

# **Curricular Priorities**



## Senior Wing Manual

**The NCF: National Curriculum Front** recommends the educational objectives for each Class level in India.

**NCERT: National Council for Educational Research and Training** takes up the responsibility of research and development of curriculum in different subjects in each class level and suggests topics to be learnt by students in each class level. Text books are also developed by NCERT from time to time with upgraded syllabus.

**CBSE: Central Board of Secondary Education New Delhi** takes the guidelines from **NCERT** and develops syllabus and Text Books for the Classes 1 to 12.

It depends on the Schools following CBSE whether they use NCERT or CBSE published books.

There are many private publishers also who print text books according to the NCERT and CBSE guidelines. Many schools use books from private publishers too. The important point is to realize the learning objectives of a class and age level. Text books are tools and not the only resources.

We in Silver Oaks, believe in 'learning for application'. Therefore, we follow different sources of learning to make our students into lifelong learners.

### Grades 7 & 8

English	Orient Blackswan
Math	Oxford Press
Science	Oxford press
SST	Oxford Press
Hindi	NCERT
Telugu	Telugu Academy

**Note:** However parents are to note that text books are only used as reference books. The School takes the responsibility of ensuring that the child learns the objectives of that Class level through different sources.

Our Approach in Teaching: hands on experience for Science & math, local regional national and global awareness in SST, language for written & spoken communication are the focal points of teaching these subjects.

### Grades 9 & 10

All NCERT Text Books

The focus is on developing higher order thinking skills and application oriented knowledge as recommended by CBSE.

**The topics in the pages on 'Curricular priorities' are from the guidelines of the NCERT.**



## Grade VII - English

Language Objectives	Description
<b>Self Assessment</b>	<ul style="list-style-type: none"> <li>◆ To negotiate their own learning goals and evaluate their own progress, edit, revise, review their own work</li> </ul>
<b>Articulate</b>	<ul style="list-style-type: none"> <li>◆ To be able to articulate individual/personal responses effectively</li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>◆ To use language and vocabulary appropriately in different contexts and social encounters</li> </ul>
<b>Proficiency</b>	<ul style="list-style-type: none"> <li>◆ To be able to organise and structure thoughts in writing/speech</li> </ul>
<b>Exposure</b>	<ul style="list-style-type: none"> <li>◆ To understand and enjoy jokes, skits, children's films, anecdotes and riddles.</li> </ul>
<b>Familiarity</b>	<ul style="list-style-type: none"> <li>◆ To use dictionary suitable to their needs.</li> </ul>
<b>Language Items</b>	<p>Knowledge of grammar remains a process of discovery combined with a conscious effort to explicitly understand and name grammatical items. However, these should not be taken out of contexts to be treated as discrete teaching items. In addition to consolidating the items learnt earlier, the following will be introduced and recycled at this stage.</p> <ul style="list-style-type: none"> <li>◆ Determiners</li> <li>◆ Passivisation</li> <li>◆ Linking words</li> <li>◆ Adjectives (comparative and superlative forms)</li> <li>◆ Adverbs (place and types)</li> <li>◆ Model auxiliaries</li> <li>◆ Tense forms</li> <li>◆ Word order in sentence types</li> <li>◆ Clauses</li> <li>◆ Reported speech</li> </ul>
<b>Learner Outcome</b>	<ul style="list-style-type: none"> <li>◆ Understand the central idea and locate details in the text (prescribed and non-prescribed)</li> <li>◆ Use his/her critical/thinking faculty to read between the lines and go beyond the text</li> <li>◆ Narrate simple experiences, describe objects and people, report events to peers.</li> <li>◆ Speak accurately with appropriate pauses and clear word/sentence stress to be intelligible in familiar social contexts.</li> <li>◆ Write simple messages, invitations, short paragraphs, letters (formal and informal) applications, simple narrative and descriptive pieces, etc.</li> <li>◆ Use his/ her proficiency in English to explore and study other areas of knowledge through print and non-print media.</li> <li>◆ To undertake small projects on a regular basis</li> </ul>

## Grade VII - Mathematics

Main Theme	Topics under the theme
<b>Data handling</b>	<ul style="list-style-type: none"> <li>◆ Collection and organization of data – choosing the data to collect for a hypothesis testing.</li> <li>◆ Mean, median and mode of ungrouped data – understanding what they represent.</li> <li>◆ Constructing bar graphs</li> <li>◆ Feel of probability using data through experiments.</li> <li>◆ Notion of chance in events like tossing coins, dice etc.</li> <li>◆ Tabulating and counting occurrences of 1 through 6 in a number of throws.</li> <li>◆ Comparing the observation with that of a coin.</li> <li>◆ Observing strings of throws, notion of randomness.</li> </ul>
<b>Number System</b>	<p><b>(i) Knowing our Numbers:</b></p> <ul style="list-style-type: none"> <li>◆ Integers</li> <li>◆ Multiplication and division of integers (through patterns).</li> </ul> <p><b>Division by zero is meaningless</b></p> <ul style="list-style-type: none"> <li>◆ Properties of integers (including identities for addition &amp; multiplication, commutative, associative, distributive) - (through patterns). These would include examples from whole numbers as well. Involve expressing commutative and associative properties in a general form.</li> <li>◆ Construction of counter examples, including some by children.</li> </ul> <p><b>Counter examples like subtraction is not commutative.</b></p> <ul style="list-style-type: none"> <li>◆ Word problems including integers (all operations)</li> </ul> <hr/> <p><b>(ii) Fractions and rational numbers:</b></p> <ul style="list-style-type: none"> <li>◆ Multiplication of fractions</li> <li>◆ Fraction as an operator</li> <li>◆ Reciprocal of a fraction</li> <li>◆ Division of fractions</li> <li>◆ Word problems involving mixed fractions</li> <li>◆ Introduction to rational numbers (with representation number line)</li> <li>◆ Operations on rational numbers (all operations)</li> <li>◆ Representation of rational number as a decimal.</li> <li>◆ Word problems on rational numbers (all operations)</li> <li>◆ Multiplication and division of decimal fractions Conversion of units (length &amp; mass)</li> <li>◆ Word problems (including all operations)</li> </ul> <hr/> <p><b>(iii) Powers:</b></p> <ul style="list-style-type: none"> <li>◆ Exponents only natural numbers.</li> <li>◆ Laws of exponents (through observing patterns to arrive at generalisation.)</li> </ul>

Main Theme	Topics under the theme
<b>Geometry</b>	<ul style="list-style-type: none"> <li>◆ Understanding shapes:</li> <li>◆ Pairs of angles (linear, supplementary, complementary, adjacent, vertically opposite)(verification and simple proof of vertically opposite angles)</li> <li>◆ Properties of parallel lines with transversal (alternate, corresponding, interior, exterior angles)</li> <li>◆ Properties of triangles:</li> <li>◆ Angle sum property (with notions of proof &amp; verification through paper folding, proofs using property of parallel lines, difference between proof and verification.)</li> <li>◆ Exterior angle property</li> <li>◆ Sum of two sides of a triangle is greater than it's third side.</li> <li>◆ Pythagoras Theorem (Verification only)</li> <li>◆ Symmetry</li> <li>◆ Recalling reflection symmetry</li> <li>◆ Idea of rotational symmetry, observations of rotational symmetry of 2-D objects. (900, 1200, 1800)</li> <li>◆ Operation of rotation through <math>90^\circ</math> and <math>180^\circ</math> of simple figures.</li> <li>◆ Examples of figures with both rotation and reflection symmetry</li> <li>◆ (both operations) Examples of figures that have reflection and rotation symmetry and vice-versa</li> <li>◆ Representing 3-D in 2-D figures Drawing 3-D figures in 2-D showing hidden faces.</li> <li>◆ Identification and counting of vertices, edges, faces, nets (for cubes cuboids, cylinders and cones).</li> <li>◆ Matching pictures with objects.</li> <li>◆ Mapping the space around approximately through visual estimation.</li> <li>◆ Congruence</li> <li>◆ Congruence through superposition (examples blades, stamps, etc.)</li> <li>◆ Extend congruence to simple geometrical shapes e.g. triangles, circles.</li> <li>◆ Criteria of congruence (by verification) SSS, SAS, ASA, RHS</li> <li>◆ Construction (Using scale, protractor, compass)</li> <li>◆ Construction of a line parallel to a given line from a point outside it. (Simple proof as remark with the reasoning of alternate angles)</li> <li>◆ Construction of simple triangles (a) like given three sides, (b) given a side and two angles on it, (c) given two sides and the angle between Mensuration</li> <li>◆ Revision of perimeter, Idea of, Circumference of Circle <i>Area</i></li> <li>◆ Concept of measurement using a basic unit area of a square, rectangle, triangle, parallelogram and circle, area between two rectangles and two concentric circles.</li> </ul>
<b>Algebra</b>	<b>Algebraic Expressions</b> <ul style="list-style-type: none"> <li>◆ Generate algebraic expressions (simple) involving one or two variables</li> <li>◆ Identifying constants, coefficient and powers</li> <li>◆ Like and unlike terms, degree of expressions</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ (exponent of 3 number of variables )</li> <li>◆ Addition, subtraction of algebraic expressions (coefficients should be integers).</li> <li>◆ Simple linear equations in one variable (in contextual problems) with two operations (avoid complicated coefficients) Ratio and Proportion</li> <li>◆ Ratio and proportion (revision)</li> <li>◆ Unitary method continued, consolidation, general expression. Percentage- an introduction.</li> <li>◆ Understanding percentage as a fraction with denominator 100</li> <li>◆ Converting fractions and decimals into percentage and vice-versa.</li> <li>◆ Application to profit and loss (single transaction only)</li> <li>◆ Application to simple interest (time period in complete years).</li> </ul>

### Grade VII - Sciences

Main Theme	Topics under the theme
<b>Food</b>	<p><b>Food from where</b></p> <ul style="list-style-type: none"> <li>◆ Autotrophic and heterotrophic nutrition; parasites, saprophytes; photosynthesis.</li> </ul> <p><b>Utilization of food</b></p> <ul style="list-style-type: none"> <li>◆ Types of nutrition, nutrition in amoeba and human beings.</li> <li>◆ Digestive system – human, ruminants; types of teeth; link with transport and respiration.</li> </ul>
<b>Materials</b>	<p><b>Materials of daily use</b></p> <ul style="list-style-type: none"> <li>◆ Wool, silk – animal fibres. Process of extraction of silk; associated health problems. Heat flow; temperature.</li> </ul> <p><b>Different kinds of Materials</b></p> <ul style="list-style-type: none"> <li>◆ Classification of substances into acidic, basic and neutral; indicators.</li> </ul> <p><b>How things change/ react with one another:</b></p> <ul style="list-style-type: none"> <li>◆ Chemical substances - In a chemical reaction a new substance is formed.</li> <li>◆ Substances can be separated by crystallization.</li> </ul>
<b>The World of the Living</b>	<p><b>Surroundings affect the living</b></p> <ul style="list-style-type: none"> <li>◆ Climate, soil types, soil profile absorption of water in soil, suitability for crops adaptation of animals to different climates.</li> </ul> <p><b>The breath of life</b></p> <ul style="list-style-type: none"> <li>◆ Respiration in plants and animals.</li> </ul> <p><b>Movement of substances</b></p> <ul style="list-style-type: none"> <li>◆ Herbs, shrubs, trees; Transport of food and water in plants; circulatory and excretion system in animals; sweating.</li> </ul>

Main Theme	Topics under the theme
	<p><b>Multiplication in plants</b></p> <ul style="list-style-type: none"> <li>◆ Vegetative, asexual and sexual reproduction in plants, pollination - cross, self pollination; pollinators, fertilisation, fruit, seed.</li> </ul>
<p><b>Moving Things, People &amp; Ideas</b></p>	<p><b>Moving objects</b></p> <ul style="list-style-type: none"> <li>◆ Appreciation of idea of time and need to measure it.</li> <li>◆ Measurement of time using periodic events. Idea of speed of moving objects – slow and fast</li> <li>◆ Motion along a straight line</li> </ul>
<p><b>How Things Work</b></p>	<p><b>Electric current and circuits</b></p> <ul style="list-style-type: none"> <li>◆ Electric circuit symbols for different elements of circuit.</li> <li>◆ Heating effect of current. Principle of fuse. A current-carrying wire has an effect on a magnet. A current-carrying coil</li> <li>◆ Behaves like a magnet.</li> <li>◆ Working of an electric bell.</li> </ul>
<p><b>Natural Phenomena</b></p>	<p><b>Rain, thunder and lightning</b></p> <ul style="list-style-type: none"> <li>◆ High-speed winds· Heavy rainfall have disastrous consequences for life.</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>◆ Rectilinear propagation of light. Reflection, certain surfaces reflect light.</li> <li>◆ Real and virtual images.</li> <li>◆ White light is composed of many colours</li> </ul>
<p><b>Natural Resources</b></p>	<p><b>Scarcity of water</b></p> <ul style="list-style-type: none"> <li>◆ Water exists in various forms in nature.</li> <li>◆ Scarcity of water and its effect on life.</li> </ul> <p><b>Forest products</b></p> <ul style="list-style-type: none"> <li>◆ Interdependence of plants and animals in forests.</li> <li>◆ Forests contribute to purification of air and water.</li> </ul> <p><b>Waste Management</b></p> <ul style="list-style-type: none"> <li>◆ Sewage; need for drainage/sewer systems that are closed.</li> </ul>

## Class VII – Social Studies

Main Theme	Topics under the theme
<b>History</b>	<p><b>Where, When and How</b></p> <ul style="list-style-type: none"> <li>◆ Terms used to describe the subcontinent and its regions with a map.</li> <li>◆ An outlining of the time frame and major developments.</li> <li>◆ A brief discussion on sources.</li> </ul>
	<p><b>The Sultans of Delhi</b></p> <ul style="list-style-type: none"> <li>◆ An overview.</li> <li>◆ The development of political institutions and relationships amongst rulers.</li> </ul>
	<p><b>The Creation of An Empire</b></p> <ul style="list-style-type: none"> <li>◆ An outline of the growth of the Mughal Empire.</li> <li>◆ Relations with other rulers, administration and the court &amp; agrarian relations.</li> <li>◆ Trace the political history of the 16th and 17<sup>th</sup> centuries.</li> <li>◆ Understand the impact of an imperial administration at the local and regional levels.</li> </ul>
	<p><b>Architecture as Power: Forts and Sacred Places</b></p> <ul style="list-style-type: none"> <li>◆ Varieties of monumental architecture in different parts of the country.</li> </ul>
	<p><b>Towns, Traders and Craftsmen</b></p> <ul style="list-style-type: none"> <li>◆ Varieties of urban centres— court towns, pilgrimage centres, ports and trading towns</li> <li>◆ Trace the origins and histories of towns, many of which survive today.</li> <li>◆ Demonstrate the differences between founded towns and those that grow as a result of trade</li> </ul>
	<p><b>Social Change: Mobile and settled communities</b></p> <ul style="list-style-type: none"> <li>◆ A discussion on tribes, nomads and itinerant groups.</li> <li>◆ Changes in the caste structure.</li> <li>◆ Convey an idea of long-term social change and movements of people in the subcontinent.</li> <li>◆ Understand political developments in specific regions.</li> </ul>
	<p><b>Popular Beliefs and Religious Debates</b></p> <ul style="list-style-type: none"> <li>◆ An overview of belief-systems, rituals, pilgrimages and syncretic cults.</li> </ul>
	<p><b>The Flowering of Regional Cultures</b></p> <ul style="list-style-type: none"> <li>◆ An overview of the regional languages, literatures, painting, and music.</li> <li>◆ Development of regional cultural forms, including 'classical' forms of dance and music.</li> </ul>
	<p><b>New Political Formations in the Eighteenth Century</b></p> <ul style="list-style-type: none"> <li>◆ An overview of the independent and autonomous states in the subcontinent.</li> </ul>

<b>Main Theme</b>	<b>Topics under the theme</b>
<b>Geography</b>	<b>Environment in its totality:</b> <ul style="list-style-type: none"><li>◆ Natural and Human Environment. Air</li><li>◆ To understand about atmosphere and its elements; Water</li><li>◆ To know about distribution of water on the earth; Natural vegetation and wild life.</li><li>◆ To find out the nature of diverse flora and fauna. Human Environment.</li><li>◆ Settlement, transport and communication.</li></ul>
<b>Democratic Politics</b>	<ul style="list-style-type: none"><li>◆ Democracy</li><li>◆ State Government</li><li>◆ Understanding Media</li><li>◆ Unpacking Gender</li></ul>
<b>Economics</b>	<ul style="list-style-type: none"><li>◆ Markets Around Us</li></ul>

**Grade VIII - English**

<b>Language Objectives</b>	<b>Description</b>
<b>Self Assessment</b>	<ul style="list-style-type: none"> <li>◆ To negotiate their own learning goals and evaluate their own progress, edit, revise, review their own work</li> </ul>
<b>Articulate</b>	<ul style="list-style-type: none"> <li>◆ To be able to articulate individual/personal responses effectively</li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>◆ To use language and vocabulary appropriately in different contexts and social encounters</li> </ul>
<b>Proficiency</b>	<ul style="list-style-type: none"> <li>◆ To be able to organise and structure thoughts in writing/speech</li> </ul>
<b>Exposure</b>	<ul style="list-style-type: none"> <li>◆ To understand and enjoy jokes, skits, children's films, anecdotes and riddles.</li> </ul>
<b>Familiarity</b>	<ul style="list-style-type: none"> <li>◆ To use dictionary suitable to their needs.</li> </ul>
<b>Language Items</b>	<p>Knowledge of grammar remains a process of discovery combined with a conscious effort to explicitly understand and name grammatical items. However, these should not be taken out of contexts to be treated as discrete teaching items. In addition to consolidating the items learnt earlier, the following will be introduced and recycled at this stage.</p> <ul style="list-style-type: none"> <li>◆ Determiners</li> <li>◆ Passivisation</li> <li>◆ Linking words</li> <li>◆ Adjectives (comparative and superlative forms)</li> <li>◆ Adverbs (place and types)</li> <li>◆ Model auxiliaries</li> <li>◆ Tense forms</li> <li>◆ Word order in sentence types</li> <li>◆ Clauses</li> <li>◆ Reported speech</li> </ul>
<b>Learner Outcome</b>	<ul style="list-style-type: none"> <li>◆ Understand the central idea and locate details in the text (prescribed and non-prescribed)</li> <li>◆ Use his/her critical/thinking faculty to read between the lines and go beyond the text</li> <li>◆ Narrate simple experiences, describe objects and people, report events to peers.</li> <li>◆ Speak accurately with appropriate pauses and clear word/sentence stress to be intelligible in familiar social contexts.</li> <li>◆ Write simple messages, invitations, short paragraphs, letters (formal and informal) applications, simple narrative and descriptive pieces, etc.</li> <li>◆ Use his/ her proficiency in English to explore and study other areas of knowledge through print and non-print media.</li> <li>◆ To undertake small projects on a regular basis</li> </ul>

## Grade VIII - Mathematics

Main Theme	Topics under the theme
<b>Data handling</b>	<p>(i) Reading bar-graphs, ungrouped data, arranging it into groups.</p> <p>(ii) Representation of grouped data through bar-graphs, constructing and interpreting bar-graphs.</p> <p>(iii) Simple Pie charts with reasonable data numbers.</p> <ul style="list-style-type: none"> <li>◆ Consolidating and generalizing the notion of chance in events like tossing coins, dice etc.</li> </ul> <p style="padding-left: 20px;">Relating it to chance in life events.</p> <ul style="list-style-type: none"> <li>◆ Visual representation of frequency outcomes of repeated throws of the same kind of coins or dice.</li> <li>◆ Throwing a large number of identical dice/coins together and aggregating the result of the throws to get large number of individual events.</li> <li>◆ Observing the aggregating numbers over a large number of repeated events.</li> <li>◆ Comparing with the data for a coin.</li> <li>◆ Observing strings of throws, notion of randomness.</li> </ul>
<b>Number System</b>	<p>(i) Rational Numbers:</p> <ul style="list-style-type: none"> <li>◆ Properties of rational numbers. (including identities).</li> <li>◆ Using general form of expression to describe properties.</li> <li>◆ Consolidation of operations on rational numbers.</li> <li>◆ Representation of rational numbers on the number line.</li> <li>◆ Between any two rational numbers there lies another rational number. (Making children see that if we take two rational numbers then unlike for whole numbers, in this case you can keep finding more and more numbers that lie between them.)</li> <li>◆ Word problem (higher logic, two operations, including ideas like area)</li> </ul> <p>(ii) Powers</p> <ul style="list-style-type: none"> <li>◆ Integers as exponents.</li> <li>◆ Laws of exponents with integral powers</li> </ul> <p>(iii) Squares, Square roots, Cubes and Cube roots.</p> <ul style="list-style-type: none"> <li>◆ Square and Square roots</li> <li>◆ Square roots using factor method and division method.</li> </ul>

Main Theme	Topics under the theme
	<p>(a) no more than total 4 digits and</p> <p>(b) no more than 2 decimal places Cubes and cubes roots (only factor method for numbers containing at most 3 digits)</p> <ul style="list-style-type: none"> <li>◆ Estimating square roots and cube roots. Learning the process of moving nearer to the required number.</li> </ul> <p>(iv) Playing with numbers. Writing and understanding a 2 and 3 digit number in generalized form <math>(100a + 10b + c)</math>, where <math>a, b, c</math> can be only digit 0-9) and engaging with various puzzles concerning this. (Like finding the missing numerals represented by alphabets in sums involving any of the four operations.) Children to solve and create problems and puzzles.</p> <ul style="list-style-type: none"> <li>◆ Number puzzles and games.</li> <li>◆ Deducing the divisibility test rules of 2, 3, 5, 9, 10 for a two or three-digit number expressed in the general form.</li> </ul>
<b>Geometry</b>	<p>(i) Understanding shapes:</p> <ul style="list-style-type: none"> <li>◆ Properties of quadrilaterals –Sum of the angles of a quadrilateral is equal to <math>360^\circ</math> (By verification) Properties of parallelogram (By verification)</li> <li>◆ Opposite sides of a parallelogram are equal,</li> <li>◆ Opposite angles of a parallelogram are equal,</li> <li>◆ Diagonals of a parallelogram bisect each other. [Why (iv), (v) and (vi) follow from (ii)]</li> <li>◆ Diagonals of a rectangle are equal and bisect each other.</li> <li>◆ Diagonals of a rhombus bisect each other at right angles.</li> <li>◆ Diagonals of a square are equal and bisect each other at right angles.</li> </ul> <p>(ii) Representing 3-D in 2-D</p> <ul style="list-style-type: none"> <li>◆ Identify and Match pictures with objects [more complicated e.g. nested, joint 2-D and 3-D shapes (not more than 2)].</li> <li>◆ Drawing 2-D representation of 3-D objects (Continued and extended)</li> <li>◆ Counting vertices, edges &amp; faces &amp; verifying Euler's relation for 3-D figures with flat faces (cubes, cuboids, tetrahedrons, prisms and pyramids)</li> </ul> <p>(iii) Construction: Construction of Quadrilaterals:</p> <ul style="list-style-type: none"> <li>◆ Given four sides and one diagonal</li> <li>◆ Three sides and two diagonals</li> <li>◆ Three sides and two included angles</li> <li>◆ Two adjacent sides and three angles</li> </ul>
<b>Algebra</b>	<p>(i) Algebraic Expressions</p> <ul style="list-style-type: none"> <li>◆ Multiplication and division of algebraic expression.(Coefficient should be integers)</li> <li>◆ Some common errors (e.g. <math>2 + x \neq 2x</math>, <math>7x + y \neq 7xy</math>)</li> <li>◆ Identities <math>(a \pm b)^2 = a^2 \pm 2ab + b^2</math>, <math>a^2 - b^2 = (a - b)(a + b)</math> Factorisation (simple cases only) as examples the following types <math>a(x + y)</math>, <math>(x \pm y)^2</math>, <math>a^2 - b^2</math>, <math>(x + a)(x + b)</math>. Solving linear equations in one variable in contextual problems involving multiplication and division (word problems) (avoid complex coefficient in the equations)</li> </ul>

Main Theme	Topics under the theme
<b>Ratio and Proportion</b>	<ul style="list-style-type: none"> <li>◆ Slightly advanced problems involving applications on percentages, profit &amp; loss, overhead expenses, discount, tax.</li> <li>◆ Difference between simple and compound interest(compounded yearly up to 3 years or half-yearly up to 3 steps only).</li> <li>◆ Arriving at the formula for compound interest through patterns and using it for simple problems.</li> <li>◆ Direct variation – Simple and direct word problems.</li> <li>◆ Inverse variation – Simple and direct word problems. Time &amp; work problems– Simple and direct word problems.</li> </ul>
<b>Mensuration</b>	<ul style="list-style-type: none"> <li>◆ Area of a trapezium and a polygon.</li> <li>◆ Concept of volume, measurement of volume using a basic unit, volume of a cube, cuboid and cylinder.</li> <li>◆ Volume and capacity (measurement of capacity).</li> <li>◆ Surface area of a cube, cuboid and cylinder.</li> </ul>
<b>Introduction to graphs</b>	<p><b>Preliminaries :</b></p> <p>(i) Axes (Same units), Cartesian Plane</p> <p>(ii) Plotting points for different kind of situations (perimeter vs length for squares, area as a function of side of a square, plotting of multiples of different numbers, simple interest vs number of years etc.)</p> <p>(iii) Reading off from the graphs</p> <ul style="list-style-type: none"> <li>◆ Reading of linear graphs</li> <li>◆ Reading of distance vs time graph</li> </ul>

## Grade VIII Science

Main Theme	Topics under the theme
<b>Food</b>	<p><b>Crop production</b></p> <ul style="list-style-type: none"> <li>◆ Crop production:</li> <li>◆ Soil preparation,</li> <li>◆ selection of seeds, sowing and applying fertilizers,</li> <li>◆ irrigation, weeding, harvesting and storage;</li> <li>◆ nitrogen fixation, nitrogen cycle.</li> </ul> <p><b>Micro-organisms</b></p> <ul style="list-style-type: none"> <li>◆ Micro organisms – useful and harmful.</li> </ul>
<b>Materials</b>	<p><b>Materials in daily life</b></p> <ul style="list-style-type: none"> <li>◆ Synthetic clothing materials.</li> <li>◆ Other synthetic materials, especially plastics;</li> <li>◆ usefulness of plastics and problems associated with their excessive use.</li> <li>◆ There are a variety of fibrous materials in use.</li> <li>◆ A material is chosen based on desired property.</li> </ul> <p><b>Different kinds of materials and their reactions.</b></p> <ul style="list-style-type: none"> <li>◆ Metals and non-metals.</li> </ul> <p><b>How things change/ react with one another</b></p> <ul style="list-style-type: none"> <li>◆ Combustion, flame</li> <li>◆ All fuels release heat on burning.</li> <li>◆ Fuels differ in efficiency, cost etc.</li> <li>◆ Natural resources are limited.</li> <li>◆ Burning of fuels leads to harmful by products.</li> </ul>
<b>The World of the Living</b>	<p><b>Why conserve</b></p> <ul style="list-style-type: none"> <li>◆ Conservation of biodiversity/wild life/ plants; zoos, sanctuaries, forest reserves etc.</li> <li>◆ flora, fauna endangered species.</li> <li>◆ red data book; endemic species, migration.</li> </ul> <p><b>The cell</b></p> <ul style="list-style-type: none"> <li>◆ Cell structure, plant and animal cells</li> <li>◆ Use of stain to observe, cell organelles</li> <li>◆ Nucleus, vacuole, chloroplast</li> <li>◆ Cell membrane, cell wall</li> </ul> <p><b>How babies are formed</b></p> <ul style="list-style-type: none"> <li>◆ Sexual reproduction</li> <li>◆ endocrine system in animals</li> <li>◆ secondary sexual characters</li> <li>◆ reproductive health</li> <li>◆ internal and external fertilisation</li> </ul>

Main Theme	Topics under the theme
<b>Moving Ideas People</b>	<p><b>Idea of force</b></p> <ul style="list-style-type: none"> <li>◆ Idea of force-push or pull.</li> <li>◆ Change in speed.</li> <li>◆ Direction of moving objects.</li> <li>◆ Shape of objects by applying force.</li> <li>◆ Contact and non-contact forces.</li> </ul> <p><b>Friction</b></p> <ul style="list-style-type: none"> <li>◆ Friction – factors affecting friction.</li> <li>◆ Sliding and rolling and moving.</li> <li>◆ Advantages and disadvantages of friction for the movement of automobiles, airplanes and boats/ships.</li> <li>◆ Increasing and reducing friction.</li> </ul> <p><b>Pressure.</b></p> <ul style="list-style-type: none"> <li>◆ Idea of pressure; pressure.</li> <li>◆ Exerted by air/liquid.</li> <li>◆ Atmospheric pressure.</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>◆ Various types of sound.</li> <li>◆ Sources of sound.</li> <li>◆ Vibration as a cause of sound.</li> <li>◆ Frequency.</li> <li>◆ Medium for propagation of sound.</li> <li>◆ Idea of noise as unpleasant and unwanted sound.</li> <li>◆ Need to minimise noise.</li> </ul>
<b>How Things Work</b>	<p><b>Electric current and circuits</b></p> <ul style="list-style-type: none"> <li>◆ Water conducts electricity depending on presence/ absence of salt in it.</li> <li>◆ Other liquids may or may not conduct electricity.</li> <li>◆ Chemical effects of current.</li> <li>◆ Basic idea of electroplating.</li> </ul>
<b>Natural Phenomena</b>	<p><b>Rain, thunder and lightning</b></p> <ul style="list-style-type: none"> <li>◆ Clouds carry electric charge.</li> <li>◆ Positive and negative charges.</li> <li>◆ Attraction and repulsion.</li> <li>◆ Principle of lightning conductor.</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>◆ Laws of reflection.</li> <li>◆ Characteristics of image formed with a plane mirror.</li> <li>◆ Regular and diffused reflection.</li> <li>◆ Reflection of light from an object to the eye.</li> </ul>

<b>Main Theme</b>	<b>Topics under the theme</b>
	<ul style="list-style-type: none"> <li>◆ Multiple reflection.</li> <li>◆ Dispersion of light.</li> <li>◆ Structure of the eye.</li> <li>◆ Lens becomes opaque,</li> <li>◆ Light not reaching the eye.</li> <li>◆ Visually challenged use other senses to make sense of the world around.</li> <li>◆ Alternative technology available.</li> <li>◆ Role of nutrition in relation to blindness</li> </ul>
	<p><b>Night sky</b></p> <ul style="list-style-type: none"> <li>◆ Idea about heavenly bodies/celestial objects and their classification.</li> <li>◆ Moon, planets, stars, constellations.</li> <li>◆ Motion of celestial objects in space; the solar system.</li> </ul>

### **VIII - Social Sciences**

<b>Main Theme</b>	<b>Topics under the theme</b>
<b>Where, When, How</b>	<ul style="list-style-type: none"> <li>◆ An outline of the time frame.</li> </ul>
<b>The Establishment of Company Power</b>	<ul style="list-style-type: none"> <li>◆ Unravel the story of a trading company becoming a political power.</li> <li>◆ Show how the consolidation of British power was linked to the formation of colonial armies and administrative structures.</li> </ul>
<b>Rural Life and Society</b>	<ul style="list-style-type: none"> <li>◆ Colonial agrarian policies; their effect on peasants and landlords.</li> </ul>
<b>Colonialism and Tribal Societies</b>	<ul style="list-style-type: none"> <li>◆ Tribal societies during the colonial rule</li> </ul>
<b>Crafts and Industries</b>	<ul style="list-style-type: none"> <li>◆ Decline of handicrafts in the nineteenth century.</li> <li>◆ Familiarize the processes of de-industrialization and industrialization.</li> </ul>
<b>The Revolt of 1857-58</b>	<ul style="list-style-type: none"> <li>◆ How revolts originate and spread.</li> </ul>
<b>Education and British rule</b>	<ul style="list-style-type: none"> <li>◆ The new education system – schools, syllabi, colleges, universities, technical training.</li> <li>◆ Changes in the indigenous systems.</li> <li>◆ Growth of 'National education'.</li> <li>◆ How the educational system that is seen as universal and normal today has a history.</li> <li>◆ How the politics of education is linked to questions of power and cultural identity.</li> </ul>

<b>Main Theme</b>	<b>Topics under the theme</b>
<b>Women and reform</b>	<ul style="list-style-type: none"> <li>◆ Outline the history of new laws that affect women's lives.</li> </ul>
<b>Challenging the Caste System</b>	<ul style="list-style-type: none"> <li>◆ Why the question of caste was central to most projects of social reform.</li> </ul>
<b>Colonialism and Urban Change</b>	<ul style="list-style-type: none"> <li>◆ Outline the nature of urban development in the 19th and 20th centuries.</li> </ul>
<b>Changes in the Arts:</b>	<p><b>Painting, Literature and architecture</b></p> <ul style="list-style-type: none"> <li>◆ Outline the major development in the sphere of arts.</li> </ul>
<b>The Nationalist Movement</b>	<ul style="list-style-type: none"> <li>◆ Overview of the nationalist movement from the 1870s to the 1940s.</li> </ul>
<b>India after Independence</b>	<ul style="list-style-type: none"> <li>◆ Discuss the successes and failures of the Indian democracy in the last fifty years.</li> </ul>
<b>Economics</b>	<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>◆ Resources and their types – natural and human.</li> </ul> <p><b>Agriculture</b></p> <ul style="list-style-type: none"> <li>◆ Learn about various types of farming and agricultural development in two different regions.</li> </ul> <p><b>Industries</b></p> <ul style="list-style-type: none"> <li>◆ To understand important forms of manufacturing industries.</li> </ul> <p><b>Human Resources</b></p> <ul style="list-style-type: none"> <li>◆ To understand the role of human resources in development of nation's economy.</li> </ul>
<b>Democratic Politics</b>	<ul style="list-style-type: none"> <li>◆ The Constitution</li> <li>◆ Parliamentary Government</li> <li>◆ The Judiciary</li> <li>◆ Social Justice and the Marginalised</li> <li>◆ Economic Presence of the Government</li> </ul>

## Grade IX English

This two-year syllabus for Grade IX has been developed by the CBSE (national curriculum) where the students will be appearing for National Boards at the end of the course.

Interact in English has been designed to develop the student's communicative competence in English. Therefore, content selection is determined by the student's present and future academic, social and professional needs.

### We Aim at:

- ◆ To enable the learner to communicate effectively and appropriately in real-life situations.
- ◆ To use English effectively for study purpose across the curriculum.
- ◆ To develop and integrate the use of the four language skills, i.e. listening, speaking, reading and writing.
- ◆ To develop interest in and appreciation of literature.
- ◆ To revise and reinforce structures already learnt.
- ◆ To develop interest in the appreciation of literature.

Objectives are to develop these competencies:

Language Objective	Description
<b>Creativity</b>	Students should be encouraged to think on their own and express their ideas using their experience, knowledge and imagination, rather than being text or teacher dependent.
<b>Self-monitoring</b>	Students should be encouraged to monitor their progress, space out their learning, so students should be encouraged to see language not just as a functional tool, but as an important part of personal development and inculcation of values.
<b>Teaching/ Testing Objectives</b>	<p><b>Reading</b></p> <p><b>By the end of the course, students should be able to:</b></p> <ul style="list-style-type: none"> <li>◆ Read silently at varying speed depending on the purpose of reading;</li> <li>◆ Adopt different strategies for different types of text, both literary and non-literary;</li> <li>◆ Recognise the organization of a text;</li> <li>◆ Identify the main points of a text;</li> <li>◆ Understand relations between different parts of a text through lexical and grammatical cohesion devices.</li> </ul> <p><b>Objectives which will not be tested in a formal examination</b></p> <ul style="list-style-type: none"> <li>◆ Anticipate and predict what will come next in a text;</li> <li>◆ Deduce the meaning of unfamiliar lexical items in a given context;</li> <li>◆ Consult a dictionary to obtain information on the meaning and use of lexical items;</li> <li>◆ Analyse, interpret, infer (and evaluate*) the ideas in the text;</li> <li>◆ Select and extract from a text information required for a specific purpose (and record it in note form*)</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ Transcode information from verbal to diagrammatic form.</li> <li>◆ Retrieve and synthesize information from a range of reference material using study skills such as skimming and scanning.</li> <li>◆ Interpret texts by relating them to other material on the same theme (and to their own experience and knowledge*); and read extensively on their own.</li> </ul> <p><b>Writing</b></p> <p><b>By the end of the course, students should be able to:</b></p> <ul style="list-style-type: none"> <li>◆ Express ideas in clear and grammatically correct English, using appropriate punctuation and cohesion devices.</li> <li>◆ Write in a style appropriate for communicative purposes;</li> <li>◆ Plan, organize and present ideas coherently by introducing, developing and concluding a topic.</li> <li>◆ Write a clear description (e.g. of a place, a person, an object or a system);</li> <li>◆ Write a clear account of events (e.g. a process, a narrative, a trend or a cause-effect relationship).</li> <li>◆ Compare and contrast ideas and arrive at conclusions.</li> <li>◆ Present an argument, supporting it with appropriate examples.</li> <li>◆ Use an appropriate style and format to write letters (formal and informal), postcards, telegrams and notices.</li> <li>◆ Messages, reports, articles and diary entries.</li> <li>◆ Monitor, check and revise written work.</li> <li>◆ Expand notes into a piece of writing.</li> <li>◆ Summarise or make notes from a given text.</li> <li>◆ Recode information from one text type to another (e.g. diary entry to letter, advertisement to report and diagram to verbal form).</li> </ul> <p><b>Listening</b></p> <p><b>By the end of the course, the students should be able to :</b></p> <ul style="list-style-type: none"> <li>◆ adopt different strategies according to the purpose of listening (e.g. for pleasure, for general interest and for specific information.</li> <li>◆ use linguistic and non-linguistic features of the context as clues to understanding and interpreting what is heard (e.g. cohesion devices, key words, intonation, gesture and background noises).</li> <li>◆ listen to a talk or conversation and understand the topic and main points.</li> <li>◆ listen for information required for a specific purpose, e.g. in radio broadcast, commentaries and airport.</li> <li>◆ Objectives which will not be tested in a formal examination.** These objectives will not be tested in a formal examination but will be included for Continuous Assessment in Class IX.</li> <li>◆ Railway station announcements.</li> <li>◆ Distinguish main points from supporting details and relevant from irrelevant information.</li> <li>◆ Understand and interpret messages conveyed in person or by telephone.</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ Understand and respond appropriately to directive language, e.g. instruction, advice, requests and warning.</li> <li>◆ Understand and interpret spontaneous spoken discourse in familiar social situations.</li> </ul>
<b>Grammar</b>	<p><b>Speaking</b>  <b>By the end of the course, students should be able to :</b></p> <ul style="list-style-type: none"> <li>◆ Speak intelligibly using appropriate word stress, sentence stress and intonation patterns;</li> <li>◆ Adopt different strategies to convey ideas effectively according to purpose, topic and audience (including the appropriate use of polite expressions</li> <li>◆ Narrate incidents and events, real or imaginary in a logical sequence;</li> <li>◆ Present oral reports or summaries; make announcements clearly and confidently;</li> <li>◆ Express and argue a point of view clearly and effectively;</li> <li>◆ Take active part in group discussions, showing ability to express agreement or disagreement to summarize</li> <li>◆ Ideas, to elicit the views of others and to present own ideas;</li> <li>◆ Express and respond to personal feelings, opinions and attitudes;</li> <li>◆ Convey messages effectively in person or by telephone;</li> <li>◆ Frame questions so as to elicit the desired response and respond appropriately to questions</li> <li>◆ Participate in spontaneous spoken discourse in familiar social situations. By the end of the course, students should be able to use the following accurately and appropriately in context</li> </ul> <p><b>1. Verbs</b>  <b>Tenses:</b></p> <ul style="list-style-type: none"> <li>◆ Present/past forms</li> <li>◆ Simple/continuous forms</li> <li>◆ Perfect forms</li> <li>◆ Future time reference</li> </ul> <p><b>Models</b></p> <ul style="list-style-type: none"> <li>◆ Active and Passive voice</li> <li>◆ Subject-verb concord</li> <li>◆ *non-finite verb forms (infinitives and participles)</li> </ul> <p><b>2. Sentence Structure</b>  <b>Connectors</b></p> <p>*Objective which will not be tested at Class IX level. They will, however, form the part of testing in Class X.</p> <p>** These objectives will not be tested in a formal examination but will be included for Continuous Assessment in Class IX.</p> <p>Types of sentences: Affirmative/Interrogative Sentences Negation, Exclamations  *Types of Phrases and Clauses Finite and Non - Finite Subordinate clauses:</p>

Main Theme	Topics under the theme
	<p>Noun clauses and phrases Adjective clauses and phrases Adverb clauses and phrases Indirect speech *Comparison * Nominalization</p> <p><b>3. Other Areas</b></p> <p>Determiners</p> <p>Pronouns</p> <p>Prepositions</p>
<b>Literature</b>	<p>By the end of the course, students should be able to understand, interpret, evaluate and respond to the following features in a literary text :</p> <p><b>1. Character</b>, as revealed through</p> <ul style="list-style-type: none"> <li>◆ Appearance and distinguishing features</li> <li>◆ Socio-economic background</li> <li>◆ Action/events,</li> <li>◆ Expression of feelings,</li> <li>◆ Speech and dialogues</li> </ul> <p><b>2. Plot/Story/Theme</b>,</p> <ul style="list-style-type: none"> <li>◆ Emerging through main events,</li> <li>◆ Progression of events and links between them;</li> <li>◆ Sequence of events denoting theme.</li> </ul> <p><b>3. Setting</b>, as seen through time and place, socio-economic and cultural background, people, beliefs and attitudes.</p> <p><b>4. Form</b></p> <ul style="list-style-type: none"> <li>◆ Rhyme</li> <li>◆ Rhythm</li> <li>◆ Simile</li> <li>◆ Metaphor, alliteration</li> <li>◆ Pun</li> <li>◆ Repetition</li> </ul> <p><b>Reading skills</b></p> <p>Two unseen passages with a variety of comprehension questions including 04 marks for word-attack skills such as word formation and inferring meaning.</p> <ol style="list-style-type: none"> <li>1. 250-350 words in length</li> <li>2. 400-450 words in length.</li> </ol> <p>The total length of the two passages will be between 650 and 800 words.</p> <ol style="list-style-type: none"> <li>1 A factual passage (e.g., instruction, description, report etc.) or a literary passage (e.g., extract from fiction, drama, poetry, essay or biography). In the case of a poetry extract, the text may be shorter than 150 words.</li> <li>2 This factual passage or a discursive passage involving opinion, (argumentative, persuasive or interpretative text). Only two will have questions on word-attack skills.</li> </ol>

Main Theme	Topics under the theme
	<p><b>Writing Skills</b>            Writing tasks Short composition of not more than 50 words each.</p> <ul style="list-style-type: none"> <li>◆ Notice</li> <li>◆ Message</li> <li>◆ Postcard</li> </ul> <p><b>Important note on format and word limit :</b></p> <p><b>Notice :</b>            Word limit : 50 words for body of the notice in a box.</p> <p><b>Message:</b>            Word limit : 50 words for body of the message in a box.</p> <p><b>Post Card:</b>            Word limit : 50 words for the body of the letter.</p> <p>5. Composition based on a verbal stimulus such as an advertisement, notice, newspaper clipping, tabular data, diary extract, notes, letter or other forms of correspondence. Word limit : 150-175 words.</p> <p>6. Composition based on a visual stimulus such as a diagram, picture, graph, map, cartoon or flow chart. Word limit : 150-175 words A variety of writing abilities involving the use of particular structures within a context (i.e., not in isolated sentences) are to be developed.</p> <p><b>Expected abilities will include</b></p> <ul style="list-style-type: none"> <li>◆ Gap-filling, cloze (gap filling exercise with blanks at regular intervals),</li> <li>◆ Sentence completion,</li> <li>◆ Reordering word groups in sentences,</li> <li>◆ Editing,</li> <li>◆ Dialogue completion</li> <li>◆ Sentence transformation.</li> </ul> <p><b>The grammar levels like</b></p> <ul style="list-style-type: none"> <li>◆ Verb forms</li> <li>◆ Sentence structures</li> <li>◆ Jumbled words in reordering exercise to test syntax will involve sentences in a context. Each sentence will be split into sense groups (not necessarily into single words) and jumbled up.</li> </ul> <p><b>Literature</b>            Extracts from poems, drama, prose to test</p> <ul style="list-style-type: none"> <li>◆ Local and global comprehension</li> <li>◆ Extrapolation</li> <li>◆ Literal,</li> <li>◆ Inferential and</li> <li>◆ Evaluative.</li> </ul>

## Grade – IX Mathematics

Main Theme	Topics under the theme
<b>Data handling</b>	<ul style="list-style-type: none"> <li>◆ Collection and organization of data – choosing the data to collect for a hypothesis testing.</li> <li>◆ Mean, median and mode of ungrouped data – understanding what they represent.</li> <li>◆ Constructing bar graphs.</li> <li>◆ Feel of probability using data through experiments.</li> <li>◆ Notion of chance in events like tossing coins, dice etc.</li> <li>◆ Tabulating and counting occurrences of 1 through 6 in a number of throws.</li> <li>◆ Comparing the observation with that of a coin.</li> <li>◆ Observing strings of throws, notion of randomness.</li> </ul>
<b>Real Numbers</b>	Irrational Numbers <ul style="list-style-type: none"> <li>◆ Real numbers and their decimal representation</li> <li>◆ Representation of real numbers on the number line</li> <li>◆ Operations on real numbers</li> <li>◆ Laws of exponents for real numbers</li> <li>◆ Rationalising the denominator</li> </ul>
<b>Geometry</b>	(i) Lines and angles <ul style="list-style-type: none"> <li>◆ Prove that in two intersecting lines the vertically opposite angles are equal</li> <li>◆ Pair of Angles - Corresponding angles, alternate angles, interior angles when a transversal intersects two parallel lines. Intersecting and not intersecting lines</li> <li>◆ Lines parallel to the same line. Angle sum property of a triangle</li> </ul> (ii) Triangles <ul style="list-style-type: none"> <li>◆ Criteria for congruency of triangles – SAS, ASA, SSS, RHS</li> <li>◆ The angles opposite to equal sides of a triangle are equal</li> <li>◆ Properties of a triangle</li> <li>◆ In equalities in a triangle</li> </ul> (iii) Quadrilaterals <ul style="list-style-type: none"> <li>◆ Theorems on quadrilateral</li> <li>◆ Types of quadrilateral</li> <li>◆ Properties of Parallelogram</li> <li>◆ Mid point theorem and its converse</li> <li>◆ Applications</li> <li>◆ Angle Sum property of a quadrilateral</li> </ul> (iv) Areas of parallelogram <ul style="list-style-type: none"> <li>◆ Parallelograms in the same base and between the same parallel are equal in area</li> </ul> (v) Introduction to Euclid's Geometry <ul style="list-style-type: none"> <li>◆ Axioms</li> <li>◆ Postulates</li> </ul>

<b>Main Theme</b>	<b>Topics under the theme</b>
	<ul style="list-style-type: none"> <li>◆ Theorems</li> <li>(vi) Circles. Theorems on circles. Circle through three points</li> <li>◆ Angle subtended by an arc of a circle</li> <li>◆ Cyclic Quadrilaterals</li> <li>(vii) Construction</li> <li>◆ Construction of line segments and angles</li> <li>◆ Construction of triangle of given base and sum/difference of other two sides and one base angle</li> <li>◆ Construction of triangle of given perimeter and base angles Mensuration</li> <li>(i) Areas</li> <li>◆ Area of triangle using Hero's formula</li> <li>(ii) Surface Area and volumes. Surface area and volumes of – Cube , cuboid, sphere, cylinder and cone</li> </ul>
<b>Algebra</b>	<ul style="list-style-type: none"> <li>(i) Polynomials</li> <li>◆ Definition of a Polynomial</li> <li>◆ Zero of a Polynomial</li> <li>◆ Factor theorem</li> <li>◆ Remainder theorem</li> <li>◆ Identities and their applications</li> <li>◆ Factorisation</li> <li>(ii) Linear Equations in two variable. Linear Equation in one variable</li> <li>◆ Introduction to Linear equation in two variables.</li> <li>◆ Solution of a linear equation</li> <li>◆ Graph of linear equation in two variable</li> <li>◆ Equation of lines parallel to x-axis and y-axis</li> <li>◆ Formulation of word problem</li> </ul>
<b>Statistics and Probability</b>	<ul style="list-style-type: none"> <li>(i) Statistics</li> <li>◆ Collection of Data</li> <li>◆ Presentation of data</li> <li>◆ Bar-graphs, histogram , frequency polygon,</li> <li>◆ Central tendency</li> <li>(ii) Probability Experimental Approach</li> <li>◆ Focus on Empirical Probability</li> </ul>
<b>Coordinate Geometry</b>	<ul style="list-style-type: none"> <li>(i) Coordinate Geometry</li> <li>◆ Cartesian System</li> <li>◆ Plotting of points in a plane</li> </ul>

## Grade – IX Science

Main Theme	Topics under the theme
<b>Unit 1 : Food</b>	Plant and animal breeding and selection for quality improvement and management; use of fertilizers, manures; protection from pests and diseases; organic farming
<b>Unit 2 : Matter Nature and behaviour</b>	<p>Definition of matter; solid, liquid and gas; characteristics - shape, volume, density; change of state-melting(absorption of heat), freezing, evaporation (Cooling by evaporation), condensation, sublimation.</p> <p><b>Nature of matter</b> : Elements, compounds and mixtures. Heterogenous and homogenous mixtures, colloids and suspensions.</p> <p><b>Particle nature, basic units</b> : atoms and molecules. Law of constant proportions. Atomic and molecular masses.</p> <p><b>Mole Concept</b> : Relationship of mole to mass of the particles and numbers. Valency. Chemical formula of common compounds.</p> <p><b>Structure of atom</b> : Electrons, protons and neutrons; Isotopes and isobars.</p>
<b>Unit 3 : Organization in the living world</b>	<p><b>Biological Diversity</b> : Diversity of plants and animals - basic issues in scientific naming, basis of classification. Hierarchy of categories / groups, Major groups of plants (salient features) (Bacteria, Thalophyta, Bryophyta, Pteridophyta, gymnosperms and Angiosperms). Major groups of animals (salient features) (Non-chordates upto phyla and chordates upto classes).</p> <p><b>Cell - Basic Unit of life</b> : Cell as a basic unit of life; prokaryotic and eukaryotic cells, multicellular organisms; cell membrane and cell wall, cell organelles; chloroplast, mitochondria, vacuoles, ER, golgi apparatus; nucleus, chromosomes - basic structure, number. Tissues, organs, organ systems, organism. Structure and functions of animal and plant tissues (four types in animals; merismatic and permanent tissues in plants). Health and diseases : Health and its failure. Infectious and Non-infectious diseases, their causes and manifestation. Diseases caused by microbes (Virus, Bacteria and protozoans) and their prevention, Principles of treatment and prevention. Pulse polio programmes.</p>
<b>Unit 4 : Motion Force and Work</b>	<ul style="list-style-type: none"> <li>◆ <b>Motion</b> : Distance and displacement, velocity; uniform and non-uniform motion along a straight line; acceleration, distance-time and velocity-time graphs for uniform motion and uniformly accelerated motion, equations of motion by graphical method; elementary idea of uniform circular motion.</li> <li>◆ <b>Force and Newton's laws</b> : Force and motion, Newton's laws of motion, inertia of a body, inertia and mass, momentum, force and acceleration. elementary idea of conservation of momentum, action and reaction forces.</li> <li>◆ <b>Gravitation</b> : Gravitation; universal law of gravitation, force of gravitation of the earth (gravity), acceleration due to gravity; mass and weight; free fall.</li> <li>◆ <b>Floatation</b> : Thrust and pressure. Archimedes' principle, buoyancy, elementary idea of relative density.</li> <li>◆ <b>Work, Energy and Power</b> : Work done by a force, energy, power; kinetic and potential energy; law of conservation of energy.</li> </ul>

Main Theme	Topics under the theme
	♦ <b>Sound</b> : Nature of sound and its propagation in various media, speed of sound, range of hearing in humans; ultrasound; reflection of sound; echo and SONAR. Structure of the human ear (auditory aspect only).
<b>Unit 5 : Our Environment</b>	♦ <b>Physical resources</b> : Air, Water, Soil. Air for respiration, for combustion, for moderating temperatures, movements of air and its role in bringing rains across India. Air, water and soil pollution ( brief introduction). Holes in ozone layer and the probable damages. ♦ <b>Bio-geo chemical cycles in nature</b> : water, oxygen, carbon and nitrogen.
<b>PRACTICALS EXPERIMENTS</b>	<ol style="list-style-type: none"><li>To prepare (a) a true solution of common salt, sugar and alum (b) a suspension of soil, chalk powder and fine sand in water (c) a colloidal of starch in water and egg albumin in water and distinguish between these on the basis of (i) transparency. (ii) filtration criterion. (iii) stability.</li><li>To prepare (a) a mixture (b) a compound using iron filings and sulphur powder and distinguish between these on the basis of : i) appearance i.e., homogeneity and heterogeneity ii) behaviour towards a magnet iii) behaviour towards carbon disulphide as a solvent. iv) effect of heat.</li><li>To carry out the following chemical reactions and record observations. Also identify the type of reaction involved in each case. (i) Iron with copper sulphate solution in water. (ii) Burning of Magnesium in air. (iii) Zinc with dilute sulphuric acid. (iv) Heating of Lead Nitrate. (v) Sodium sulphate with Barium chloride in the form of their solutions in water.</li><li>To verify laws of reflection of sound.</li><li>To determine the density of solid (denser than water) by using a spring balance and a measuring cylinder.</li><li>To establish the relation between the loss in weight of a solid when fully immersed in. (i) tap water (ii) strongly salty water with the weight of water displaced by it by taking at least two different solids.</li><li>To measure the temperature of hot water as it cools and plot a temperature-time graph.</li><li>To determine the velocity of a pulse propagated through a stretched string/slinky.</li><li>To prepare stained temporary mounts of (a) onion peel and (b) human cheek cells and to record observations and draw their labelled diagrams.</li><li>To identify parenchyma and sclerenchyma tissues in plants, stripped muscle fibers and nerve cells in animals, from prepared slides and to draw their labelled diagrams.</li><li>To separate the components of a mixture of sand, common salt and ammonium chloride (or camphor) by sublimation.</li></ol>

Main Theme	Topics under the theme
	12. To determine the melting point of ice and the boiling point of water. 13. To test (a) the presence of starch in the given food sample (b) the presence of the adulterant metanil yellow in dal. 14. To study the characteristic of spirogyra/Agaricus, Moss/Fern, Pinus ( either with male or female cone) and an Angiospermic plant. Draw and give two identifying features of groups they belong to. 15. To observe and draw the given specimens—earthworm, cockroach, bony fish and bird. For each specimen record (a) one specific feature of its phylum (b) one adaptive feature with reference to its habitat.

### Grade IX – Social Sciences

Main Theme	Topics under the theme
<b>Democratic Politics I</b>	<b>Democracy in the Contemporary World</b> <ul style="list-style-type: none"> <li>◆ Case Studies of Democracy</li> <li>◆ Two features of Democracy</li> <li>◆ Changing map of Democracy</li> <li>◆ Phases in the expansion of Democracy</li> <li>◆ Democracy at the Global Level</li> <li>◆ Democracy promotion</li> </ul> <b>What is Democracy? Why Democracy?</b> <ul style="list-style-type: none"> <li>◆ Definition of democracy. Features of democracy</li> <li>◆ Merits and demerits of democracy</li> <li>◆ Broader meanings of democracy</li> </ul> <b>Constitutional Design</b> <ul style="list-style-type: none"> <li>◆ Democratic Constitution in South Africa</li> <li>◆ Why do we need a Constitution</li> <li>◆ Making of the Indian Constitution</li> <li>◆ Guiding values of the Indian Constitution</li> <li>◆ Institutional Design</li> </ul> <b>Electoral Politics</b> <ul style="list-style-type: none"> <li>◆ Why Elections?</li> <li>◆ What is our system of elections?</li> <li>◆ Election Campaign</li> <li>◆ What makes Elections in India democratic?</li> <li>◆ Challenges to free and fair elections</li> </ul> <b>Working of Institutions</b> <ul style="list-style-type: none"> <li>◆ How is a major policy decision taken?</li> <li>◆ Parliament</li> <li>◆ Political Executive</li> <li>◆ The President</li> </ul>

<b>Main Theme</b>	<b>Topics under the theme</b>
	<ul style="list-style-type: none"> <li>◆ The Judiciary, Democratic Rights, Life without Rights, Rights in a democracy, Rights in the Indian Constitution, Expanding scope of Rights</li> </ul>
<b>India and the Contemporary World – I</b>	<p><b>History and a Changing World Section 1</b></p> <p><b>Events and Processes</b></p> <ul style="list-style-type: none"> <li>◆ The French Revolution</li> <li>◆ Socialism in Europe and the Russian Revolution</li> <li>◆ Nazism and the Rise of Hitler</li> </ul> <p><b>Section 2</b></p> <p><b>Livelihoods Economies and Societies</b></p> <ul style="list-style-type: none"> <li>◆ Forest Society and Colonialism</li> <li>◆ Pastoralists in the Modern World</li> <li>◆ Peasants and Farmers</li> </ul> <p><b>Section 3</b></p> <p><b>Everyday life Culture and Politics</b></p> <ul style="list-style-type: none"> <li>◆ History and Sport</li> <li>◆ Clothing A Social History</li> </ul>
<b>Contemporary India –I Geography</b>	<p><b>India - Size and Location</b></p> <ul style="list-style-type: none"> <li>◆ Location</li> <li>◆ Size</li> <li>◆ India and the World</li> <li>◆ India’s neighbours</li> </ul> <p><b>Physical Features of India</b></p> <ul style="list-style-type: none"> <li>◆ Geological formations</li> <li>◆ Major Physiographic Divisions</li> </ul> <p><b>Drainage</b></p> <ul style="list-style-type: none"> <li>◆ Drainage Systems in India</li> <li>◆ Himalayan Rivers</li> <li>◆ Peninsular Rivers</li> <li>◆ Roles of Rivers in Economy</li> </ul> <p><b>Climate</b></p> <ul style="list-style-type: none"> <li>◆ Climatic Controls</li> <li>◆ Factors affecting India’s Climate</li> <li>◆ Indian Monsoon</li> <li>◆ Seasons</li> </ul> <p><b>Natural Vegetation and Wildlife</b></p> <ul style="list-style-type: none"> <li>◆ Relief</li> <li>◆ Climate</li> <li>◆ Ecosystem</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ Types of Vegetation</li> <li>◆ Wildlife</li> <li><b>Population</b></li> <li>◆ Size and distribution</li> <li>◆ Growth and processes of population change</li> </ul>
<b>Economics</b>	<p><b>The Story of Village Palampur</b></p> <ul style="list-style-type: none"> <li>◆ Organisation of production</li> <li>◆ Farming Non- Farm activities</li> </ul> <p><b>People as Resource</b></p> <ul style="list-style-type: none"> <li>◆ Economic activities by men and women</li> <li>◆ Quality of population</li> <li>◆ Unemployment</li> </ul> <p><b>Poverty as a Challenge</b></p> <ul style="list-style-type: none"> <li>◆ Case studies</li> <li>◆ Poverty as seen by Social Scientists</li> <li>◆ Inter-State disparities</li> <li>◆ Global Poverty Scenario</li> <li>◆ Causes of Poverty</li> <li>◆ Anti-Poverty Measures</li> <li>◆ Challenges Ahead</li> </ul> <p><b>Food Security In India</b></p> <ul style="list-style-type: none"> <li>◆ What is food security?</li> <li>◆ Food security in India</li> </ul>

## Grade X – Mathematics

Main Theme	Topics under the theme
<b>Number System</b>	<p><b>(i) Real Numbers</b></p> <ul style="list-style-type: none"> <li>◆ Euclid's division lemma</li> <li>◆ Fundamental theorem of arithmetic</li> <li>◆ Irrationality of <math>\sqrt{2}</math>, <math>\sqrt{3}</math>, <math>\sqrt{5}</math></li> <li>◆ Decimal expansions of rational numbers in terms of terminating / non terminating recurring</li> </ul>
<b>Algebra</b>	<p>(i) Polynomials</p> <p><b>Definition of a Polynomial</b></p> <ul style="list-style-type: none"> <li>◆ Zero of a Polynomial</li> <li>◆ Relationship between zeros and coefficients of quadratic polynomials</li> <li>◆ Problems on division algorithm</li> </ul> <p><b>(ii) Pair of Linear Equations in two variable</b></p> <ul style="list-style-type: none"> <li>◆ Solution to Pair of Linear Equation in two variables using –</li> </ul> <p><b>Graphical method, Algebraic Method</b></p> <ul style="list-style-type: none"> <li>◆ Formulation and solution of word problems</li> </ul> <p><b>(iii) Quadratic Equations</b></p> <ul style="list-style-type: none"> <li>◆ Standard form of Quadratic equation</li> <li>◆ Solution to Quadratic equation using –</li> </ul> <p><b>Factorization, Quadratic formula, completing the square</b></p> <ul style="list-style-type: none"> <li>◆ Discriminant and nature of roots</li> </ul> <p><b>(iv) Arithmetic Progression</b></p> <ul style="list-style-type: none"> <li>◆ AP derivation of standard results in finding the <math>n^{\text{th}}</math> term and sum of first n terms</li> </ul>
<b>Trigonometry</b>	<p><b>(i) Introduction to Trigonometry</b></p> <ul style="list-style-type: none"> <li>◆ Trigonometric ratios</li> <li>◆ Relationship between the ratios</li> </ul> <p><b>(ii) Trigonometric Identities</b></p> <ul style="list-style-type: none"> <li>◆ Proof and application of <math>\sin^2 \theta + \cos^2 \theta = 1</math></li> <li>◆ Trigonometric ratios of complementary angles</li> </ul> <p><b>(iii) Heights and distances</b></p> <ul style="list-style-type: none"> <li>◆ Problems on heights and distance</li> </ul>
<b>Coordinate Geometry</b>	<p><b>(i) Lines</b></p> <ul style="list-style-type: none"> <li>◆ Distance between two points and section formula</li> <li>◆ Area of a triangle</li> </ul>
<b>Geometry</b>	<p><b>(i) Triangles</b></p> <ul style="list-style-type: none"> <li>◆ Similar triangles</li> <li>◆ Criteria for similarity of triangles</li> <li>◆ Area of similar triangle</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ Pythagoras theorem</li> <li>◆ Applications</li> <li><b>(ii) Circles</b></li> <li>◆ Tangent to a circle</li> <li>◆ Number of tangents from a point on a circle</li> <li><b>(iii) Construction</b></li> <li>◆ division of line segment in a given ratio</li> <li>◆ Construction of a tangent to a circle from a point outside of it</li> <li>◆ Construction of triangle similar to a given triangle</li> </ul>
<b>Mensuration</b>	<ul style="list-style-type: none"> <li><b>(i) Areas related to circles</b></li> <li>◆ Area and perimeter of a circle</li> <li>◆ Area of sector and segment of a circle</li> <li>◆ Areas of combination of plane figures</li> <li><b>(ii) Surface Area and volumes</b></li> <li>◆ Surface area and volumes of combination of solids</li> <li>◆ Conversion of solid from one shape to another</li> <li>◆ Frustum of a cone</li> <li>◆ Applications</li> </ul>
<b>Statistics and Probability</b>	<ul style="list-style-type: none"> <li><b>(i) Statistics</b></li> <li>◆ Mean , median and mode of grouped data</li> <li>◆ Cumulative frequency graph</li> <li><b>(ii) Probability</b></li> <li>◆ Theoretical Approach</li> <li>◆ Simple problems on single events</li> </ul>

## Grade - X Science

Main Theme	Topics under the theme
<b>Materials</b>	<p><b>Unit 1 : Chemical Substances - Nature and Behaviour</b></p> <p><b>Acids, bases and salts :</b> Their definitions in terms of furnishing of H<sup>+</sup> and OH<sup>-</sup> ions, General properties, examples and uses, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life;preparation and uses of sodium hydroxide, Bleaching powder, Baking soda, washing soda and Plaster of Paris.</p> <p><b>Chemical reactions :</b> Chemical Equation, Balanced chemical equation, Implications of a balanced Chemical equation, Types of chemical reactions : combination, decomposition, displacement, double displacement, precipitation, neutralization, Oxidation and reduction.</p> <p><b>Metals and non metals :</b> Properties of Metals and Non-metals, reactivity series, Formation and properties of ionic compounds, Basic Metallurgical processes, corrosion and its prevention.</p> <p><b>Carbon Compounds :</b> Covalent bonding in carbon compounds. Versatile nature of carbon, Homologous series Nomenclature of carbon compounds containing, Functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydrocarbons and unsaturated hydrocarbons, Chemical properties of carbon compounds (combustion, oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (properties and uses only), soaps and detergents.</p> <p><b>Periodic classification of elements :</b> Need for classification, Modern Periodic table, Gradation in Properties. Valency, Atomic number, metallic and non-metallic properties.</p>
<b>The world of the living</b>	<p><b>Unit 2 : World of Living Life Processes :</b> "living being"; Basic concept of nutrition, respiration, transport and excretion in plants and animals.</p> <p><b>Control and Co-ordination in animals and plants :</b> Tropic movements in plants; Introduction to plant hormones;control and co-ordination in animals : nervous system; voluntary, involuntary and reflex action, chemical co-ordination: animal hormones.</p> <p><b>Reproduction :</b> Reproduction in animal and plants (asexual and sexual). Reproductive health- need for and methods of family planning. Safe sex vs HIV/ AIDS. Child bearing and women's health. Heredity and evolution : Heredity; Model's contribution- Rules for inheritance of traits; Sex determination: brief introduction; basic concepts of evolution.</p>
<b>How things work</b>	<p><b>Unit 3 : Effects of Current</b></p> <p>Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends.</p>

Main Theme	Topics under the theme
	<p>Series combination of resistors, parallel combination of resistors and its applications in daily life ; Heating effect of Electric current and its applications in daily life. Electric Power, Inter relation between P, V, I and R.</p> <p><b>Magnetic effects of current :</b> Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming’s left hand rule. Electro magnetic induction. Induced potential difference, Induced current, Fleming’s Right Hand Rule, Direct current. Alternating current; frequency of AC. Advantage of AC over DC. Domestic electric circuits</p>
<b>Natural Phenomena</b>	<p><b>Unit 4 :</b> Reflection of light at curved surfaces, Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length. Mirror Formula (Derivation not required), Magnification. Refraction; laws of refraction, refractive index. Refraction of light by spherical lens. Image formed by spherical lenses, Lens formula (Derivation not required), Magnification. Power of a lens; Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses. Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.</p>
<b>Natural Resources</b>	<p><b>Unit 5 : Management of natural resources :</b> Management of natural resources. Conservation and judicious use of natural resources. Forest and wild life, coal and petroleum conservation. Examples of People’s participation for conservation of natural resources.</p> <p><b>The Regional environment :</b> Big dams : advantages and limitations; alternatives if any. Water harvesting. Sustainability of natural resources.</p> <p><b>Sources of energy :</b> Different forms of energy, conventional and non-conventional sources of energy: fossil fuels, solar energy; biogas; wind, water and tidal energy; nuclear. Renewable versus non-renewable sources.</p> <p><b>Our Environment :</b> Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable, substances.</p>
<b>Practicals</b>	<p><b>List of experiments</b></p> <ol style="list-style-type: none"> <li>1. To find the pH of the following samples by using pH paper/universal indicator. <ol style="list-style-type: none"> <li>i) Dilute Hydrochloric acid</li> <li>ii) Dilute NaOH solution</li> <li>iii) Dilute Ethanoic acid solution</li> <li>iv) Lemon juice</li> <li>v) Water</li> <li>vi) Dilute Sodium Bicarbonate Solution.</li> </ol> </li> </ol>

Main Theme	Topics under the theme
	<p>2. To study the properties of acids and bases HCl &amp; NaOH by their reaction with</p> <p>i) Litmus solution (Blue/Red) (ii) Zinc metal (iii) Solid Sodium Carbonate</p> <p>3. To determine the focal length of</p> <p>a) Concave mirror</p> <p>b) Convex lens by obtaining the image of a distant object.</p> <p>4. To trace the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.</p> <p>5. To study the dependence of potential difference (V) across a resistor on their current (I) passing through it and determine its resistance. Also plot a graph between V and I.</p> <p>6. To determine the equivalent resistance of two resistors when connected in series.</p> <p>7. To determine the equivalent resistance of two resistors when connected in parallel.</p> <p>8. To prepare a temporary mount of a leaf peel to show stomata.</p> <p>9. To show experimentally that light is necessary for photosynthesis.</p> <p>10. To show experimentally that carbon dioxide is given out during respiration.</p> <p>11. To study (a) binary fission in Amoeba and (b) budding in yeast with the help of prepared slides.</p> <p>12. To determine the percentage of water absorbed by raisins.</p> <p>13. To perform and observe the following reactions and classify them into:</p> <p>i) Combination Reaction</p> <p>ii) Decomposition Reaction</p> <p>iii) Displacement Reaction</p> <p>iv) Double Displacement Reaction</p> <p>1. Action of water on quick lime.</p> <p>2. Action of heat on Ferrous Sulphate crystals</p> <p>3. Iron Nails kept in copper sulphate solution</p> <p>4. Reaction between Sodium sulphate and Barium chloride solutions.</p> <p>14. a) To observe the action of Zn, Fe, Cu and Al metals on the following salt solutions.</p> <p>i) <math>\text{ZnSO}_4</math> (aq.) (ii) <math>\text{FeSO}_4</math> (aq.) (iii) <math>\text{CuSO}_4</math> (aq.)</p> <p>iv) <math>\text{Al}_2(\text{SO}_4)_3</math> (aq.)</p> <p>b) Arrange Zn, Fe, Cu and Al metals in the decreasing order of reactivity based on the above result.</p> <p>15. To study the following properties of acetic acid (ethanoic acid) :</p> <p>i) odour</p> <p>ii) solubility in water</p> <p>iii) effect on litmus</p> <p>iv) reaction with sodium bicarbonate.</p>

## Grade - X Social Sciences

Main Theme	Topics under the theme
<b>Democratic Politics II</b>	<p><b>Power Sharing</b></p> <ul style="list-style-type: none"> <li>◆ How Democracies handle demands for power sharing: Case Studies of Belgium &amp; Srilanka</li> <li>◆ Power sharing is needed for prudential and moral reasons</li> <li>◆ Forms of Power sharing: different organs of Govt. among different levels of Govt. among different social groups, between political parties &amp; Pressure groups</li> <li>◆ we learn that vertical division of power among different levels of Govt. is one of the major forms of power sharing in modern democracies.</li> </ul> <p><b>Federalism</b></p> <ul style="list-style-type: none"> <li>◆ Federalism : Vertical form of power sharing</li> <li>◆ Theory &amp; practice of federalism in India</li> <li>◆ Analysis of policies and politics that strengthen federalism..Language Policy. Centre-state Relations</li> <li>◆ Decentralisation: A 3rd tier of Indian federalism. Local Govt.</li> <li>◆ we learn that power can be distributed to accommodate linguistic and regional diversities</li> </ul> <p><b>Democracy &amp; Diversity</b></p> <ul style="list-style-type: none"> <li>◆ How democracy responds to social differences, divisions and inequalities.</li> <li>◆ Public expression of social divisions</li> <li>◆ How social differences can take various forms</li> <li>◆ How democratic politics affects and is affected by these social diversities.</li> <li>◆ we learn that existence of social diversity does not threaten democracy...in fact it is desirable.</li> </ul> <p><b>Gender Caste and Religion</b></p> <ul style="list-style-type: none"> <li>◆ how India handles social differences based on gender, religion and caste..that creates social division and inequalities.</li> <li>◆ how these social divisions get expressed in politics.</li> <li>◆ are these different expressions based on differences - healthy or damaging?</li> </ul> <p><b>Popular Struggles &amp; Movements</b></p> <ul style="list-style-type: none"> <li>◆ How people in power are limited by the influence and pressure exerted on them.</li> <li>◆ Democracy involves conflict of interests and view points...which are expressed in organised ways.</li> <li>◆ people in power are required to balance these conflicting demands and pressures.</li> <li>◆ how pressures, struggles and demands shape democracy.</li> <li>◆ how an ordinary citizen can play a role in democracy.</li> <li>◆ Indirect ways of influencing politics through pressure groups and movements.</li> </ul> <p><b>Political Parties</b></p> <ul style="list-style-type: none"> <li>◆ Nature and working of political parties</li> <li>◆ Need for political parties</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ Do we need many parties?</li> <li><b>Outcomes of Democracy</b></li> <li>◆ Expectations from democracy</li> <li>◆ Assessing democracy</li> <li>◆ Actual outcomes of democracy</li> <li><b>Challenges of Democracy</b></li> <li>◆ Foundational challenge</li> <li>◆ Challenge of expansion</li> <li>◆ Deepening of democracy</li> <li>◆ Political reforms</li> </ul>
<b>India &amp; The Contemporary World II</b>	<p><b>History</b></p> <p><b>Section 1</b></p> <p><b>Events &amp; Processes</b></p> <ul style="list-style-type: none"> <li>◆ The Rise of Nationalism in Europe</li> <li>◆ The Nationalist Movement in Indo-China</li> <li>◆ Nationalism in India</li> </ul> <p><b>Section 2</b></p> <p><b>Livelihoods, Economies and Societies</b></p> <ul style="list-style-type: none"> <li>◆ The Making of a Global World</li> <li>◆ The Age of Industrialisation</li> <li>◆ Work Life &amp; Leisure</li> </ul> <p><b>Section 3</b></p> <p><b>Everyday Life Culture and Politics</b></p> <ul style="list-style-type: none"> <li>◆ Print Culture and the Modern World</li> <li>◆ Novels Society and History</li> </ul> <p>Understanding Economic Development</p> <ul style="list-style-type: none"> <li>◆ Development</li> <li>◆ Difference in developmental goals</li> <li>◆ National Development</li> <li>◆ Comparison in growth between countries</li> <li>◆ Income and other criteria</li> <li>◆ Public facilities</li> <li>◆ Sustainability of development</li> </ul> <p><b>Sectors of the Indian Economy</b></p> <ul style="list-style-type: none"> <li>◆ Primary Secondary &amp; Tertiary sectors</li> <li>◆ Division of Sectors as Organised and Unorganised</li> </ul>

Main Theme	Topics under the theme
	<ul style="list-style-type: none"> <li>◆ Public &amp; Private Sectors</li> <li><b>Money &amp; Credit</b></li> <li>◆ Money as a medium of exchange</li> <li>◆ Modern forms of money</li> <li>◆ Loan activities of Banks</li> <li>◆ Two different Credit situations</li> <li>◆ Terms of Credit</li> <li>◆ Formal sector Credit in India</li> <li>◆ Self-help groups for the poor</li> <li><b>Globalisation and the Indian Economy</b></li> <li>◆ Production across Countries</li> <li>◆ Interlinking production across countries</li> <li>◆ Foreign Trade and Integration of Markets</li> <li>◆ Globalisation</li> <li>◆ World Trade Organisation</li> <li>◆ Impact of Globalisation in India</li> <li>◆ Struggle for a fair Globalisation</li> <li><b>Consumer Rights</b></li> <li>◆ Consumer in the Market place</li> <li>◆ Consumer Movement</li> <li>◆ Consumer Rights</li> <li><b>Resources and Development</b></li> <li>◆ Types of Resources</li> <li>◆ Development of Resources</li> <li>◆ Resources Planning in India</li> <li>◆ Land Use Pattern In India</li> <li>◆ Land Degradation and conservation Measures</li> <li>◆ Soils</li> <li>◆ Soil erosion and conservation</li> <li><b>Forest and Wildlife Resources</b></li> <li>◆ Flora &amp; Fauna in India</li> <li>◆ Conservation of Forest and Wildlife in India</li> <li>◆ Types of Distrubution of Forest and Wildlife Resources</li> <li>◆ Community and Conservation</li> <li><b>Water Resources</b></li> <li>◆ Water scarcity and conservation</li> <li>◆ Multi-purpose River Projects and Integrated Water Resources Management</li> <li>◆ Rainwater Harvesting</li> </ul>

Main Theme	Topics under the theme
	<p><b>Agriculture</b></p> <ul style="list-style-type: none"><li>◆ Types of farming</li><li>◆ Food crops other than grains</li><li>◆ Non-food crops</li><li>◆ Technological and Institutional Reforms</li><li>◆ Contribution of agriculture to the national economy, employment and output</li><li>◆ Food Security</li><li>◆ Impact of globalisation on Agriculture</li></ul> <p><b>Minerals and Energy Resources</b></p> <ul style="list-style-type: none"><li>◆ Study of Minerals by Geographers and Geologists</li><li>◆ Mode of occurrence of Minerals</li><li>◆ Non-Ferrous Minerals</li><li>◆ Non- Metallic Minerals</li><li>◆ Conservation of Minerals</li><li>◆ Energy Resources</li><li>◆ Conventional &amp; Non Conventional Sources of Energy</li><li>◆ Conservation of Energy</li></ul> <p><b>Manufacturing Industries</b></p> <ul style="list-style-type: none"><li>◆ Importance of Manufacturing</li><li>◆ Contribution of Industry to National Economy</li><li>◆ Industrial Location</li><li>◆ Classification of Industries</li><li>◆ Mineral based Industries</li><li>◆ Industrial Pollution and Environmental Degradation</li><li>◆ Control of Environmental Degradation</li></ul> <p><b>Lifelines of National Economy</b></p> <ul style="list-style-type: none"><li>◆ Transport</li><li>◆ Communication</li><li>◆ International Trade</li><li>◆ Tourism as a Trade</li></ul>

## PHYSICAL & CULTURAL EDUCATION

### Overview

Physical and Cultural Education (PCE) provides children with learning opportunities through the medium of movement and contributes to their overall development by helping them to lead full, active and healthy lives. The PCE Curriculum provides a balanced range of activities for children and encourages school to adopt a flexible approach in planning for PCE.

### Physical & Cultural Education Curriculum

The Physical & Cultural Education Curriculum includes strands like:

- ◆ Games
- ◆ Dance
- ◆ Music (Vocal, Key board)
- ◆ Skating
- ◆ Aquatics
- ◆ Yoga
- ◆ Aerobics
- ◆ Art & Craft
- ◆ Athletics
- ◆ Band

The Athletics strand incorporates a range of activities including running, jumping and throwing. These activities provide children with individual challenges and motivate them to participate in more formalized approaches to athletics in later stages of physical development.

Dance in the PCE encourages children to improve body management skills, to understand movement, to work with others and to develop creativity and imagination.

Aerobics aims at control and management of body movements in increasingly challenging situations.

Games are encouraged to enable students to synergize and develop spirit along with skills of the games.

The aquatics program develops the basic life skill in swimming.

Yoga is for the alignment of mind and body.

Skating is for agility and control.

Music and singing is for aesthetics.

Art and craft is for creativity.

Band is for developing discipline and lung power.

### The Physical Education curriculum

Physical education is distinguished from other curricular areas by its primary focus on the body and on physical exercise and is an integral part of the educational process, without which the education of the child is incomplete. Through a diverse range of experience providing regular, challenging physical activity, the balanced and harmonious development and general well-being of the child is fostered.

Physical education meets the physical needs of the child and needs for movement experiences, challenges and play. It develops a desire for daily physical activity and encourages constructive use of free time and participation in physical activities in adult life.

To fulfill these needs, physical education is built on the principles of variety and diversity, not of specialization.

From Grades V upwards, a special sports camp will be conducted for 15 days in every academic term after school hours for those students who show exemplary skills in Tennis, Skating, Swimming, Dance, Music, Art & Craft, Yoga, Cricket and Basket Ball. Only 25 to 30 students will be taken after a rigorous selection procedure.

### Grade-7 and 8

**Term-1** Surya Namaskar, Meditative aasanas, Supta vajrasan, Sarvangasan, Halasan and Chakrasan in Yoga. Express imaginative life and interpret imaginative themes using wet and dry colours. Make simple character toys, creative pieces in fabric and fibre, preparing the props for opera in art and craft classes. Physical fitness through aerobics. Learning the basic skills of cricket or basket ball.

**Term-2** Suryanamskar, Karnapeedasan and Bakasan in Yoga. Improvising the skills of art and become sensitive to increasingly subtle color differences and tonal variations in natural and manufactured objects. Learning the fielding, bowling, batting skills in cricket and ball handling skills in basket ball and applying rules of the game. Physical fitness through aerobics.

**Term-3** Variations in Meru dandasan and Bhujangasan in Yoga. Making their own creative drawings and paintings and exhibiting the art. Develop an understanding of fair play and team spirit, intra class matches in cricket and basket ball to appreciate the skills learnt.

### Grade-9 and 10

**Term-1** Surya Namaskar, Meditative aasans, Supta vajrasan, Sarvangasan, Haalasan and Chakrasan in Yoga. Discussing the benefits of yoga exercises and learning the exercises for the specified improvement. Improvising the skills of cricket or basketball, discussing about the team spirit and coordination amongst the team and participating in the competitions.

**Term-2** Suryanamskar, Karnapeedasan and Bakasan in Yoga the most effective exercises to improve their physical and mental balance. Discussing about team spirit, fair play and intra class matches in cricket and basket ball

**Term-3** Variations in Meru dandaasan and Bhujangaasan in Yoga. Development of skills in cricket and basket ball.



