TERM WISE SYLLABUS
SESSION: 2018-19
CLASS-VIII(PRATIBHA)
SUBJECT: SCIENCE

First Term (APRIL 2018 TO SEPTEMBER 2018)

THEME	CONTENT	SUGGESTIVEACTIVITY	SUGGESTIVE LEARNING OUTCOMES
Food	**CH-1 Crop Production And Management** ❖ Agricultural Practices ❖ Basic Practices of crop production ❖ Preparation of soil ❖ Sowing ❖ Adding manure and Fertilizers ❖ Irrigation ❖ Protection from weeds ❖ Harvesting ❖ Storage ❖ Food from Animals.	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	• Classify crops by cropping patterns such as Kharif and Rabi crops. • Show awareness for using resources judiciously like making controlled use of fertilizers and pesticides. • Perform activities to investigate the effect of manure and fertilizer on plant growth. • 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).
Food	**CH-2 Microorganisms : Friends And Foe :** ❖ Microorganisms ❖ Major groups of microorganisms and their living place ❖ Microorganisms and us ❖ Harmful Microorganisms ❖ Food Preservation ❖ Nitrogen Fixation ❖ Nitrogen cycle	1. To observe drops of pond water, curd, bread mould under microscope. 2. Experiments showing fermentation of dough (increase in volume by yeast) - collect gas in balloon and test the gas by lime water. 3. Pull out a gram/bean plant from the field and to study	• 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 ?

		its root nodules ❖ Activities suggested in Pragati-5	• 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 murrabbas.
Material	**CH-3 Synthetic Fibers And Plastics** ❖ What are synthetic fibers? ❖ Types of synthetic fibers ❖ Characteristics ofsyntheticfibers. ❖ Plastics ❖ Plastics as a material of choice. ❖ Plastics and the environment	1. To collect different kinds 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 and non-biodegradable.	• 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 ?
Material	**CH-5 Coal And Petroleum** ❖ Inexhaustible natural resources and Exhaustible natural resources	1. Listing of materials into natural and man-madefuels which are required for our basic needs (activity 5.1) 2. With the help of activity	• Classify Exhaustible and inexhaustible natural-resources. • Identify the fossil fuel. • Understand the process of refining petroleum.

	❖ Coal ❖ Petroleum ❖ Natural gas ❖ Some natural resources are limited .	5.2 Find out how exhaustible resources are reducing in amount.	• Develop awareness for the use of exhaustible fuels judiciously. • Differentiate between biodegradable and non-biodegradable resources.
Moving things,People and Ideas	**<u>CH-11 Forces And Pressure</u>** ❖ 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 ❖ Pressure exerted by liquids and gases. ❖ Atmospheric pressure.	1. To study various types of forces and their impacts. 2. To study the relation between force and motion in daily life situations . 3. Demonstrating change in speed of a moving object in direction of motion and shape by applying force . 4. Measuring the weight of an object , as a force (pull) by the earth using a spring balance 5. To observe the forces of attraction and repulsion between two types of a bar magnet. 6. To study the dependence of pressure on area. 7. To study increase in pressure exerted by the liquids at the greater depths. ❖ Activities suggested in Pragati-5	• 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 and direction of moving objects . • Differentiate between contact and non contact forces. • Identify and demonstrate the relation between force, area and pressure . • 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 ?
Moving things,	**<u>CH-12 Friction</u>**	1. Demonstrate that Force of friction depends on nature	• Demonstrate friction between rough and smooth surfaces .

People and idea	❖ Force of friction, ❖ factors affecting friction, ❖ Friction: a necessary evil, ❖ increasing and decreasing friction, ❖ Wheels reduce friction, ❖ Fluid friction	of surface in contact. 2. Demonstrate Wear and tear of moving objects by rubbing. 3. To collect and display pictures of some sports and actions where friction is necessary or evils. 4. Discussion on the methods of reducing friction and ways of increasing friction. ❖ Activities suggested in Pragati-5	• 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 (soles of the shoes aregrooved for better grip ?).
SEPTEMBER – 2018 REVISION for MID -TERM EXAMINATION			

Second Term (October 2018 to February 2019)

THEME	CONTENT	SUGGESTIVE ACTIVITIES	SUGGESTIVE LEARNING OUTCOMES
Material	**<u>CH-4 Materials : Metals and Non-Metals</u>** ❖ 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 nonmetals.	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). ❖ Activities suggested in Pragati5	• Identify and classify materials as metal and non- metals on the basis of their physical and chemical properties. • Write word equations for chemical reactions e.g. Reactions of metals and Non-metals with air ,water ,acids and bases . • Investigate the cause of any querry like why are ringing bells not made of wood? Or why metal oxides are basic whereas non-metals are acidic in nature? • Investigate physical and chemical properties of materials by various activities .e.g. can a wire be drawn out

			of wood ? do copper and aluminium also rust like iron ? • Differentiate between metals and nonmetals by observing physical and chemical properties . • Provide justification in support of evidences like metals are sonorous, lustrous, malleable and ductile. • Apply learning of scientific concepts in day to day life using appropriate metals and non-metals for various purposes e.g.explain that metals are used for making aeroplanes, boilers, heaters etc. while nonmetals are used as fertilizers etc.
Material (How things change or react with one another)	**<u>CH-6 Combustion And Flame</u>** : ❖ Combustion ❖ How do we control fire? ❖ Types of combustion ❖ Flame and structure of flame, ❖ Fuel ❖ Fuel efficiency.	1. To study the parts of a flame. 2. Experiment showing that fuels release heat on burning (candle, kerosene and LPG) [**this expt. should necessarily be done by THE TEACHER**] 3. To prepare a model of fire extinguisher. 4. Slogan/ poster competition on "Burning of fuels leads to harmful by products" ❖ Activities suggested in Pragati-5	• Conduct simple investigation to seek answer to query like – What are the conditions required for combustion? • Explain that all the fuels release heat on burning. • Explain the physical process in the formation of Flame with the help of a labelled diagram. • Investigate and analyse "what happens when kerosene and natural gas are burnt?" • Understand the precautions to be taken while using LPG. • Displays sense of interest in science by constructing a model of Fire extinguisher and explain its functioning .

The World of the Living	**CH-8 Cell – Structure And Function** ❖ 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.	1. To understand working of a microscope. 2. Study of unicellular organisms. (Permanent slide) . 3. To prepare temporary mounts of onion peel and cheek cells (inner part of mouth) ❖ Activities suggested in Pragati-5	• Identify the CellStructure and explain it with the help of a labelled diagram. • Classify organisms into unicellular and multicellular based on the number of cells . • Differentiate between plant and animal cells. • Identify onion peel and human cheek cells and also learn the use of stain to observe cell organelles- nucleus, vacuole, chloroplast cell membrane and cell wall.
The World of the Living	**CH-9 Reproduction In Animals** ❖ 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	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. ❖ Activities suggested in Pragati-5	• Classify organism based on asexual andsexual mode of reproduction. • Explain the processes of asexual reproduction like binary fission and budding . • Explain process of Reproduction in human and animals. • Differentiate between external and internal fertilization. • 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. • Investigate to get the answers of the quarries e.g. Do all animals give birth to young ones.

How things Work	**<u>CH-14 Chemical Effects of Electric Current</u>** ❖ Do liquids conduct electricity? ❖ Chemical effects of electric currents. ❖ Electroplating and its uses, ❖ good conductors and bad conductors of electricity .	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 test that water conducts electricity depending on the presence / absence of salt in it .(repeat the test by using other liquids like glucose water or any other of your choice) 3. To study the phenomenon of electroplating by simple circuit. ❖ Activities suggested in Pragati-5	• 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 with wet hands? • 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 . • Use of electroplating in daily life .
Natural phenomenon	**<u>CH-16 Light</u>** ❖ 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)	1. Exploring laws of reflection using ray source and mirror. 2. Locating the reflected image using glass sheet and candle . 3. Observing an object through a straight and bent tube. 4. Observation of multiple	• To differentiate between regular and irregular reflection. • Identify the Characteristics of image formed by plane mirror . • Conduct simple investigations to seek answer to queries that angle of incidence is equal to angle of reflection and Incident ray, the normal at the point of incidence and reflected ray all lie in the same plane. • Explain the process for the formation of multiple images.

	❖ Care of the Eyes ❖ Visually challenged persons can read and write. ❖ What is the Braille system?	images formed by mirrors placed at angles to each other . 5. Observation of spectrum on white sheet of paper or wall using a plane mirror inclined on water surface at an angle of 45^0 ❖ Activities suggested in Pragati-5	• Explain the structure of eye with the help of self drawn labeled diagram. • Understand the reflection of light from an object to the eye.
Natural Resources	**<u>CH-18 Pollution of Air And Water</u>** ❖ 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?	1. Preparing a list about diseases caused by various types of pollutants. 2. To make project/ poster/ slogan writing on green house effect/ global warming/ ozone depletion. **Discussion:** "Every drop of water precious".	• Relates process and phenomenon with causes e.g. Smog formation due to the presence of pollutants in air, deterioration ofmonuments 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.
Food	**<u>CH-2 Microorganisms : Friends And Foe :</u>** ❖ Microorganisms ❖ Major groups of	**Same as Mid Term Examination**	

	microorganisms and their living place ❖ Microorganisms and us ❖ Harmful Microorganisms ❖ Food Preservation ❖ Nitrogen Fixation ❖ Nitrogen cycle	
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