Classify crops like Kharif and Rabi Crops. • Apply learning of scientific concepts in daily life, eg. Increasing of crop production. • Show awareness for using resources judiciously like making controlled use of fertilisers and pesticides. • Ask questions leading to investigation like why weeding is necessary or why rice is cultivated during rainy season? • Apply learning of scientific concepts in daily life, e.g. Increasing of crop production (in kitchen garden). 	<ol style="list-style-type: none"> 1. To collect various types of seeds. 2. To collect pictures/draw diagrams of various agricultural tools or machines. 3. To draw pictures of various methods of irrigation <p style="text-align: center;"><i>Refer Science Pragati for the activities</i></p>
Food	<p><u>Ch-2 Microorganisms : Friends And Foe :</u></p> <ul style="list-style-type: none"> ❖ Microorganisms ❖ Major groups of microorganisms and their living place ❖ Microorganisms and us ❖ Harmful Microorganisms ❖ Food Preservation ❖ Nitrogen Fixation ❖ Nitrogen cycle 	<ul style="list-style-type: none"> • Identify different types of microorganisms (both unicellular and multicellular) • Classify useful and harmful microorganisms. • Explore the role of micro organisms in life. • Asks questions and lead to investigations like how do vegetables or food items get spoiled. • Investigate various diseases caused by microorganisms (symptoms and its Prevention) • Apply learning of scientific concepts in daily life (what helps in making curd ?how does food go bad ? etc.) • Investigate the use of salt and sugar in preserving Pickles and jams.. 	<ol style="list-style-type: none"> 1. To observe drops of pond water under microscope. 2. Observe the prepared slides of Microorganisms. 3. Pull out a gram/bean plant from the field and to study its root nodules <p style="text-align: center;"><i>Refer Science Pragati for the activities</i></p>

Material	<p><u>Ch-3 Synthetic Fibres And Plastics</u></p> <ul style="list-style-type: none"> ❖ What are synthetic fibres? ❖ Types of synthetic fibres ❖ characteristics of synthetic fibres. ❖ Plastics ❖ Plastics as a material of choice ❖ Plastics and the environment. 	<ul style="list-style-type: none"> • Differentiate materials such as natural and man-made fibers. • Identify different types of synthetic fibers on the basis of their chemicals used for their manufacturing. • Identify the characteristics of different fibers on the basis of some of the physical properties. • Develop awareness about the use and disposal both of the synthetic fibers and plastics. • Investigate the reason for using cloth for purpose other than making garments to wear? 	<ol style="list-style-type: none"> 1. To collect different kinds of fibers of fibers. 2. Testing various materials of fibers for action of water, reaction on heating, effect of flame, tensile strength and thermal conductivity. 3. To know the differences between thermoplastics and thermosetting plastics by heating. 4. Activity for identifying different materials into biodegradable <p><i>Refer Science Pragati for the activities</i></p>
Natural Resources	<p><u>CH-5 Coal And Petroleum</u></p> <ul style="list-style-type: none"> ❖ Inexhaustible natural resources and Exhaustible natural resources ❖ Coal ❖ Petroleum ❖ Natural gas ❖ Some natural resources are limited 	<ul style="list-style-type: none"> • Classify Exhaustible and inexhaustible natural-resources. • Identify the fossil fuel. • Understand the process of refining petroleum. • Develop awareness for the use of exhaustible fuels judiciously. • Differentiate between biodegradable and non-biodegradable resources. 	<ol style="list-style-type: none"> 1. Listing of materials into natural and man-made which are required for our basic needs as fuel(activity 5.1) 2. With the help of activity 5.2 Find out how exhaustible resources are reducing in amount. <p><i>Refer Science Pragati for the activities</i></p>
How Things Work	<p><u>CH-11 Forces And Pressure</u></p> <ul style="list-style-type: none"> ❖ Force – a push or a pull ❖ Forces are due to an interaction ❖ Exploring forces. ❖ A force can change the state-of motion ❖ Force can change the shape of an object , direction and speed of an object ❖ Contact forces ❖ Non- contact forces ❖ Pressure 	<ul style="list-style-type: none"> • Identify various types of forces by giving examples from daily life. • Understand the reason how force arises due to interaction between two objects. • Investigate the effect of force on speed direction of moving objects . • Differentiate between contact and non Contact forces. • Identify and demonstrate the relation between force, area and pressure. 	<ol style="list-style-type: none"> 1. To study various types of forces and their impacts. 2. To study the relation between force and motion in daily life experiences. 3. To observe the forces of attraction and repulsion between two types of a bar magnet. 4. To study the dependence of pressure on area. 5. To study increase in pressure

	<ul style="list-style-type: none"> ❖ Pressure exerted by liquids and gases. ❖ Atmospheric pressure 	<ul style="list-style-type: none"> • Conduct simple investigation to seek answer to queries e.g. Do liquids exert pressure at same depth ? • Investigate to find the reason like what happens when we push or pull anything? or why needles are made pointed ? 	<p>exerted by the liquids at the greater depths.</p> <p><i>Refer Science Pragati for the activities</i></p>
How Things Work	<p><u>CH-12 Friction</u></p> <ul style="list-style-type: none"> ❖ Force of friction, ❖ factors affecting friction, ❖ Friction: a necessary evil, ❖ increasing and decreasing friction, ❖ Wheels reduce friction, ❖ Fluid friction 	<ul style="list-style-type: none"> • Demonstrate friction between rough/smooth surfaces. • Understand the cause of wear and tear of moving objects. • Differentiate among static, sliding and rolling friction • Apply scientific learning in daily life like increasing /reducing friction. 	<ol style="list-style-type: none"> 1. Force of friction depends on nature of surface in contact. 2. Wear and tear of moving objects. 3. To collect and display pictures of some sports and actions where friction where friction is necessary or evils. <p><i>Refer Science Pragati for the activities.</i></p>
<p>❖ Revision of Syllabus for Mid – Term Examination-2019</p>			
<p>❖ Term-II (October- 2019 to March- 2020)</p>			
Theme	Content	Suggestive Learning Outcomes	Suggestive Activities
Material	<p><u>CH-4 Materials : Metals and Non-Metals</u></p> <ul style="list-style-type: none"> ❖ Physical properties of metals and non-metals ❖ Chemical properties of metals and non-metals ❖ Reaction with oxygen, water acids and bases ❖ Displacement reaction ❖ Uses of metals and non-metals. 	<ul style="list-style-type: none"> • Identify and classify materials as metal and non-metals on the basis of their properties. • Write word equation for chemical reactions eg. Reactions of metals and Nonmetals with air ,water ,acids and bases . • Apply learning of scientific concepts in day to day life using appropriate metals and non-metals for various purposes. 	<ol style="list-style-type: none"> 1. To study the physical properties of metals and non-metals (NCERT Table 4.1 & 4.2) 2. To study the nature of oxides of metals and non-metals. 3. To study displacement reaction. Reaction of metals and non-metals with acids (table 4.5). <p><i>Refer Science Pragati for the activities</i></p>
Material	<p><u>CH-6 Combustion And Flame :</u></p> <ul style="list-style-type: none"> ❖ Combustion, ❖ How do we control fire? 	<ul style="list-style-type: none"> • Conduct simple investigation to seek answer to query like – What are the conditions required for combustion. 	<ol style="list-style-type: none"> 1. To study the parts of a flame. 2. To prepare a model of fire extinguisher.

	<ul style="list-style-type: none"> ❖ Types of combustion, ❖ Flame and structure of flame, ❖ Fuel and fuel efficiency. 	<ul style="list-style-type: none"> • Explain that all the fuels release heat on burning. • Explain the physical process in the formation of Flame with the help of a labeled diagram. • Investigate and analyse “what happens when kerosene and natural gas are burnt?” • Construct a model of Fire extinguisher and explain its functioning. • Awareness is developed that burning of fuels (except few) leads to harmful by- products . 	<p>3. Skit on the causes and prevention of fire in school and home (Disaster management)</p> <p><i>Refer Science Pragati for the activities</i></p>
The World of the Living	<p><u>CH-8 Cell – Structure And Function</u></p> <ul style="list-style-type: none"> ❖ Discovery of the cell ❖ The cell ❖ Organisms show Variety in Cell Number ,Shape and Size ❖ Cell structure and function. ❖ Parts of the Cell ❖ Comparison of Plant and animal cell. 	<ul style="list-style-type: none"> • Identify the CELL as plant and animal cell. • Differentiate between plants and animal cell. • Prepare slides of onion peel and human Cheek cell . • Explain with the help of a labeled diagram the structure of cell. 	<ol style="list-style-type: none"> 1. To understand working of a microscope. 2. Study of unicellular organisms. (Permanent slide) 3. To prepare temporary mounts of onion peel. 4. To prepare a temporary mount of cheek peel/cells (inner part of mouth). <p><i>Refer Science Pragati for the activities.</i></p>
The World of the Living	<p><u>CH-9 Reproduction In Animals</u></p> <ul style="list-style-type: none"> ❖ Modes of reproduction ❖ Sexual Reproduction (male reproductive organs, female reproductive organs and fertilization) ❖ Development of embryo, ❖ viviparous and oviparous animals. ❖ Young to adults ❖ Asexual reproduction by budding and binary fission. 	<ul style="list-style-type: none"> • Classify organism based on asexual and sexual mode of reproduction . • Explain process of Reproduction in human and animals. • Identify between viviparous and oviparous animals on the basis of egg laying or baby birth . • Explain with the help of self drawn labeled diagram/flow chart of human reproductive organ. 	<ol style="list-style-type: none"> 1. To study the various modes of asexual reproduction in Hydra and Amoeba (with the help of permanent slides) 2. To study the life cycle of frog/ mosquito with the help of a chart/ model. <p><i>Refer Science Pragati for the activities</i></p>
<u>How things change/react with one another .</u>	<p><u>CH-14 Chemical Effects of Electric Current</u></p> <ul style="list-style-type: none"> ❖ Do liquids conduct electricity? ❖ Chemical effects of electric currents. 	<ul style="list-style-type: none"> • Identify liquids on the basis of conductivity as electrical conductors or insulators. • Conduct simple investigation to seek the answer for queries like why acids ,bases and salts conduct electricity ?and why do we get shock when we touch electric appliance (On position) with wet hands ? 	<ol style="list-style-type: none"> 1. To test the conduction of electricity through various fruits, vegetables, wood piece, metal piece and display your result in tabular form (Good Conductor /Bad Conductor) 2.To study the phenomenon of

	<ul style="list-style-type: none"> ❖ Electroplating and its uses. ❖ Good conductors and bad conductors. 	<ul style="list-style-type: none"> • Explain the process of Chemical effects of electric current. • Apply learning of scientific concepts in day to day life of depositing a layer of any desired metal on another materials by electroplating. 	<p>electroplating by simple circuit.</p> <p><i>Refer Science Pragati for the activities</i></p>
How Things work	<p><u>CH-16 Light</u></p> <ul style="list-style-type: none"> ❖ What makes things visible ❖ Laws of reflection, ❖ Regular and diffused reflection multiple reflection ❖ Reflected light can be reflected again . ❖ Multiple Images ❖ Sunlight-,white or coloured, ❖ What is inside Our Eyes? ❖ (human eye-structure and function) ❖ Care of the Eyes ❖ Visually challenged persons can read and write. ❖ What is the Braille system? 	<ul style="list-style-type: none"> • To differentiate between regular and irregular reflection. • Conduct simple investigations to seek answer to queries whether angle of incidence is equal angle of reflection ? • Explain the process for the formation of multiple images. • Explain with the help of self drawn labeled diagram the structure of eye. 	<ol style="list-style-type: none"> 1.To verify laws of reflection of light. 2.To study the structure of eye with the help of a chart/model. 3.To make your own Kaleidoscope. <p><i>Refer Science Pragati for the activities</i></p>
How Things work	<p><u>CH-18 Pollution of Air And Water</u></p> <ul style="list-style-type: none"> ❖ Air pollution, ❖ how does air get polluted? ❖ Case study : Taj Mahal, ❖ what can be done to reduce global warming? ❖ Ozone depletion. ❖ Water pollution & how does water get polluted? ❖ What can be done to reduce water pollution? 	<ul style="list-style-type: none"> • Relates process and phenomenon with causes e.g Smog formation due to the presence of pollutants in air, deterioration of monuments with acid rains etc. • Applies learning of scientific concepts in day to day life e.g Purifying water. • Show awareness to protect environment using resources judiciously. • Suggesting ways to cope with environmental problems etc Like - Global warming due to increase in the green house gases 	<ol style="list-style-type: none"> 1. Preparing a list about diseases caused by various types of pollutants. 2. To make a project/poster/slogan writing, green house effect/global warming/ozone depletion. <p>Discussion: “Every drop of water is precious”.</p> <p><i>Refer Science Pragati for the activities</i></p>
The World of the Living	<p><u>Ch-2 Microorganisms : Friends And Foe :</u></p>	<p>Same as Mid Term Examination</p>	
	<ul style="list-style-type: none"> ❖ Complete the syllabus by January 2020. ❖ Remaining chapters are for Learning Enrichment, not for assessment. ❖ Revision of Syllabus for Common Annual School Examination(CASE) 2019-20 		