DIRECTORATE OF EDUCATION, GNCT of Delhi
ANNUAL SYLLABUS (2026-27)

CLASS: 7, SUBJECT: SCIENCE

BOOK: CURIOSITY

Science Education aims to achieve Scientific understanding of the natural and physical world; Capacities for scientific inquiry; Understanding the evolution of scientific knowledge; Interdisciplinary understanding between science and other curricular areas; Understanding of the relationship between Science, Technology and, Society; Scientific temper and Creativity.

The present syllabus has been designed around seven broad themes viz. Food; Materials; The World of the Living; How Things Work; Moving Things, People and Ideas; Natural Phenomenon and Natural Resources.

In the Middle Stage, Science is taught using integrated approach. This integrated approach develops fundamental capacities related to the disciplines of Biology, Chemistry, Physics, and Earth Science while the use of connections across them helps students appreciate the interrelations between these subjects and make sense of their observations and experiences.

At all Stages, along with conceptual understanding, the capacities of scientific inquiry are developed as age appropriate. These concepts and capacities are chosen both from a disciplinary perspective and in terms of what is useful and necessary in their everyday lives. Students thereby understand the world around them with increasing depth, explore scientific questions at different levels through discussion and experimentation, and learn to communicate this understanding in different ways.

The Learning Standards (Curricular Goals and Competencies) for Science as an integrated curricular area, in alignment with the National Curriculum Framework 2023 are as follows:

Curricular Goals	Competencies
CG-1: Explores the world of matter and its constituents, properties, and behaviour	C-1.1 Classifies matter based on observable physical (solid, liquid, gas, shape, volume, density, transparent, opaque, translucent, magnetic, non-magnetic, conducting, non-conducting) and chemical (pure, impure; acid, base; metal, non-metal; element, compound) characteristics C-1.2 Describes changes in matter (physical and chemical) and uses particulate nature to represent the properties of matter and the changes C-1.3 Explains the importance of measurement and measures physical properties of matter (such as volume, weight, temperature, density) in indigenous, non-standard and standard units using simple instruments C-1.4 Observes and explains the phenomena caused due to differences in pressure, temperature, and density (e.g., breathing, sinking-floating, water pumps in homes, cooling of things, formation of winds)

Curricular Goals	Competencies
CG-2: Explores the physical world in scientific and mathematical terms	C-2.1 Describes one-dimensional motion (uniform, non-uniform, horizontal, vertical) using physical measurements (position, speed, and changes in speed) through mathematical and diagrammatic representations C-2.2 Describes how electricity works through manipulating different elements in simple circuits and demonstrates the heating and magnetic effects of electricity C-2.3 Describes the properties of a magnet (natural and artificial; Earth as a magnet) C-2.4 Demonstrates rectilinear propagation of light from different sources (natural, artificial, reflecting surfaces), verifies the laws of reflection through manipulation of light sources and objects and the use of apparatus and artefacts (such as plane and curved mirrors, pinhole camera, kaleidoscope, periscope) C-2.5 Observes and identifies celestial objects (stars, planets, natural and artificial satellites, constellations, comets) in the night sky using a simple telescope and images/photographs, and explains their role in navigation, calendars, and

	other phenomena (phases of the moon, eclipse, life on earth)
CG-3: Explores the living world in scientific terms	C-3.1 Describes the diversity of living things observed in the natural surroundings (insects, earthworms, snails, birds, mammals, reptiles, spiders, diverse plants, and fungi), including at a smaller scale (microscopic organisms) C-3.2 Distinguishes the characteristics of living organisms (need for nutrition, growth and development, need for respiration, response to stimuli, reproduction, excretion, cellular organisation) from non-living things C-3.3 Analyses patterns of relationships between living organisms and their environments in terms of dependence on and response to each other C-3.4 Explains the conditions suitable for sustaining life on Earth and other planets (atmosphere; suitable temperature-pressure, light; properties of water)
CG-4: Understands the components of health, hygiene,	C-4.1 Undertakes a nutrition-based analysis of food components with special reference to Indian culinary practices and modern understanding of nutrition, and explains the effect of nutrition on

and well-being	health C-4.2 Examines different dimensions of diversity of food — sources, nutrients, climatic conditions, diets C-4.3 Describes biological changes (growth, hormonal) during adolescence, and measures to ensure overall well-being C-4.4 Recognises and discusses substance abuse, viewing school as a safe space to raise these concerns
CG-5: Understands the interface of Science, Technology, and Society	C-5.1 Illustrates how Science and Technology can help to improve the quality of human life (health care, communication, transportation, food security, mitigation of climate change, judicious consumption of resources, applications of artificial satellites) as well as some of the harmful uses of science in history C-5.2 Shares views on news and articles related to the impact that Science/Technology and society have on each other
CG-6: Explores the nature and processes of	C-6.1 Illustrates how scientific knowledge and ideas have changed over time (description of motion of objects and planets, spontaneous generation of life, number of planets) and identifies the scientific values that are inherent

Science through engaging with the evolution of scientific knowledge and conducting scientific inquiry	and common across the evolution of scientific knowledge (scientific temper, Science as a collective endeavour, conserving biodiversity and ecosystems) C-6.2 Formulates questions using scientific terminology (to identify possible causes for an event, patterns, or behaviour of objects) and collects data as evidence (through observation of the natural environment, design of simple experiments, or use of simple scientific instruments)
CG-7: Communicates questions, observations, and conclusions related to Science	C-7.1 Uses scientific vocabulary to communicate Science accurately in oral and written form, and through visual representation C-7.2 Designs and builds simple models to demonstrate scientific concepts C-7.3 Represents real world events and relationships through diagrams and simple mathematical representations
CG-8: Understands and appreciates the contribution of India through history and the present times to the overall field of Science, including the disciplines that constitute it	C-8.1 Knows and explains the significant contributions of India to all matters (concepts, explanations, methods) that are studied within the curriculum in an integrated manner
CG-9: Develops awareness of the most current discoveries, ideas, and frontiers in all areas of scientific knowledge	C-9.1 States concepts that represent the most current understanding of the matter being studied — ranging from mere familiarity to conceptual understanding appropriate to the developmental stage C-9.2 States questions related to matters in the curriculum for which current scientific understanding is well-recognised to be inadequate

It is important to note that the Curricular Goals are interdependent, and not separate curricular pieces of study.

(Reference: National Curriculum Framework for School Education – 2023.)

THEME	CONTENT	SUGGESTIVE LEARNING OUTCOMES	SUGGESTIVE ACTIVITIES
How Things Work	***Ch-1: The Ever-Evolving World of Science**	The learner • Understands science as a process of inquiry — recognizes that science is based on curiosity, questioning, observation, and experimentation, not just facts. • Develops the ability to ask meaningful and creative questions about everyday phenomena and situations. • Recognizes the interconnected nature of different branches of science (physics, chemistry, biology, earth science). • Relates science learning to real life and environmental responsibility	• **1.1**: Develop questioning and creative thinking skills e.g. What kind of creative questions you can ask for the following answers- -Just add some milk. -Because the cat's teeth were crooked.
Materials	**Ch-2: Exploring Substances: Acidic, Basic, and Neutral**	• Classifies substances as acidic, basic, or neutral using indicators and observable properties. • Uses natural and synthetic indicators to test the nature of given substances. • Relates acid–base concepts to real-life situations	• **2.1:** Test various household samples with red and blue litmus paper and group them. • **2.2:** Relate taste and touch (sour, slippery, bitter) with acidic/basic nature. • **2.3 :** Prepare red rose extract as a natural indicator. • **2.4:** Test substances using red rose extract indicator. • **2.5 :**Prepare turmeric paper strips as an indicator. • **2.6 :**Use onion as an olfactory indicator to detect acids and bases. • **2.7 :**Demonstrate neutralisation using lemon juice and lime water.
How Things Work	**Ch-3: Electricity: Circuits and their Components**	• Identifies and describes the components of a simple electric circuit • Constructs and explains a simple closed circuit and states the condition required for a bulb/LED to glow. • Differentiates between conductors and insulators based on testing with a simple circuit. • Draws and interprets basic circuit diagrams using	• 3.1-Explore a torchlight and identify its parts. • 3.2 –Observe an electric cell and identify terminals. • 3.3- Experiment with different arrangements of cells to form a battery. • 3.4 – Observe an incandescent lamp and its filament.

		standard symbols.	• 3.5 – Observe an LED and identify its terminals. • 3.6 – Construct a circuit to glow a lamp using a cell/battery. • 3.7 – Make an LED glow and test correct polarity. • 3.8 – Construct a simple switch. • 3.9 – Test the working of the switch in a circuit. • 3.10 –Draw circuit diagrams using symbols. • 3.11 – Identify conductors and insulators using a tester circuit.
The World of the Living	**Ch-6: Adolescence: A Stage of Growth and Change**	• Explains adolescence and puberty and describes the major physical and biological changes that occur during this stage. • Differentiates between primary and secondary sexual characteristics and relates them to reproductive maturity. • Describes emotional and behavioural changes in adolescents and suggests positive ways to manage them. • Recognises the importance of healthy lifestyle practices during adolescence	• **6.1:** Enlist and discuss observable changes from Grades 5–8 using paper slips. • **6.2:** Identify emotional and behavioural changes and ways for positive growth (table work). • **6.3 :** Enlist local food sources, nutrients, and their functions for adolescent health. • **6.4 :** Design posters/pamphlets on responsible social media behaviour and fill dos–don'ts table.
Natural Resources	**Ch- 7:Heat Transfer in Nature**	• Explains different modes of heat transfer — conduction, convection, and radiation with suitable examples. • Differentiates between conductors and insulators of heat and relates their uses in daily life. • Describes convection currents in air and water and connects them with natural phenomena like land breeze and sea breeze. • Relates heat transfer concepts to practical applications such as clothing choices, cooking utensils, and home ventilation.	• **7.1** :Compare heating of different materials to identify good and poor conductors. • **7.2** : Demonstrate conduction using a metal rod/wire with wax and pins. • **7.3** :Observe convection currents in water using colour/dye. • **7.4** :Model convection in air to understand breeze formation. • **7.5** :Explore radiation by comparing heating in sunlight vs shade / different coloured surfaces.

Moving Things, People and Ideas	**Ch-8: Measurement of Time and Motion**	• Explains methods of measurement of time using natural cycles and devices such as sundial, water clock, pendulum, and modern clocks; states the SI unit of time. • Describes a simple pendulum and determines its time period and infer that time period depends on length (not mass). • Defines and calculates speed using the relation speed = distance ÷ time, and uses correct units (m/s, km/h). • Differentiates between uniform and non-uniform linear motion using distance–time observations and examples.	• **8.1 :** Design a simple water clock using a plastic bottle and mark time intervals. • **8.2 :** Set up a simple pendulum and measure time period for oscillations; compare with different lengths/masses. • **8.3 :** Observe a wall clock and determine the smallest measurable time interval. • **8.4:** Use railway timetable data to compute speed of trains between two stations.
The World of the Living	**Ch-9: Life Processes in Animals**	• Explains major life processes in animals — nutrition, respiration, transport (circulation), and excretion — and their importance for survival. • Describes the human digestive system and outlines the pathway and function of different organs involved in digestion. • Explains breathing and respiration and distinguish between them with examples. • Describes the role of the heart, blood and blood vessels in transport of substances in the body.	• **9.1** :Test the presence of starch in food using iodine solution. • **9.2** :Observe action of saliva on starch (chewing experiment). • **9.3** :Measure breathing rate at rest and after exercise. • **9.4**: Locate and count pulse rate and relate it to heartbeat. • **9.5** : Prepare a simple model/chart of the human digestive system.
➢ **The above mentioned syllabus must be completed by September 05 ,2026.** ➢ **Revision of syllabus for Mid Term Examination.**			
MID TERM EXAMINATION			

THEME	CONTENT	SUGGESTIVE LEARNING OUTCOMES	ACTIVITIES
Materials	**Ch- 4: The World of Metals and Non-metals**	• Differentiates between metals and non-metals based on key physical properties — lustre, hardness, malleability, ductility, sonority, and conductivity. • Explains conduction of heat and electricity and relates these properties to everyday uses of metals and non-metals. • Describes rusting and corrosion of metals (especially iron**)** and states the conditions required for rusting. • Compares reactions of metals and non-metals with oxygen and water and identifies the nature of their oxides (basic vs acidic).	• **4.1 :** Test lustre, hardness, and malleability by hammering copper, aluminium, iron, sulfur, coal, wood. • **4.2:** Compare sounds produced by metals vs non-metals (sonority test). • **4.3** :Compare heat conduction using metal and wooden spoons in hot water. • **4.4 :** Build a tester circuit to check electrical conductivity of materials. • **4.5 :** Investigate rusting of iron under different conditions (air/water). • **4.6 :** Burn magnesium ribbon and test nature of oxide. • **4.7 :** Burn sulphur and test acidic nature of oxide solution. • **4.8 :** Observe behaviour of sulphur in water.
Materials	**Ch-5 :Changes Around Us: Physical and Chemical**	• Differentiate between physical and chemical changes based on observable features such as reversibility, formation of new substance, and energy change. • Identifies indicators of chemical change — colour change, gas evolution, temperature change, precipitate formation. • Explains common chemical changes in daily life such as rusting, burning, curd formation, and fermentation.	• **5.1 :** Classify everyday changes as physical or chemical. • **5.2 :** Observe melting/freezing and dissolving as physical changes. • **5.3 :** Heat substances (like sugar) and observe signs of chemical change. • **5.4 :** Show reaction between vinegar/lemon juice and baking soda (gas evolution). • **5.5 :**Set up conditions to observe rusting of iron. • **5.6 :** Prepare crystals from a saturated solution (crystallisation).
			• **10.1**:Compare plant growth under different conditions of sunlight and water (three-pot

The World of the Living	**Ch-10: Life Processes in Plants**	• Explains the process of photosynthesis and states its requirements — sunlight, chlorophyll, water and carbon dioxide — and products (glucose and oxygen). • Describes the role of leaves, chlorophyll, and stomata in food preparation and gaseous exchange in plants. • Explains transport in plants — movement of water and minerals through xylem and food through phloem. • Establishes that plants also respire and release energy by breaking down glucose using oxygen.	experiment). • **10.2**:Iodine test on leaf to show presence of starch. • **10.3** :Compare green vs non-green leaf patches for starch formation (role of chlorophyll & sunlight). • **10.4**:Show role of carbon dioxide in photosynthesis using caustic soda setup. • **10.5**:Aquatic plant setup to show oxygen release during photosynthesis. • **10.6 :** Microscopic observation of stomata in leaf peel. • **10.7**:Coloured water experiment to show water transport through xylem. • **10.8**:Germinating seeds setup to show respiration in plants.
Natural Phenomena	**Ch-11: Light: Shadows and Reflections**	• Differentiates between luminous and non-luminous objects and identifies common natural and artificial sources of light. • Explains that light travels in a straight line and justifies it using simple experimental evidence. • Classifies materials as transparent, translucent and opaque and relates them to shadow formation. • Describes reflection of light and image formation in a plane mirror — properties like erect image, same size, lateral inversion, and no screen image.	• **11.1**: Three matchbox hole experiment to show that light travels in a straight line. • **11.2** :Viewing candle flame through straight vs bent pipe. • **11.3** :Classifying materials as transparent, translucent, opaque using torch/laser. • **11.4** :Shadow formation with different object positions. • **11.5** :Reflection using shiny plate/mirror in sunlight. • **11.6** :Comb slit + mirror experiment to observe reflection path. • **11.7** : Observing image of objects in plane mirror. • **11.8** :Image distance vs object distance in mirror. • **11.9** :Simple pinhole camera with candle. • **11.10** :Constructing a sliding pinhole camera.

Natural Phenomena	**Ch-12: Earth, Moon, and the Sun**	• Explains rotation and revolution of the Earth and relate rotation to day–night cycle and apparent motion of Sun and stars. • Explains causes of seasons using Earth's tilted axis and revolution around the Sun (not distance from Sun). • Describes phases and apparent motions of celestial bodies (Sun, Moon, stars) and changing night sky patterns. • Differentiates between solar eclipse and lunar eclipse and states conditions and safe viewing practices.	• **12.1**:Merry-go-round model to understand apparent motion due to rotation. • **12.2** :Globe + torch activity to demonstrate Earth's rotation and day–night cycle. • **12.3** :Night sky observation: Track Big Dipper movement around Pole Star. • **12.4** :Thumb and distant object activity to understand apparent size (basis of solar eclipse).
Revision of entire syllabus for Annual Examination Annual Exam 2027			
Note:- ➢ **The whole syllabus must be completed by 30 January, 2027.** ➢ **Annual examination will be based on entire annual syllabus.** ➢ ***Chapter -1: 'The Ever-Evolving World of Science' is non evaluative.**			
Annual Exam 2027			