CLASS 6 SYLLABUS 2020 – 2021

ENGLISH

Books:

- 1. Tree Top Course Book 6 (Revised Edition 2017) (Headword Publishing Company) Grammar Plus Book 6 (with Web Support) (Ratna Sagar Pvt Ltd) 2.
 - 3. The Little Oxford Dictionary

(O.U.P.)

FIRST TERM

Essay Writing: Essay / Picture Composition (One per fortnight alternatively) – 150 to 200 words

Letter Writing: One letter per fortnight (formal/informal)

Comprehension/Grammar

1.	Sentences – Subject and Predicate	2.	Nouns
3.	Pronouns	4.	Adjectives
_			

- 5. Articles
- One Comprehension passage per fortnight will be done in the form of worksheets prepared by the Teacher. 6.

PROSE

- 1. The Town Musicians of Bremen
- 2. How the Cat Became
- 3. The Emperor's New Clothes
- Jeannie's Amber Beads 4.

Spelling and Dictation

FINAL TERM

Essay Writing: One essay per fortnight

Letter Writing: One letter per fortnight (formal/informal/Application to Principal)

Comprehension/Grammar

- One Comprehension passage per fortnight will be done in the form of worksheets prepared by the Teacher. 1.
- 2. Verbs - Agreement of Subject with the Verb
- 4. Prepositions
- Tenses Simple and Progressive Forms 6.

PROSE

- UrashimaTaro and the Sea Princess 1.
- 2. The Hunt
- Uncle Podger Hangs a Picture 3.
- Which was Witch 4.

Spelling and Dictation

HINDI

Books:	1.	बिज़ो बीज़ (हिन्दी पाठमाला) भाग–6	(एसविजन पब्लिकेशन)
	2.	आओ व्याकरण सीखें भाग—6	(विज़न बुक्स)

FIRST TERM

HINDI TEXT (हिन्दी साहित्य)

1 ⁰	उठो धरा के अमर सपूतों (कविता)	2ט	बिना जड़ का पेड़ (कहानी)
30	समय का सदुपयोग (लेख)	4 ⁰	हिम्मत करने वालों की हार नहीं होती (कविता)
5 ⁰	क्या थे कलाम (जीवन चित्रण)	6 ⁰	बीस''रूपए के लिए (कहानी)

LANGUAGE (भाषा)

1 ⁰	भाषा एवं व्याकरण	2ण वर्ण विचार	
3 ⁰	संज्ञा (संज्ञा के प्रकार) ;च्तजे वछिवनदद्ध	4ण पर्यायवाची	
5 ⁰	विलोम शब्द	^{6ण} मुहावरे	
	```	* 6	

- पत्र लेखन प औपचारिक पत्र (Formal Letter) पप अनौपचारिक पत्र (Informal Letter) 70
- अपठित गद्यांश (Unseen Passage) **8**Ω

निबन्ध (Essay Writing) / चित्र लेखन gυ

2. Day

The Miser and His Gold

POETRY

1.

- Adverbs 3.
- 5. Conjunctions
- 7. Proverbs

POETRY

- A Green Cornfield 1.
- 2. The Enchanted Shirt

FINAL TERM

1 ⁰ 30	किताब की कहानी (वैज्ञानिक संस्मरण) अंजू की सीख (कहानी)	20 40	षहीदों में नाम लिखा ले रे !(कविता) कबीर के दोहे (दोहे)
50 50	अंधेर में रोषनी की किरण हेलन केलर (जीवनी)	6 ⁰	कंजूस सेठ, चटोरी सेठानी (कहानी)
LAN	GUAGE (भाषा)		
1 ⁰	सर्वनाम		
20	वाक्य विचार एवं वाक्य शदि (Syntax & Correction of S	Sentences)	

2.	and the second concerned of be	incinces)	
3 ¹⁰	पर्यायवाची	4 ^v	विलोम शब्द
5 ⁰	मुहावरे	6 ^v	वाक्यांश के लिए एक शब्द
70	पंत्र लेखन	8 ⁰	अपठित गद्यांश
9 0	निबन्ध लेखन ध्चित्र लेखन		

SANSKRIT

Book:	SANSKRIT DARSHIKA Part - 2		Dr Mee	era Gupta	(Orchid publications (P) Ltd)
		FIRST TERM	Л		
1 ⁰	लड्. लकार प्रथम पुरूष	:	2 ^ʊ	लड्. लकार मध्य	गम पुरूष
3 ⁰	लड्. लकार उत्तम पुरूष		4 ⁰	धातु रूप लड्. त	नकार
		FINAL TERN	М		
1 ⁰	लृट लकार प्रथम पुरूष	:	2 ^ʊ	लृट लकार मध्य	म पुरूष
3 ⁰	लृट लकार उत्तम पुरूष		4 ⁰	उत्तम बालकः	
5 ⁰	धातु रूप लृट लकार				

Apprenons Le Français Part-1 Text Book and Work Book	(New Saraswati Publication)

FINAL TERM

Comprehension/Grammar

- 1. Alphabets
- Subject Pronouns 3.
- 5. Culture

PROSE

- 1. vous connaissez la france
- 2. Les salutations
- 3. Les Copains
- 4. Devinez
- 5. Dans la classe

Comprehension/Grammar

- Masculine/Feminine 1.
- 3. Verb: aller
- Feminine / Plural of colours 5.

- Plural of Nouns 2.
- Months of the year 4.
- Cardinal Numbers 6.

Numbers 2. 4. Professions

POETRY

1. Frère Jacques

- FIRST TERM
- FRENCH

Books:

PROSE

- Les Amis De Caroline 1.
- Quel Jour Sommes-Nous? 2.
- La Famille De Manuel 3.
- Les Vacances 4.
- 5. Le Drapeau De Mon Pays
- La Carte De La France 6.

HISTORY & CIVICS

Book: THE TRAIL - HISTORY & CIVICS - Class 6 (REVISED EDITION 2020) Jayanti Sengupta (O.U.P.)

FIRST TERM

HISTORY

- The Mesopotamian Civilization 1.
- The Indus Valley Civilization 3.
- The Early Vedic Civilization 5.
- Rural Local Self-Government

FINAL TERM

HISTORY

- 1. Jainism and Buddhism
- 3. The Mauryan Empire
- 5. The Gupta Empire

CIVICS

Urban Local Self-Government

GEOGRAPHY

Book: INSPIRED GEOGRAPHY – BOOK 6

FIRST TERM

- Mapping the Earth 1. 3. Minerals
- 2. Landforms of the Earth 4.

North America: Location, Political Divisions and Physical Features

(Orient BlackSwan)

5. Case Studies: Lumberjacks of Canada

MAP WORK: NORTH AMERICA

_Mountains and Plateaus: Rocky Mountains, Appalachian mountains, Alaska Range, Columbia Plateau, Mexican Plateau, Canadian Shield, Sierra Nevada, Colorado Plateau Seas: Caribbean, Labrador, Bering Bays: Hudson, Baffin Gulfs: Gulf of Mexico Rivers: Mississippi, Colorado, Rio Grande, Ohio, Missouri, St. Lawrence, Lakes: Superior, Michigan, Huron, Erie, Ontario, Athabasca, Winnipeg, Great Slave, Great Bear, Great Salt Peninsulas: Florida, Alaska, Yucatan Places: Washington D.C, Mexico city, Havana, Ottawa Strait: Bering

POETRY

- Vole Joli Papillon 1.
- Le Weekend 2.

- The Egyptian Civilization The Chinese Civilization 4.
- The Later Vedic Civilization 6.
- CIVICS

2.

(For the new CISCE curriculum)

- 2. The Rise of Magadha
- 4. The Mauryan Administration

FINAL TERM

- 1. Water Bodies of the Earth
- 2. Agriculture
- 3. South America: Location, Political Divisions and Physical Features
- 4. Case Studies: Life in the Amazon Basin

MAP WORK: SOUTH AMERICA

Mountains and Plateaus: Andes, Brazilian Highlands, Plateau of Mato Grasso, Bolivian Plateau, Guiana Highlands Rivers: Parana, Uruguay, Paraguay, Amazon, Orinoco, Araguaia, Tocantins Lakes: Titicaca, Poopo, Patos, Mirim Straits: Magellan's Strait Gulfs and Bays: Panama, Guayaquil, Penas, San Jorge, Grand Bay Deserts: Atacama, Patagonian Places: La Paz, Santiago, Buenos Aires, Montevideo, Brazilia, Lima, Falkland Islands

MATHEMATICS

Book: ICSE UNDERSTANDING MATHEMATICS – BOOK 6 (REPRINT 2019 EDITION)

M. L. Aggarwal (Arya Publishers)

FIRST TERM

ARITHMETIC

- 1. Integers
- 2. Sets (Listing, Description, Cardinal Number, Union and Intersection)
- 3. HCF and LCM
- 4. Fractions (BODMAS)
- 5. Decimals

ALGEBRA

- 1. Fundamental Concepts of Algebra
- 2. Substitution

GEOMETRY

- 1. Fundamental Concepts and Lines.
- 2. Angles

FINAL TERM

ARITHMETIC

1.	Percentage	2.	Ratio and Proportion
3.	Area and perimeter of squares and rectangles	4.	Volume of a cube
ALG	EBRA		
1.	Addition	2.	Subtraction
GEO	METRY		
1.	Constructions	2.	Triangles

GENERAL SCIENCE

Book: INTEGRATED LIVING SCIENCE FOR ICSE SCHOOLS-BOOK 6

BEGINNER'S SCIENCE DICTIONARY - Terrapin

Gautam Das, Satinder Malhotra and D. K. Rao (Ratna Sagar Pvt Ltd)

FIRST TERM

1.Measurements2.Force3.Friction4.Pure Substances and Mixtures5.Classification of the Living World6.Classification of Plants7.Our Environment (Project work)6.Classification of Plants

1. Pressure 2. Work and Energy 3. Magnetism 4. Rocks and Minerals **Classification of Animals** 5. 6. Soil 7. The Structure and Functions of Plant Parts Some Useful Plants and Animals (Project work) 8.

COMPUTER STUDIES

Book:	SURYANSH'S THE BRAIN CHIP – 6	Amit Wilson	(Suryansh Publishers (P) Ltd)
DOOM.			(Sur yansh i ubhshers (i) Etu)

FIRST TERM

- 1. Number System - An Introduction
 - a) Binary Arithmetic Addition
 - b) Conversions Binary, Decimal Number System and their Inter-conversions
- Computer Languages 2.
- **Basic Programming** 3.
- 5. Mail Merge

4. **Basic Commands and Statements**

NCERT

6. Organisation of Data

FINAL TERM

2. 1. Introduction to Multimedia Internet Programming in Java 3. Graphical User Interface 4. Algorithm and Flowchart 5. Flash 6. HTML

URDU

Books:

1.

3.

5.

Ibtedaee Urdu (Part 3 & 4)

FIRST TERM

Saari Duniya Ke Malik (Nazm) 2. Tote Ki Chalaki Guftgoo ke Aadab 4. Mera Pyara Watan (Nazm) Aruna Asaf Ali Hamare Khel 6. Barsat (Nazm) Sach Ki Jeet 7. 8. Shaam (Nazm) 9. Neem Ka Per 10. Danton Ki Hifazat Eid 11. 12. Darakhton Se Muhabbat (Nazm) 14. Kahawatein 13. 15. Sir C. V. Raman 16. Diwali (Nazm) Paidal Se Hawai Jahaz Tak Mashoor Tareekhi Imaratein 17. 18. Qudrati Gas 19. Ek Gaye Aur Bakri (Nazm) 20.

FINAL TERM

1. Subh Ki Amad (Nazm) 2. Chiriya Aur Paude Ki Kahani Parindon Ki Duniya 4. Hamdardi (Nazm) 3. 5. Hazrat Ali Ka Insaf Hikayatein 6. Kehna Baroon Ka Mano (Nazm) Kisan 7. 8. 9. Shaheed Bhagat Singh 10. Hawa (Nazm) Mobile Phone 12. Hakeem Abdul Hameed 11. Bakri Ne Do Gaon Kha Liye 14. Yunhi Pyari Chiriyon (Nazm) 13. 16. Aqlmand Machera (Drama) 15. Sauti Aaloodgi Ekta (Nazm) 17. 18. Behu Title Aur Gulab 19. Ustad Bismillah Khan 20. 21. Reech Ka Bachcha (Nazm) 22. Hamari Tahzeeb

(Acevision Publisher Pvt Ltd)

(Edutree Publisher Pvt Ltd)

Swati Mehrotra

FIRST TERM

1. God at the Door Step

Book: INSPIRING SOULS – BOOK 6

3. The Blind Boy

1. Rise after Fall

3. The Window Seat 4. The Missing Toe

Right and Wrong

FINAL TERM

- 2. Jar of Desire 4.
 - Flame and Fire

ART

Drawing from observation

2.

Book: START UP ART AND CRAFT – BOOK 6

FIRST TERM

Concept of Art

- 1. Introduction to Art 2. Elements of Art: line, shape, from, value, space, colour, texture 3. The principle of Art 4. Perspective
- 5. Light and shade
- 7. Drawing with basic shapes

Still life study

- 1. Measurements and proportions for still life objects 2. Still life with pencil shading 4.
- Still life with graphite pencil 3.
- Still life with pencil colours Still life with monochrome technique and poster colours 5. 6. Still life with micro tip pen

6.

Vehicles

- 1. Drawing and colouring a car
- 2. Rendering of submarine and a hot air balloon

Human Form Study

- 1 Study of facial features How to draw a face 2 Facial expression and emotions 3 3 Study of proportion and postures
- 5 Portrait study

Composition

Drawing and colouring kettle and fruits 2. Rendering of a forest 1. 3. Folk Art - Madhubani Milestone achiever 4.

FINAL TERM

Nature study Drawing and colouring leaves 1. 2. Drawing and colouring flowers 3. Drawing and colouring trees Animal study Drawings and colouring birds Drawing and colouring insects and bugs 1. 2. 3. Drawing and colouring aquatic animals 4. Drawing and colouring reptiles Landscape Drawing and colouring grassland 2. Rendering of a landscape 1. 3. Rendering of a cottage 4. Rendering of a mud house Art and Design Writing in style-typography Computer graphics 1. 2. 3. Collage 4. Poster design 5. Cartoon and caricature

Clay Modeling and Ceramics

- 1. Introduction of clay
- 3. Terracotta quill technique

2. Terracotta slab technique

S.U.P.W.

Workshop on visually challenged (people who are differently abled)

FIRST TERM

- 1. Introduction of Braille language: Its history and importance
- 2. Learning alphabets on Braille boards.

FINAL TERM

Learning of words and sentences on Braille boards.

MUSIC

(a) **Pulse:**

- 1. Understanding the basic concept of tempo.
- 2. Understanding and differentiating between fast and slow rhythmic and melodic patterns, getting faster, getting slower.
- 3. Recognizing strong and weak beats.
- 4. Identifying different types of beats eg.
 - Two beat time march
 - Three beat time waltz Six-eight time- jig.

Audio samples shall be provided for the students

(b) Pitch:

- 1. Understanding and differentiating between high and low sounds.
- 2. Imitating basic melodies from audio samples that shall be provided.
- 3. Understanding the difference in singing in different octaves.

(c) Dynamics:

- 1. Understanding and differentiating between loud in soft sounds, i.e. crescendo/dimuendo.
- 2. Differentiating between shouting and singing.
- 3. Expression and emotion of a song through dynamics.
- 4. Song samples like 'Bolero', 'Turkish March' and 'Moonlight Sonata' shall be used to highlight this.

(d)Timbre:

- 1. Exploring and differentiating between different types of sounds and voices.
- 2. Emphasis will be laid on the voices i.e. soprano, alto, tenor, bass. Audio/Visual material shall be used.
- 3. Exploring and differentiating between different types of instruments.
- 4. Identifying families of instruments Emphasis shall be laid on percussion, string and wind instruments.

(d) Texture:

- 1. Use of harmony to add effect.
- 2. Layering: Combining of melody, harmony and/or parts to produce on overall composition.

(e) Styles:

- 1. Listen to and identify from a range of styles appropriate for the pupil's age and capability.
- 2. Differentiating between clearly contrasting styles eg. country and rock.
- 3. A/V stimulus shall be provided.

Speech and voice modulation: After teaching the basic concepts of music the following activities can be carried out throughout the course of the year to re-enforce the above mentioned concepts and to improve the voice and speech modulation of the students.

CLASS 7 SYLLABUS 2020 - 2021

ENGLISH

Tree Top- Course Book 7 (Revised Edition 2017) Books: 1. Grammar Plus Book 7 (with Web Support) 2.

(Headword Publishing Company) (Ratna Sagar Pvt Ltd)

FIRST TERM

Essay Writing: Essay / Picture Composition (One per fortnight alternatively)

Letter Writing: One Letter per fortnight

Spelling and Dictation

Comprehension/Grammar

- 1. One Comprehension passage per fortnight will be done in the form of worksheets prepared by the Teacher.
- 2. Sentences and Phrases; Question Tags
- 3. Nouns
- 5. Pronouns
- Re-telling stories using selected phrases and vocabulary from the original stories 7.

LITERATURE

PROSE

- 1. The Shepherds' Daughter
- 2. My life on an Island
- 3. The Most Precious Gift
- 4. Alien Invaders

FINAL TERM

Essay Writing: One Essay per fortnight

Letter Writing: One Letter per fortnight

Comprehension/Grammar

- 1. One Comprehension passage per fortnight will be done in the form of worksheets prepared by the Teacher.
- 2. Verbs
- Adverbs 3.
- 5. Conjunctions

LITERATURE

PROSE

1^v 30

5⁰

- The Eyes Have It 1.
- 2. The lost Empire
- The Adventure with the Windmills 3.
- The Midnight Visitor 4.

POETRY

The Outsider 1.

Prepositions

Tenses

2. The Dove

HINDI

FIRST TERM

Books:	1 ⁰	बिज़ी बीज़ (हिन्दी पाठमाला) भाग–7	(एसविज़न पब्लिकेशन)
	2 ¹⁰	आओ व्याकरण सीखे भाग–7	(विज़न बुक्स)

HINDI TEXT (हिन्दी साहित्य)

पहली बूॅद (कविता)	2 ⁰	सोने की कढ़ी (कहानी)
राख की रस्सी (कहानी)	4 ^v	खिलौनेवाला (कविता)
मेहनत रंग लाई (हास्य व्यंग्य)	6 ^ʊ	गिल्लू (संस्करण)

4.

6.

- POETRY
- 1. From a Railway Carriage
- 2. Tartary
- 4. Articles

6. Adjectives

LANGUAGE (भाषा)

- 1ण शब्द विचार —दृ तत्सम—तदभव
- 2ण संज्ञा (संज्ञा के प्रकार) ;च्तजे वण्डिवनदद्ध
- 3ण पर्यायवाची
- 4ण विलोम शब्द
- 5ण मुहावरे
- 6ण पत्र लेखन प औपचारिक पत्र (Formal Letter) पप अनौपचारिक पत्र (Informal Letter)
- 7ण अपठित गद्यांश (Unseen Passage)
- 8ण निबन्ध (Essay Writing)

FINAL TERM

1 ⁰	मॉ कह एक कहानी (कविता)	2 ⁰	नेता जी सुभाष चंद्र बोस (जीवनी)
3 ⁰	बुद्धिमान की परीक्षा (कहानी)	4 ^v	मीरा के पद (पद)
5 ^v	अनमोल भेंट (कहानी)	6 ⁰	निन्यानवे का फेर (लोक कथा)
LANG	UAGE (भाषा)		
1 ⁰	विशेषण (Adjective)	2 ⁰	वाक्य शुद्धि (Correction of Sentences)
3 ⁰	पर्यायवाची	4 ^v	विलोम शब्द
5 ^v	मुहावरे	6 ⁰	वाक्यांश के लिए एक शब्द
7 0	पत्र लेखन	8 ⁰	अपठित गद्यांश
9υ	निबन्ध लेखन		

SANSKRIT

Book:	SANSKRIT DARSHIKA – PART 3	Dr Meera Gupta	(Orchid Publication (P) Ltd)
	F	IRST TERM	
1 ⁰	संस्कृत महत्वम्	2ण नीतिष्लोकाः	
30	पिपासितः काकः	4ण व्याकरण भा	गः (धातु रूप एवं षब्द रूप)
	F	INAL TERM	
1 ⁰	रक्षाबंधनम्	2ण. ऋतुराजः बर	संत
30	सुभाषितानि	4ण व्याकरण भा	गः (धातु रूप एवं षब्द रूप)

HISTORY & CIVICS

Book: THE TRAIL - HISTORY & CIVICS – Class 7 (REVISED EDITION 2020) Jayanti Sengupta (O.U.P.)

FIRST TERM

HISTORY

1. Rise of Christianity

- Spread of Christianity
 The Turkish Invasion and Establishment of the Delhi Sultanate
- 3. Birth of Prophet Muhammad and Spread of Islam
- 5. Expansion of the Delhi Sultanate: The Khilji and the Tughlaq Dynasties
- 6. Life under the Delhi Sultanate

FINAL TERM

HISTORY

1.	Rise of the Vijayanagar and Bahmani Kingdoms	2.	Babur, Humayun and Sher Khan
3.	Akbar	4.	Jahangir, Shah Jahan and Aurangzeb

5. Bhakti and Sufi Movements

CIVICS

Directive Principles of State Policy

GEOGRAPHY

Book: INSPIRED GEOGRAPHY – BOOK 7 (For the new CISCE Curriculum) (Orient BlackSwan)

FIRST TERM

- **Representation of Geographical Features** 1.
- Weather and Climate 2.
- Weathering and Soil Formation 3.
- Europe: Location, Political Divisions and Physical Features 4.
- 5. Australia: Location, Political Divisions and Physical Features

MAP WORK: EUROPE

Mountains and Plateaus: Scandinavian, Alps, Apennines, Dinaric Alps, Pyrenees, Cantabrian, Caucasus, Balkan, Carpathian Rivers: Seine, Rhine, Rhone, Elbe, Volga, Dnieper, Danube, Thames Sea: Baltic, North sea, Norwegian, Black, Adriatic, White, Irish Gulfs and Bays: Lions, Finland, Bothnia, Bay of Biscay Straits: Otranto, Gibraltar Peninsula: Kola, Kanin, Balkan, Iberian Places: Lisbon, Madrid, Paris, Rome, London, Athens, Berlin, Oslo, Stockholm, Helsinki

FINAL TERM

2.

4.

The Atmosphere 1.

Africa: Location, Political Divisions and Physical Features 3.

5. **Energy and Power Resources**

MAP WORK: AFRICA

Mountains and plateaus: Drakensberg, Atlas, Adamawa Highlands, Tibesti mountains, Fouta Djallon Highlands, Ethiopian highlands, Mt. Kilimanjaro, Ahaggar Mountains, Rwenzori Range Lakes: Victoria, Tanganyika, Chad, Nasser, Malawi Places: Madagascar, Alexandria, Cairo, Addis Ababa, Nairobi, Tripoli, Accra, Cape of Good Hope, Luanda Sea: Red, Mediterranean Rivers: Nile, Niger, Congo, Orange, Limpopo, Zambezi, Chari Deserts: Sahara, Kalahari, Namib, Nubian, Libyan Gulfs: Guinea, Gabes, Sidra Straits: Gibraltar Channel: Mozambique

Industries

Antarctica: The Uninhabited Continent

MATHEMATICS

Book: ICSE UNDERSTANDING MATHEMATICS – BOOK 7 (REPRINT 2019 EDITION)

M. L. Aggarwal (Arya Publishers)

FIRST TERM

ARITHMETIC

- 1. Rational numbers
- 2. Unitary method
- 3. Speed, Distance and Time
- 4. Percentage

ALGEBRA

- 1. Fundamental Concepts and Operations on algebraic expressions
- 2. Exponent and powers

GEOMETRY

- 1. Symmetry
- 2. Angles, Parallel lines.

STATISTICS

- 1. Tabulation of data
- 2. Bar graph

FINAL TERM

ARITHMETIC

- 1. Profit & Loss
- 2. Simple Interest
- 3. Mensuration

ALGEBRA

- 1. Linear equations
- 2. Problems on linear equations

GEOMETRY

- 1. Triangles and its properties
- 2. Congruency of triangles
- 3. Practical Geometry

STATISTICS

Measure of central tendency

PHYSICS

Book: ICSE LIVING SCIENCE - PHYSICS - CLASS 7 (2017 Edition) Gautam Das (Ratna Sagar Pvt Ltd)

FIRST TERM

- 1. Measurements
- 2. Motion
- 3. Heat

FINAL TERM

2.

4.

Sound

Reflection of Light - Plane Mirrors

- 1. Light and Shadows
- 3. Reflection of Light Spherical Mirrors
- 5. Electricity

CHEMISTRY

Book: ICSE LIVING SCIENCE - CHEMISTRY - CLASS 7 (2017 Edition) Satinder Malhotra (Ratna Sagar Pvt Ltd)

FIRST TERM

- 1. Elements and Compounds
- 2. Physical and Chemical Changes
- 3. Water

FINAL TERM

1. Air

2. Acid, Bases and Salts

3. Chemistry in Everyday Life

BIOLOGY

Book: CONNECT WITH SCIENCE - BIOLOGY - CLASS 7 (REVISED OLD EDITION) Sangeeta Sinha (OUP)

FIRST TERM

- 1. Basic Biology
- 2. Organization in Living Things
- 3. Life Processes: Movement in Animals and Plants

FINAL TERM

- 1. Life Processes: Nutrition in Animals and Plants
- 2. Life Processes: Ingestion, Digestion, Absorption and Assimilation
- 3. Life Processes: Respiration and Excretion in Animals and Plants
- 4. Life under a Microscope

COMPUTER STUDIES

Book: SURYANSH'S THE BRAIN CHIP – 7 (REVISED EDITION 2018)

Amit Wilson and Kajal Lalthwal (Suryansh Publishers)

FIRST TERM

- 1. Introduction to Computer Fundamentals.
 (Taught through Smart Class Modules)

 a. Computer Types and Generations
 (Taught through Smart Class Modules)
 - b. Computer Hardware Component
 - Introduction to Hardware & Software.
- 3. Algorithms & Flowcharts.

2.

- 4. a. Basic Programming Review.
- b. Basic Programming More features.
- Number System An Introduction (Binary Addition, Binary Subtraction, Binary → Decimal → Octal Conversion -Interconversion)
- 6. Ethics and Safety Measures in Computing

FINAL TERM

1.	Internet Programming in Java – Review	(Taught through Smart Class Modules)
2.	Java Programming - More Features	(Taught through Smart Class Modules)
3.	Microsoft Front Page	(Taught through Smart Class Modules)
4.	Multimedia Presentation: Microsoft PowerPoint	(Taught through Smart Class Modules)
5.	PHOTOSHOP	(Taught through Smart Class Modules)
6.	Introduction to Database and DBMS – MS Access	

FRENCH

Books:	1.	Textbook : Apprenons Le Français – Méthode de Français (Part-2)
	2.	Workbook : Apprenons Le Français- Cahier d'Exercices (Part-2)
		Publication : New Saraswati House Publication

FIRST TERM

PROSE (Lesson-0 to 4)

- 0. Un coup d'œeil sur la France
- 1. Voila le frère et la sœur de Manuel
- 2. À la Caféteria
- 3. Mon pays: La France
- 4. Les parents de Manuel

POETRY

- 1. Mon chapeau
- 2. Arc-en-ciel

(Taught through Smart Class Modules)

(Taught through Smart Class Modules)

Vocabulary/Grammar

- Les saisons 1.
- 2. « Aller » continues with other irregular verbs
- 3. Negation
- 4. Places to visit
- 5. Second group of verbs (ir)

Comprehension/Composition

- 1. Picture Composition (Describing an object or an image)
- 2. **Comprehension Passages**
- 3. Making Identity Cards

FINAL TERM

8.

9.

10.

PROSE (Lesson-5 to 10)

- 5. C'est Noël
- Allons à la lécole 6.
- 7. Dans un grand magasin

Vocabulary/Grammar

Prepositions 1.

- 2. **Regions of France**
- 3. Expressions with Faire verb
- 4. Demonstrative and Possessive Adjectives
- 5. Irregular Verbs: Pouvoir, Vouloir, Faire, Voir, Venir

Comprehension/Composition

- Picture Composition 1.
- 2. Comprehension passages
- 3. Letter Writing (Informal)
- 4. Essays (describing family, house, school, friend, a place)

VALUE EDUCATION

Book:	INSPIRING SOULS – BOOK 7	Swati Mehrotra	(Acevision Publisher Pvt Ltd)
		FIRST TERM	
1.	The Cloth Story	2.	The Jumping Words
3.	The Righteous King	4.	The Miser Merchant
		FINAL TERM	
1.	The Dream Bridge	2.	The Choice of Feast
3.	Nails in the Fence	4.	Fire, Wind and Music
		ART	
Book:	Start Up Art and Craf Cartridge Art File	t – Book 7	(Edutree Publisher Pvt Ltd)
		FIRST TERM	
Concep	pt of Art		
1.	Meaning of Art	2.	Observational Drawing
3.	Elements of Art	4.	Drawing with shapes
5.	Drawing with Imagination	6.	Perspective Drawing
7. 9.	Materials Techniques Silhouette	8.	Light & shadow
Still Li	fe Study		

- 1. Still Life with oil pastel and pencil colours
- Still Life with monochrome technique and HB pencil 3.
- Still Life with pencil colours 5.
- 7. Still Life with pen &ink technique

- Cardinal and Ordinal Numbers 6.
- 7. Interrogation
- Third group of verbs (re/oir) 8.
- 9. Exceptional verbs "ger"

- 6. Negation including « de » with indefinite articles
- Places in the house

Les Repas

Ma Maison

Une Lettre de Rouen

- Partitive articles
- Contracted articles
- 10. (tir) verbs

- 2. Still Life with graphite pencil
- 4. Still Life with water colours
- Still Life with oil pastels 6.

7. 8. 9.

Vehicles

- 1. Drawing and rendering of an auto Rickshaw
- 2. Rendering of Gliders

Human form Study

- 1. Portrait study
- 3. Hand & feet
- 5. Proportion Reminders

Composition Study

1	Composition study with water colour	2	Composition study with poster colour
3	Composition study with monochrome technique	4	Warli Art
5	Bangal Art		

FINAL TERM

2.

4.

2.

2.

Profile face study

Human figure in Motion

Drawing and colouring Desert

NCERT

Tattoo Design

Nature Study

1. 3.	Drawing and colouring leaves A tree trunk	2.	Drawing and colouring flowers
Animal 1.	Study Drawing and colouring birds	2.	Drawing and colouring animals

Landscape

- 1. Hillside Composition
- 3. Drawing and colouring Seascape

Art and Design

- 1. Rangoli Design
- 3. Fabric Painting

Clay modelling and Ceramic

- 1. Terracotta slab technique
- 2. Terracotta coil technique

URDU

Books:

Ibtedaee Urdu (Part 5 & 6)

FIRST TERM

1.	Bi Bi Fatima	2.	Tarana-E-Hind (Nazm)
3.	Hamdardi	4.	Meri Patang (Nazm)
5.	Sehat Aur Safai	6.	Naunihalo (Nazm)
7.	Guru Nanak	8.	Zero Not Out
9.	Aiye Lughat Dekhein	10.	Pehli Jang-E-Azadi Ke Sipehsalar
11.	Nanhi Pujaran (Nazm)	12.	Ache Khayalat
13.	Qudrati Afat		

FINAL TERM

1.	Mitti Ka Diya (Nazm)	2.	Aqlmand Kisan
3.	Ek Pahar Aur Gelahri (Nazm)	4.	Hazrat Mohammad
5.	Zarron Ko Bhi Insaan (Nazm)	6.	Ghandhi Ji
7.	Ghore Aur Hiran Ki Kahani	8.	Eid Gah
9.	Rabindra Nath Tagore	10.	Barish Ka Pehla Qatra (Nazm)
11.	Hamare Tehwar	12.	Hawai Qila
13.	Akhri Qadam		

S.U.P.W.

Workshop on visually challenged (People who are differently abled)

FIRST TERM

- 1. Introduction to Braille Language: its history and importance
- 2. Learning alphabets on Braille boards

FINAL TERM

Learning of Words and Sentences on Braille Boards

MUSIC

Pupils shall be sensitized to the different musical formats, music terminology, the use of layering, harmony and the various uses of music in daily experiences.

- (a) **Musical presentations and formats:** The different types of musical formats like oratories, symphonies, concertos will be taught. The differences between the different presentations will be taught to the children.
- (b) **Music terminology:** Musical terms that are used mainly in classical music will be taught. These terms can be broadly classified into the following.
 - i. Tempo
 - ii. Emotive value
- (c) **Layering/ Harmonizing:** Combining of the melody, harmony and/ or parts. Layering combines all four human voices ie. soprano, alto, tenor, bass. Layering will be taught using the following hymns:
 - 1. From The Rising Of The Sun.
 - 2. The Lord's My Shepherd
 - 3. Joyful, Joyful We Adore Thee.
- (d) Use of music in daily experiences: The students will be taught to identify the use of music in daily experience like:
 - i. Jingles
 - ii. Commercials
 - iii. Movies
- (e) Vocal activities: To re-enforce the concept learnt previously on voice modulation, the following activities will be carried out.

CLASS 8 SYLLABUS 2020 - 2021

ENGLISH

Books:	1.	Tree Top - Course Book 8 (Revised Edition 2017)	(Headword Publishing Company)
	2.	Grammar Plus-Book 8 (with Web Support)	(Ratna Sagar Pvt Ltd)

FIRST TERM

Essay/Story/Debate Writing:	Essay / Picture Composition (One per fortnight alternatively)
Letter Writing:	Formal and informal (One letter per fortnight)
E-mail and Notice Writing:	One of each per fortnight

Comprehension/Grammar

- 1. One Comprehension passage per fortnight will be done in the form of worksheets prepared by the Teacher.
- 2. Sentences and Clauses
- 3. Nouns
- 5. Pronouns

PROSE

- 1. Journey by Night
- 2. The Hero
- 3. I Never Forget a Face
- 4. Perseus and Andromeda

6. Figures of Speech

POETRY

4.

1. Casabianca

Articles

2. Lake Isle of Innisfree

FINAL TERM

Essay/Story/Debate Writing: Essay / Picture Composition (One per fortnight alternatively) **Letter Writing:** Formal and informal (One letter per fortnight)

E-mail and Notice Writing: One of each per fortnight

Comprehension/Grammar

- 1. One Comprehension passage per fortnight will be done in the form of worksheets prepared by the Teacher.
- 2. Adjectives
- 3. Verbs
- 5. Adverbs
- 7. Conjunctions
- 9. Reported Speech

PROSE

- 1. The Ransom of the Red Chief
- 2. Seventeen Oranges
- 3. The Fun They Had
- 4. The Model Millionaire

- 4. Tenses
- 6. Prepositions
- 8. Introduction to Precis writing

POETRY

- 1. Past and Present
- 2. The Inchcape Rock

विज्ञापन लेखन

HINDI

Books:	1 ⁰	बिज़ी बीज़ (हिन्दी पाठमाला) भाग– 8	(एसविज़न पब्लिकेशन)
	2 ¹⁰	आओ व्याकरण सीखें भाग— 8	(विज़न बुक्स)

FIRST TERM

HINDI TEXT (हिन्दी साहित्य)

1 ⁰	प्रभु तुम मेरे मन की जानों (कविता)	2 ^v	नकलची नाई (कहानी)
3 ¹⁰	बोध (कहानी)	4 ^v	चेतक (कविता)
5 ⁰	मुफ़्त ही मुफ़्त (लोक कथा)	6 ^v	दान का हिसाब (कहानी)

LANGUAGE (भाषा)

1.	सर्वनाम (Prone	oun)	2.	पर्यायवाची
3.	विलोम शब्द		4.	मुहावरे
5.	पत्र लेखन	प औपचारिक पत्र (Formal Letter)	ii अनौपचारिक	पत्र (Informal Letter)

- 6. अपठित गद्यांश (Unseen Passage)
- 7. निबन्ध (Essay Writing)

FINAL TERM

8.

1 ⁰	पतवार (कविता)	2 ⁰	एक मध्यवर्गीय कुत्ता (हास्य व्यंग्य)
30	नन्हा फ़नकार (कहानी)	4 ^v	सूरदास के पद (पद)
50	स्वामी की दादी (कहानी)	6 ^ʊ	प्रायण्चित (कहानी)
LANG	SUAGE (भाषा)		

- विशेषण (Adjective) 1. 2^ʊ पर्यायवाची विलोम शब्द मुहावरे 30 4^ʊ वाक्यांश के लिए एक शब्द 5⁰ पत्र लेखन (पद्ध औपचारिक पत्र (Formal Letter) (पपद्ध अनौपचारिक पत्र (Informal Letter) 6^υ अपठित गद्यांश 8**υ** निबन्ध लेखन **9**υ
 - SANSKRIT

Book:	SANSKRIT DARSHIKA – PART 4	Dr Meera Gupta	(Orchid Publication (P) Ltd)
		FIRST TERM	
1 ⁰	वार्तालापः	2ण दीप	ावली
3 0	सुभाषितानि	४ण व्या	करणम् (धातु रूप व षब्द रूप)

FINAL TERM

1 ^v	व्यायामः	2 ^v	गीता – उपदेषामृतम्
3 0	जन्तुषाला	4 ^v	व्याकरणम् (धातु रूप व षब्द रूप)

HISTORY & CIVICS

Book: THE TRAIL - HISTORY & CIVICS - Class 8 (REVISED EDITION 2020) Jayanti Sengupta (O.U.P.)

FIRST TERM

CIVICS

CIVICS

1.

2.

- The Union Legislature 1
- The Union Executive 2.

The Judiciary

The Union Nations

The American Civil War Decline of the Mughal Empire 3.

The Age of Revolution

- Rise of Independent Regional Powers 4.
- Rise of British Power in Bengal 5.
- Expansion of British Power in India 6.

FINAL TERM

HISTORY

- 1. The Revolt of 1857
- 2. Rise of Indian Nationalism
- 3. The Indian National Movement (1885 - 1916)
- 4. The Indian National Movement (1917 - 1934)
- The Indian National Movement (1935 1947) 5.

GEOGRAPHY

Book: INSPIRED GEOGRAPHY – BOOK 8

(For the new CISCE curriculum)

(Orient BlackSwan)

FIRST TERM

- 1. Representation of Geographical Features
- 2. **Population Dynamics**
- Migration 3.

4

- Location, Political Divisions and Physical Features Asia: a.
 - Climate, Natural vegetation and Wildlife b.

MAP WORK: ASIA

Mountains and Plateaus: Pamir Knot, Zagros, Elburz, Hindukush, Verkhoyansk, Ural, Tibet Plateau, Mongolian Plateau, Yunan Plateau Rivers: Hwang Ho, Irawaddy, Tigris, Euphrates, Syr Darya, Amu Darya, Amur, Mekong, Ob, Yenisey, Lena Deserts: Syrian, Rub-al-Khali, Gobi Lakes: Balkash, Baikal Peninsulas: Indochina, Korea Seas: Java, South China, Yellow sea, Sea of Japan, Sea of Okhotsk, Bering, Red, Aral, Caspian Gulfs: Persian, Oman, Aden Straits: Malacca Places: Bangkok, Tokyo, Karachi, Seoul, Beijing

FINAL TERM

- 1. Urbanisation
- 2. Natural and Human-made Disasters 3.
 - Location, Political Divisions and Physical Features India: a.
 - Climate, Natural vegetation and Wildlife b.
 - Human Resources c.

MAP WORK: INDIA

Mountains: Karakoram, Aravalli, Vindhya, Satpura, Western ghats, Eastern ghats, Garo, Khasi, Jaintia, Mt. Everest, Himalayas Plateaus: Deccan, Malwa, Chota Nagpur

Plains: Eastern coastal plains, Western coastal plains, Sunderbans, Rann of Kutch, Indo-Gangetic plains

HISTORY

1

2.

Desert: Thar

Rivers: Ganga, Yamuna, Sutluj, Beas, Ravi, Jhelum, Narmada, Tapi, Mahanadi, Godavari, Krishna, Kaveri, Brahmaputra, Indus, Tungabhadra

Lakes: Chilka, Pulikat

Gulfs and Straits: Gulf of Mannar, Palk Strait, Gulf of Kuchchh, Gulf of Khambhat

Places: Delhi, Kolkata, Chennai, Mumbai, Bangalore, Cochin, Vishakhapatnam, Prayagraj

MATHEMATICS

Book: ICSE UNDERSTANDING MATHEMATICS-8 (REPRINT 2019 EDITION)

M. L. Aggarwal (Arya Publishers)

FIRST TERM

2.

4.

ARITHMETIC

- 1. Operation on Sets
- 3. Exponents and Powers
- 5. Cubes and Cube Roots
- 6. Percentage and its Applications: Percentage increase and decrease
- 7. Profit and Loss

ALGEBRA

- 1. Algebraic expressions and identities
- 2. Factorization

GEOMETRY

- Understanding Quadrilaterals (Square, Rectangle and Parallelogram) 1.
- 2. Construction of Quadrilaterals

FINAL TERM

ARITHMETIC

- 1. Simple Interest
- 2. **Compound Interest**
- 3. Direct and Inverse Variation

ALGEBRA

- Linear Equations (Simple and Simultaneous) 1.
- 2. Inequalities in one variable

GEOMETRY

- Circle 1
- 2. Symmetry, Reflection and Rotation
- 3. Mensuration

STATISTICS

- 1. Data Handling (Bar Graph, Histogram and Pie Chart)
- 2. Probability

PHYSICS

Book: ICSE LIVING SCIENCE - PHYSICS - CLASS 8 (2017 Edition)

FIRST TERM

Gautam Das

- Refraction of Light 1.
- 2. Lenses
- 3. Optical Instruments (Camera, Microscope and Telescope – only basic knowledge to be done)
- 4. Heat
- 5. More about Energy

FINAL TERM

- Static Electricity 1.
- Current Electricity (Only flow of electrons and conventional current to be done) 2.
- Magnetism and Electricity (DC motor, Dynamo and Transformer Only principle to be done) 3.
- 4. More about Matter
- Pressure and Archimedes Principle 5.

Venn Diagrams

Squares and Square Roots

(Ratna Sagar Pvt Ltd)

CHEMISTRY

ICSE LIVING SCIENCE - CHEMISTRY - CLASS 8 (2017 Edition) Satinder Malhotra Book: (Ratna Sagar Pvt Ltd)

FIRST TERM

- 1. Structure of the Atom
- 2. Transformation of Substances

FINAL TERM

1. Hydrogen

- Carbon and its Compounds 2.
- 3. Fuels
- Metals and Non-Metals 4.

BIOLOGY

CONNECT WITH SCIENCE - BIOLOGY - CLASS 8 (REVISED OLD EDITION) Book: Sangeeta Sinha (O.U.P.)

FIRST TERM

- Life Processes: Transport of Food and Minerals in Plants 1.
- Life Processes: Transport of Food and Minerals in Animals 2.
- 3. Reproduction, Growth and Development

FINAL TERM

- Health and Hygiene 1.
- Control and Coordination 2.
- 3. Conservation and Pollution
- 4. Food Production and Management - I
- Food Production and Management II 5.

COMPUTER STUDIES

Book: SURYANSH'S THE BRAIN CHIP - 8 (REVISED EDITION 2018)

Amit Wilson and Kajal Lalthwal (Suryansh Publishers (P) Ltd)

FIRST TERM

- Operating System (OS) and Graphical User Interface (GUI) Role and Functions 1.
- Number System (Binary Addition Subtraction Multiplication Division, Binary \rightarrow Decimal \rightarrow Octal \rightarrow 2.
- Hexadecimal Conversion Interconversion)
- 3. **Computer Languages** (Taught through Smart Class Modules)
- Spreadsheet Functions and Charts 4.
- 5. Algorithm and Flowcharts
- **Program Coding** 6.
- Networks 7.

FINAL TERM

- Java Decision Making & Branching with Command and Line Input 1.
- 2. Java Programming - Looping
- 3. Java Programming - More Programs on Looping & Floating Point Number
- FLASH (Taught through Smart Class Modules) 4.
- DREAMWEAVER (Taught through Smart Class Modules) 5.
- (Taught through Smart Class Modules) HTML 6.
- MS ACCESS (Taught through Smart Class Modules) 7.

FRENCH

Books: 1. Apprenons le Français – [Part- 1] Méthode de français [Text Book] Apprenons le Français – [Part- 1] 2. Cahier d'exercices [Work Book]

[New Saraswati Publication]

PROSE (Chapter- 0 to 5)

- 0. La France, Qu'est-ce que c'est?
- 2. Il est français?
- 4. Kalu est malade

Grammar/Vocabulary

- 1. Definite and indefinite articles
- 3. 1^{st} , 2^{nd} , 3^{rd} group of verbs including the irregular verbs
- 5. Position of adjectives
- 7. Pronominal verbs
- 9. Expressions with "avoir"
- 10. Interrogative Adverbs
- 11. Difference between the verbs "savoir" [to know] and "connaître" [to know]
- 12. Telling the time

Comprehension/ Composition

- 1. Picture composition
- 2. Comprehension passages
- 3. Letter writing Informal
- 4. Essays- Daily life, Describing the city, school, historical monuments

FINAL TERM

7.

9.

11.

PROSE (Chapter- 6 to 12)

- 6. M. Lavigne cherche un manteau
- 8. Les photos de Manuel
- 10. Encore une lettre de Rouen
- 12. Une visite au parc d'attractions

Grammar/Vocabulary

- 1. Prepositions (Extended)
- 2. –ayer, -oyer, -uyer verbs
- 3. French festivals
- 4. Using imperative with affirmative and negative sentences
- 5. Pass-time and sports
- 6. Past tense

Comprehension/ Composition

- 1. Picture composition
- 2. Comprehension Passages
- 3. Letter writing Informal
- 4. Essays Visit to some places, Describing the vacations using past and future tense
- 5. Summary writing

3.

VALUE EDUCATION

Book:	INSPIRING SOULS – BOOK 8	Swati Mehrotra		(Acevision Publisher Pvt Ltd)
		FIRST TERM		
1. 3.	Shaking Earth Flying Drama	2. 4.	Goodness Heal Pumpkin Reward	L
		FINAL TERM		
1.	Father's Will	2.	Top to Bottom	

Father's Will	2.	Top to Bottom
Some Other Day	4.	The Jar of Life

ART

Book:	Start Up Art and Craft - Book 8
	Cartridge Art File

(Edutree Publisher Pvt Ltd)

- 1. La rentrée
- 3. La journée de Mme Lavigne
- 5. Faire les courses
- 2. Contracted articles with the definite articles
- 4. Adverbs of quantity
- 6. Infinitive and other verbs

Allons à Paris

Au café des Laurent

Une journée bien chargée

8. Three forms of Interrogation

- 1. Art theory and colour wheel
- 3. Logo Design
- 5. Poster Making
- 1. Landscape
- 3. Vehicle Design

2. Still life

- 4. Nature study
- 6. Animal/Bird Study

FINAL TERM

Book cover design
 Composition/ Portraits/Comic Strips

URDU

Books: Apni Zuban (Part 6 & 7)

FIRST TERM

- 1. Mitti Ka Diya (Nazm)
- 3. Hazrat Mohammad
- 5. Eidgah
- 7. Hamare Tehwar
- 9. O-Subh Ke Sitare (Nazm)

- 2. Ek Pahar Aur Gilehri (Nazm)
- 4. Zarron Ko Bhi Insaan Bana Do (Nazm)
- 6. Barish Ka Pehla Qatra (Nazm)
- 8. Kabli wala
- 10. Akhri Qadam

FINAL TERM

- 1. Mera Watan (Nazm)
- 3. Bahar (Nazm)
- 5. Barsat Ki Baharein (Nazm)
- 7. Do Gaz Zameen
- 9. Hamari Tareekh (Nazm)

- 2. Falsafi Naukar
- 4. Chiddu
- 6. Patthar Ka Soup
- 8. Ek Makra Aur Makkhi (Nazm)
- 10. Khwaja Qutubuddin Bakhtiyar Kaki

S.U.P.W.

(Workshop on differently abled people who are hearing impaired)

FIRST TERM

- 1. History and importance of Sign language.
- 2. Introduction of Sign language.

FINAL TERM

Learn to interact in Sign language.

MUSIC

Pupils shall learn about the different periods of music, instrumentation, types of music and a few famous composers and their works.

(a) Medieval period:

- (1) **Type of music:** Gregorian chant or plain chant. These are church prayers and hymns sung in Latin.
- (2) **Instrumentation:** though Audio Visual aids

WIND	STRING	PERCUSSION / ORGAN
Bagpipes Hageolet Crumhorn	Harp Lute Fiddle Lyre	Glockenspiel - perc. Cymbal- perc. Organ

(3) **Composers:** Monks, early church goers. Videos will be obtained online and shown to the children. Special emphasis will be laid on the pitch and tone of these chants.

- RM

NCERT

(b) Baroque Period:

- (1) **Type of music**: Concertos, suites and preludes. Videos shall be shown to demonstrate the above mentioned terms.
- (2) **Instrumentation:** though Audio Visual aids.

WIND	STRING	KEYBOARD
Recorder	Lute	Harpsichord
Tube	Violin	Örgan
Oboe	Viola	
Bassoon	Double bass	
	Cello	

(3) **Composers and their works:**

- 1. Johann Sebastian Bach.
- 2. George Handel.
- 3. Antonio Vivaldi.

Videos will be obtained and shown to the students. Special emphasis will be laid on the type of music and the instrumentation.