

DETAILED SYLLABUS

2024-25

CLASS: VII

SUBJECT: SCIENCE

BOOK

SCIENCE- VII

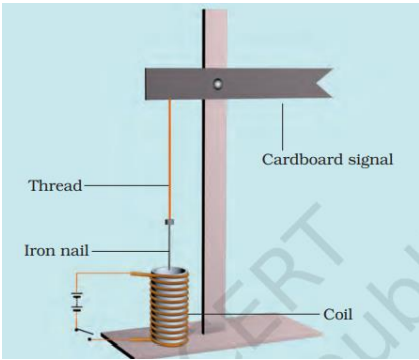
NCERT

OBJECTIVES:

The students will be able to:

1. analyze the relationship between the natural, social and cultural environment
2. synthesize the fundamentals of science
3. analyze the concepts and connect them with the surroundings
4. strengthen logical and analytical skills
5. create scientific attitude

MONTH/ BOOK	SYLLABUS	CONCEPT OBJECTIVES
APRIL		
Course Book	Lesson - 1: Nutrition in Plants	Students will be able to: <ul style="list-style-type: none"> • analyze the process of photosynthesis in different kinds of plants • compare the different modes of nutrition; heterotrophic and autotrophic. • synthesize the role of stomatal openings • analyze that food prepared in plants is stored as starch in stem, root and leaves • analyze parasitic, saprophytic, insectivorous and symbiotic arrangement of nutrition in plants. • explore about replenishing nutrients in the soil by carrying out rotation of crops
<u>Activity:</u> <u>Subject Enrichment</u>	1. Observe the saprophytic mode of nutrition through the growth of fungus on bread	
Course Book	Lesson -3: Heat	Students will be able to: <ul style="list-style-type: none"> • analyze heat as a form of energy • distinguish between clinical and laboratory thermometer • analyze the various modes of heating; conduction, convection and radiation in three states of matter • use a clinical thermometer
<u>Activity:</u> <u>Project</u>	Go to a veterinary doctor (a doctor who treats animals). Discuss and find out <ul style="list-style-type: none"> • the normal temperature of domestic animals and birds. • What type of thermometer is used? Is it different from the clinical thermometer that we use? • How is the thermometer used for animals/ birds? • Present your findings on an A\$ sheet along with relevant picture/ drawings. 	
MAY		
Course Book	Lesson -4: Acids, bases and salts Lesson -15: Light	Students will be able to: <ul style="list-style-type: none"> • distinguish between acids and bases on the basis of their physical properties • list and analyse the role of various natural indicators; turmeric, China rose extract and litmus • analyze the process of neutralization in everyday life • analyze and synthesize that light travels in a straight line • analyze that light gets reflected by smooth surfaces, hence changes its path • analyze and synthesize the characteristics of an image; • differentiate between real and virtual image • identify the images formed in concave and convex mirrors • analyze the use of concave and convex mirrors • identify and analyze the images formed by concave and convex lenses
<u>Activity:</u> <u>Subject Enrichment</u>	Experiment in groups of five: identify following substances as acidic, basic and neutral in nature using indicators; turmeric, China rose extract and litmus <ul style="list-style-type: none"> • lemon juice • orange juice • vinegar • baking soda • shampoo/ liquid soap • water • curd • tamarind • aerated drink • milk • potato 	

		<ul style="list-style-type: none"> observe and analyze the phenomenon of dispersion of white light with the help of a prism
PERIODIC ASSESSMENT I		
PA I SYLLABUS:		
Lesson - 1: Nutrition in Plants Lesson -3: Heat		
JULY		
Course Book	Lesson -2: Nutrition in Animals	Students will be able to:
Activity Multiple Assessment	Prepare a model with clay dough and explain: <ul style="list-style-type: none"> Various stages of amoeba showing ingestion of food OR digestive system of human being 	<ul style="list-style-type: none"> analyze the mode of ingestion in unicellular, multicellular and aquatic animals synthesize the role of each organ in human digestive system synthesize the role of enzymes and hormones in the process of digestion of different nutrients. analyze the process of digestion in grass eating animals (ruminants)
AUGUST		
Course Book	Lesson - 10: Electric current and its effect	Students will be able to:
Activity: Subject Enrichment	Using an electromagnet, you can make a working model of a railway signal as shown below-  <p>Link: https://youtu.be/iqJMbjBOFw?si=aDulpw_xtHJz_u4o</p>	<ul style="list-style-type: none"> identify the components of an electric circuit analyze the heating effect of electric current analyze the magnetic effect of electric current prepare an electromagnet using a nail. identify and illustrate the circuit of electric bell
PERIODIC ASSESSMENT II		
PA II SYLLABUS:		
Lesson -4: Acids, bases and salts Lesson -15: Light Lesson -2: Nutrition in Animals		
SEPTEMBER		
Course Book	Lesson -5: Physical and chemical Changes REVISION AND MID TERM EXAMINATION	Students will be able to:
Activity: Project	Do research on the iron pillar near Qutb Minar. Find out why it has not rusted even though it was made 1600 years ago.	<ul style="list-style-type: none"> Identify physical & chemical changes List out properties that help in identifying chemical/ physical changes distinguish between physical and chemical changes Form word equations to indicate chemical changes analyze and interpret the rusting of iron and its preventive measures
MID TERM EXAMINATION		

MID TERM EXAMINATION SYLLABUS		
Lesson 1: Nutrition in Plants Lesson 2: Nutrition in Animals Lesson 3: Heat Lesson 4: Acids, bases and salts Lesson 10: Electric current and its effect Lesson 15: Light		
OCTOBER		
Course Book	Lesson 6- Respiration in organisms	Students will be able to: <ul style="list-style-type: none"> differentiate between breathing and respiration analyse the importance of respiration in animals differentiate between aerobic and anaerobic respiration identify and illustrate human respiratory system analyse breathing in other animals like cockroach, earthworm and fish
Activity Multiple Assessment	Students to do research and present in the class in group of 5/7 <ul style="list-style-type: none"> effects of smoking/ pollution on human respiratory system how animals other than humans breath the process of breathing 	
NOVEMBER		
Course Book	Lesson 7- Transportation in animals and plants Lesson 8- Reproduction in plants	Students will be able to: <ul style="list-style-type: none"> analyse the need of transportation of substances; nutrients, food and water in animals identify basic components of blood and their functions differentiate between arteries and veins illustrate the sections of human heart analyse the importance of excretory system in human body; metabolic waste illustrate human excretory system analyse the importance of transportation of water and minerals in plants differentiate between xylem and phloem analyse the importance of water on earth and the causes of depleting water table differentiate between asexual and sexual reproduction synthesize various modes of asexual reproduction; vegetative propagation, budding, fragmentation and spore formation analyse and illustrate various reproductive parts of a flower differentiate between self-pollination and cross pollination synthesize various ways of seed dispersal differentiate between breathing and respiration
Activity Subject Enrichment	<ul style="list-style-type: none"> experiment to show osmosis in whole potato take a white flower with a stem and dip it in coloured water, the water rises and the colour of the flower changes. 	
PERIODIC ASSESSMENT II		
PA III SYLLABUS:		
Lesson 6- Respiration in organisms Lesson 7- Transportation in animals and plants Lesson 8- Reproduction in plants		
DECEMBER		
Course Book	Lesson- 9: Motion and time	Students will be able to: <ul style="list-style-type: none"> identify motion and categorize them; rectilinear, curvilinear, rolling, periodic oscillatory differentiate between slow and fast motion define and measure speed differentiate between uniform and non-uniform motion identify the units of speed
Activity: Project	Collect information about time-measuring devices that were used in the ancient times in different parts of the world.	

	Prepare a brief write up on each one of them. The write up may include <ul style="list-style-type: none"> • the name of the device • the place of its origin • the period when it was used • the unit in which the time was measured by it • and a drawing or a photograph of the device, if available. 	
JANUARY		
Course Book	Lesson- 13: Waste water story	Students will be able to: <ul style="list-style-type: none"> • analyze the importance of water in balancing the ecosystem • give reasons for water pollution • identify different kinds of sewage, its treatment and disposal methods • explore about WWTP (waste water treatment plant) and the importance of sanitation
Activity Multiple Assessment	Construct a crossword based on key words from the lesson. Then exchange it with your partner and solve it.	
FEBRUARY		
Course Book	Lesson-12: Forest – Our Lifelines REVISION AND ANNUAL EXAMINATION	Students will be able to: <ul style="list-style-type: none"> • define and describe forest and its structure • identify and list various products obtained from forest • analyze the food chain and list the constituents of food chain
Project	Do research on any one forest (in India) and present the information on an A4 sheet along with pictures. Find out the flora and fauna of the forest. Share your information in class.	
Activity	<ul style="list-style-type: none"> • calculate time taken by an oscillatory object in one oscillation and infer the relation between the number of oscillations with the length of the thread with which the object is suspended 	
ANNUAL EXAMINATION		
ANNUAL EXAMINATION SYLLABUS: Chapter 1- Nutrition in Plants Chapter 2- Nutrition in Animals Chapter 3- Heat Chapter 4- Acids, Bases and Salts Chapter 5- Physical and Chemical Changes Chapter 6- Respiration in Organisms Chapter 7- Transportation in Animals and Plants Chapter8- Reproduction in Plants Chapter 9- Motion and Time Chapter 10- Electric Current & its Effects Chapter 11- Light Chapter 12- Forests: Our Lifeline Chapter 13- Waste Water Story		