



**MAHARAJA AGARSAIN PUBLIC SCHOOL**  
a Cambridge International School  
Ashok Vihar, Delhi

**CLASS - VII**  
**SUBJECT: G. SCIENCE**  
**SESSION: 2023-24**

**Book: PRACHI SCIENCE by S.K.Jain**

DURATION	SYLLABUS COVERED	SYLLABUS TESTED	SUBJECT ENRICHMENT	LEARNING OUTCOMES	RESOURCES	SDG
PT1 (JUL-AUG)	Ch1: Nutrition in Plants	Ch2: Nutrition in animals Ch9: Motion and Time  Syllabus completion : 25 <sup>th</sup> May,2023  <b>PT1 : 31/07/2023</b>	<b>Experiment 1:</b> To show that leaves make starch as food by photosynthesis and that sunlight is necessary for photosynthesis.	<ul style="list-style-type: none"><li>❖ Explain and differentiate the modes of nutrition in plants( Autotrophic and Heterotrophic).</li><li>❖ Enlist the requirements of photosynthesis process.</li><li>❖ Compare different modes of heterotrophic nutrition.</li><li>❖ Analyse different plants have different mode of nutrition.</li><li>❖ Correlate the application of replenishment of nutrients in the soil.</li></ul>	<p><a href="https://www.youtube.com/watch?v=VwA-874cRag">https://www.youtube.com/watch?v=VwA-874cRag</a></p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmougNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmougNPMKRplxYhD?usp=sharing</a></p>	<p><b>SDG 2.</b> Zero Hunger</p> <p><b>SDG 3.</b> Good health and well-being</p>

	Ch2: Nutrition in animals		<p><b>ACTIVITY</b></p> <p>Journey of food from ingestion to egestion.</p>	<ul style="list-style-type: none"> <li>❖ Describe various processes involved in nutrition in animals.</li> <li>❖ Explain nutrition in amoeba, hydra, frog and spider.</li> <li>❖ Write the function of tongue, saliva, teeth, pancreas, liver and small intestine in digestion</li> <li>❖ Draw and explain human digestive system and structure of tooth.</li> <li>❖ Explain digestion in ruminants with diagram.</li> </ul>	<p><a href="https://www.youtube.com/watch?v=xLcnqMvlj7c">https://www.youtube.com/watch?v=xLcnqMvlj7c</a>(4.30 mins)</p> <p><a href="https://www.youtube.com/watch?v=cHPjIwzwf1I">https://www.youtube.com/watch?v=cHPjIwzwf1I</a>(3.03 sec)</p> <p><a href="https://www.youtube.com/watch?v=zr4onA2k_LY">https://www.youtube.com/watch?v=zr4onA2k_LY</a>(6.54 mins)</p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing</a></p>	SDG 3. Good health and well-being
	Ch9: Motion and Time		<p><b>Experiment 2:</b> To determine the time period of a simple pendulum.</p> <p><b>Experiment 3:</b> To draw the distance- time graph for uniform motion.</p>	<ul style="list-style-type: none"> <li>❖ Calculate the time period of simple pendulum.</li> <li>❖ Calculate the speed of an object .</li> <li>❖ Compare between uniform and non uniform motion.</li> <li>❖ Draw graphs for uniform and non uniform motion.</li> </ul>	<p><a href="https://www.youtube.com/watch?v=VFfF3F-G9Uk">https://www.youtube.com/watch?v=VFfF3F-G9Uk</a></p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing</a></p>	SDG 4. Quality Education

HALF YEARLY (SEP)	Ch11: Light	<p>Ch1: Nutrition in Plants Ch2: Nutrition in animals Ch9: Motion and Time Ch11: Light Ch6: Respiration in Organisms Ch4: Acids, Bases and Salts Ch12: Forests: Our Lifeline</p> <p><b>Half yearly exam date-</b> 13 September to 27 September <b>Syllabus completion-</b> 4 September</p>	<p>Activity: to show that light travels in a straight line.</p> <p>Activity: to find the nature of the image formed by a plane mirror.</p> <p><b>Experiment 4:</b> To explore the characteristics of the image formed by a plane mirror.</p>	<ul style="list-style-type: none"> <li>❖ State laws of reflection of light</li> <li>❖ Differentiate between real and virtual image</li> <li>❖ List the characteristics of image formed by a plane mirror</li> <li>❖ Differentiate between concave and convex mirror</li> <li>❖ Define terms related to spherical mirrors</li> <li>❖ Explain the use of spherical mirrors</li> </ul>	<p><a href="https://www.youtube.com/watch?v=1C5bU8gcdwk(1.14sec)">https://www.youtube.com/watch?v=1C5bU8gcdwk(1.14sec)</a></p> <p>Plane mirror and spherical mirrors.</p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing</a></p>	SDG 7. Affordable and clean energy
	Ch6: Respiration in Organisms		<p><b>Experiment 5:</b> To show that exhaled air contains carbon dioxide.</p> <p>ACTIVITY (Compare and contrast(Venn Diagram): Cellular respiration and combustion ACTIVITY To calculate the pulse rate doing various activities like sitting, after jumping for 2 minutes etc</p>	<ul style="list-style-type: none"> <li>❖ Explain the two main processes of respiration</li> <li>❖ Tell different ways of gaseous exchange in different animals</li> <li>❖ Draw and explain human respiratory system</li> <li>❖ Differentiate between aerobic and anaerobic respiration</li> <li>❖ Compare and contrast combustion &amp; cellular</li> </ul>	<p><a href="https://www.youtube.com/watch?v=hc1YtXc_84A">https://www.youtube.com/watch?v=hc1YtXc_84A</a> (3.29mins)</p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing</a></p>	SDG 4- Quality Education

				respiration		
	Ch4: Acids, Bases and Salts		<p><b>Experiment 6:</b> To test the acidic or basic nature of the given solutions using following indicators: a) Litmus paper</p> <p>b) Phenolphthalein and methyl orange</p> <p>ACTIVITY Acids and bases at my home</p>	<ul style="list-style-type: none"> <li>❖ List the properties of acids and bases.</li> <li>❖ Identify a given sample as acid or base using indicator</li> <li>❖ Define neutralization and identify reaction</li> <li>❖ List uses of acids, bases and salts</li> </ul>	<p>Different acids bases and indicators.</p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing</a></p>	SDG 9- Industry, innovation and infrastructure
	Ch12: Our Forests		Activity : (collecting information) products obtained from forests.	<ul style="list-style-type: none"> <li>❖ Explain the various ways in which forests help us.</li> <li>❖ Define and explain food chain, food web.</li> <li>❖ List the ways in which plants and animals are interdependent.</li> <li>❖ Explain the role of decomposers in recycling the nutrients</li> <li>❖ List and explain different ways of conserving forests.</li> </ul>	<p><a href="https://www.youtube.com/watch?v=FFloV2J-eKI">https://www.youtube.com/watch?v=FFloV2J-eKI</a> (3.52 SEC)</p> <p>PRESENTATION</p> <p><a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing</a></p>	SDG 13. Climate Action

PT2 (NOV-DEC)	Ch7: Transportation of Materials in Animals and Plants	Ch7: Transportation of Materials in Plants and Animals Ch10: Electric current and its Effects  Syllabus completion : 15 <sup>th</sup> November, 2023  <b>PT 2 : 29/11/2023</b>	Activity: to study osmosis process .  Activity: to study transpiration process in plants.  <b>Experiment 7:</b> To measure the heart beat and pulse rate.	<ul style="list-style-type: none"> <li>❖ Define translocation, transpiration, osmosis, wilting.</li> <li>❖ Differentiate between xylem and phloem</li> <li>❖ Explain the need of transportation in living organisms</li> <li>❖ List and describe the functions of blood</li> <li>❖ describe the role of different components of blood</li> <li>❖ compare arteries and veins</li> <li>❖ Draw and explain of human excretory system</li> </ul>	<a href="https://www.youtube.com/watch?v=KmqYVWtxeqM">https://www.youtube.com/watch?v=KmqYVWtxeqM</a> <a href="https://www.youtube.com/watch?v=YeOw-wJR9fc">https://www.youtube.com/watch?v=YeOw-wJR9fc</a> <a href="https://www.youtube.com/watch?v=VSVYgivfs9c">https://www.youtube.com/watch?v=VSVYgivfs9c</a>  PRESENTATION  <a href="https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing</a>	SDG 4- Quality Education
	Ch10: Electric current and its Effects		<b>Experiment 8:</b> To see what happens when an electric current is passed through a wire. (To make an electromagnet)  Activity: to make an electric gadget using various electric components.  <b>Experiment 9:</b> To determine the factors on which the strength of an electromagnet depends.	<ul style="list-style-type: none"> <li>❖ Explain the roles of various circuit elements in a circuit</li> <li>❖ Draw circuit diagrams using symbols of various circuit elements</li> <li>❖ Explain the roles of fuses and MCB in a circuit</li> <li>❖ Define solenoid, electromagnet</li> <li>❖ List three ways by which the strength of a solenoid can be increased</li> <li>❖ Explain the working of an electric bell</li> <li>❖ Write the uses of electromagnet</li> </ul>	<a href="https://www.youtube.com/watch?v=nygn7wB7658">https://www.youtube.com/watch?v=nygn7wB7658</a> <a href="https://www.youtube.com/watch?v=gEvgI70RB4g">https://www.youtube.com/watch?v=gEvgI70RB4g</a>  PRESENTATION  <a href="https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNPMKRplxYhD?usp=sharing</a>  Working model of electric circuit	SDG 7. Affordable and clean energy

FINAL TERM (FEB)	Ch 13: Wastewater Management	Ch7: Transportation of Materials in Plants and Animals Ch10: Electric current and its Effects Ch 13: Wastewater Management Ch3: Heat Ch8: Reproduction in plants Ch5: Physical and chemical Changes Ch9: Motion and Time Ch11: Light  <b>Final exam date-</b> From 15 February <b>Syllabus completion-</b> 31 January	Activity: (experimental investigation) try to trace the flow of wastewater in and around your home.	<ul style="list-style-type: none"> <li>❖ List various water borne diseases.</li> <li>❖ Define sludge, sewage</li> <li>❖ Explain the problems associated with improper disposal of sewage</li> <li>❖ Explain the alternate way sewage disposal</li> <li>❖ Describe various steps involved at WWTP</li> <li>❖ List and explain various better household practices</li> </ul>	<a href="https://www.youtube.com/watch?v=YW6GBciRHLg">https://www.youtube.com/watch?v=YW6GBciRHLg</a>  PRESENTATION  <a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRpIxyhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRpIxyhD?usp=sharing</a>	SDG 6. Clean water and sanitation
	Ch3: Heat		<p><b>Experiment 10:</b> To show that water is a poor conductor of heat.</p> <p><b>Experiment 11:</b> To record the body temperature of some of friends with a clinical thermometer.</p> <p>Activity: to show the process of conduction and convection.</p> <p>Activity: to classify the given material as conductors and insulators.</p>	<ul style="list-style-type: none"> <li>❖ List the various effects of heat</li> <li>❖ Explain the cause of expansion in solids, liquids and gases</li> <li>❖ Explain the working of fire alarm with labeled diagram</li> <li>❖ Carry out temperature conversions b/w 0C and 32F</li> <li>❖ list the reasons for using mercury in thermometer</li> <li>❖ Tell the precautions to be followed while using thermometers</li> <li>❖ Explain the reason for kinetic energy of clinical thermometer</li> <li>❖ Draw diagram of clinical thermometer</li> <li>❖ Define conduction, convection and radiation</li> </ul>	<a href="https://www.youtube.com/watch?v=89s45i_xAwI">https://www.youtube.com/watch?v=89s45i_xAwI</a> (3.06 SEC)  <a href="https://www.youtube.com/watch?v=wIbPRNZ6ho">https://www.youtube.com/watch?v=wIbPRNZ6ho</a> (2.23SEC)  <a href="https://www.youtube.com/watch?v=1Vc537c5agQ">https://www.youtube.com/watch?v=1Vc537c5agQ</a> (1.36 SEC) PRESENTATION  <a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNP">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNP</a>	SDG 4- Quality Education

				<ul style="list-style-type: none"> <li>❖ List examples of conductors and insulators of heat</li> <li>❖ Explain uses of good and bad conductors of heat</li> <li>❖ Explain sea and land breeze</li> </ul>	<a href="https://www.youtube.com/watch?v=MKRplxYhD?usp=sharing">MKRplxYhD?usp=sharing</a>	
	Ch8: Reproduction in plants		Activity: to study the process of spore formation with a piece of bread.	<ul style="list-style-type: none"> <li>❖ Define reproduction, vegetative reproduction</li> <li>❖ differentiate b/w sexual and asexual reproduction.</li> <li>❖ list various modes of asexual reproduction along with examples</li> <li>❖ List and explain various modes of artificial propagation along with examples</li> <li>❖ Differentiate between cutting and layering</li> <li>❖ Draw labelled diagram of flower</li> <li>❖ List advantages of artificial propagation</li> <li>❖ Explain wind pollination, insect pollination</li> <li>❖ Differentiate between cross and self pollination</li> <li>❖ Explain and draw labelled diagram of fertilization in flowers</li> <li>❖ Explain the need of seed dispersal</li> </ul>	<a href="https://www.youtube.com/watch?v=7zzp37y5DFg">https://www.youtube.com/watch?v=7zzp37y5DFg</a>  PRESENTATION  <a href="https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNP">https://drive.google.com/drive/folders/1lwW7UAW1wIAQtaaLUmouqNP</a> <a href="https://www.youtube.com/watch?v=MKRplxYhD?usp=sharing">MKRplxYhD?usp=sharing</a>	SDG 4- Quality Education
	Ch5: Physical and chemical Changes		<b>Experiment 12:</b> To study the change during displacement reaction between copper sulphate and iron nails.	<ul style="list-style-type: none"> <li>❖ Differentiate between physical and chemical changes and reversible and irreversible changes</li> </ul>	<a href="https://www.youtube.com/watch?v=TX6BYceUSL0">https://www.youtube.com/watch?v=TX6BYceUSL0</a>	SDG 9. Industry, innovation and

			Activity: to prepare magnesium hydroxide in the laboratory.	<ul style="list-style-type: none"> <li>❖ Write the equation reaction for rusting</li> <li>❖ Explain the ways of prevention of rusting</li> <li>❖ Explain evolution of gas, change in colour, change in energy, formation of precipitate, change of state</li> <li>❖ Write chemical equation for the above characteristics</li> <li>❖ Explain various types of chemical reactions</li> <li>❖ Identify oxidizing and reducing agents in the given equation</li> <li>❖ Explain the process of crystallization</li> </ul>	PRESENTATION  <a href="https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing">https://drive.google.com/drive/folders/1lwW7UAW1w/AQtaaLUmouqNPMKRplxYhD?usp=sharing</a>	infrastructure
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**\*Science week-6 to 17 November**

**\*Research Based Project and Integrated Project will be done in Term I and II.**

**\*Presentation week-18 to 25 April**

**\*The above mentioned dates are tentative.**