Grade 7– Learning Area Specific Course Descriptions

CMR NATIONAL PUBLIC SCHOOL

ENGLISH

By the end of Grade 7, students demonstrate an understanding of how the choice of language features, images and vocabulary affects meaning, along with the audience, purpose and context. They study a text in great detail and identify the various devices used by the author to achieve different effects. Students will also explain issues and ideas from a variety of sources, based on supporting evidence and implied meaning. They select specific details from texts to develop their own response, recognizing that texts reflect different viewpoints. They listen for and explain different perspectives in texts. As per the curriculum, students compile and publish a class magazine. They understand how the selection of a variety of language features can influence an audience.

Students create texts showing how language features and images from other texts can be combined for effect. They will make presentations and contribute actively to class and group discussions and debates, using language features to engage the audience.

MATHEMATICS

In Grade 7, students are exposed to challenging investigations. In Geometry, they experiment with suitable nets for solids, visualising solids. In Arithmetic, they explore relationships among members, generalise the relationships, discover patterns and rules and then form algebraic relations etc. Students are given the opportunity to follow logical arguments and find loopholes in the arguments presented. Through this, they understand the requirement of a proof. At this stage topics like Geometry attain a formal stage. Activities are provided that encourage students to exercise creativity and imagination while discovering geometric vocabulary and relationships using simple tools. Students are encouraged to find many different ways to solve problems. They also appreciate the use of many alternative algorithms and strategies that may be adopted to solve a problem. Topics like Integers, Fractions and Decimals, Symmetry have been presented here by linking them with their introductory parts studied in earlier classes. Chapters are linked with each other and the ideas introduced in the initial units have been used to evolve concepts in the subsequent units.

In Grade 7, the Mathematics curriculum emphasizes on number skills and theory, measurements and rational numbers. Students explore problem solving techniques and approaches. Students get familiar with statistical graphs, variables and patterns used in mathematics. They even learn the concepts of geometry and the area of regular and irregular figures. They are introduced to commercial arithmetic and to the concept of probability.

SCIENCE

Students will use scientific and engineering processes, protocols, and tools, including inquiry, to build understanding of structures, patterns, and relationships explained throughout this course. Critical thinking, collaboration, and communication skills are emphasized as students refine their scientific literacy through close reading of scientific research papers and texts.

In Physical Sciences, students will learn about the arrangements of atoms on the Periodic Table of Elements, properties of acids and bases, physical and chemical changes, conservation of mass and energy, transformation and transfer of energy. Heat energy and electrical energy will be studied in depth. Life Sciences will focus on the impact of matter and energy transfer within the biotic component of ecosystems. The concept of conservation of matter and conservation of energy are applied to ecosystems.

Students will study the various earth biomes and understand related population dynamics. These concepts will be expanded to include a comparison of photosynthesis and cellular respiration. Earth Sciences will include studying global climate patterns, earth's hydrologic cycle, patterns that exist in atmospheric and oceanic currents, the relationship between thermal energy and the currents, and the relative position and movement of the earth, sun and moon.

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SOCIAL SCIENCE

In History, students explore the Rise of Delhi Sultanate (North India) and Vijaynagar Empire (South India). Students will trace the rule and contribution of important rulers within the span of 320 years of the Delhi Sultanate. In World History, they will be introduced to the Ottoman Empires (1299 - 1633) and the extent of its empire at its peak. Students will investigate societies in Ottoman empire and will investigate the achievement of significant individuals like Suleiman the Magnificent.

The theme in the Year 7 curriculum for Geography: 'Water in the world'

'Water in the world' focuses on water as an example of a renewable environmental resource. This unit examines the many uses of water, the ways it is perceived and valued, its different forms as a resource, the ways it connects places as it moves through the environment, its varying availability in time and across space, and its scarcity. 'Water in the world' develops students' understanding of the concept of environment, including the ideas that the environment is the product of a variety of processes, that it supports and enriches human and other life, that people value the environment in different ways and that the environment has its specific hazards. Water is investigated using studies drawn from India and other cities around the world. The availability of water is connected to elements of weather and climate. Students are introduced to India's monsoons which drive the ground water resources available to the country.

In Civics, students learn about the three branches of the government and differentiate between them. They recognize that India is a secular, multi-faith nation and how the legal system provides justice to all.

SECOND LANGUAGE – HINDI/KANNADA

By the end of Grade 7 students are more confident in reading and following longer poems, fiction and nonfiction texts. They will practise speaking fluently and clearly at an appropriate pace and word capacity, develop coherent arguments, supported by reason and examples.

The curriculum encourages students to narrate simple experiences, describe objects and people, report events to peers. They make presentations and contribute actively to class and group discussions, using language features to engage their audience. Students will work in solo, be paired and grouped for assignments, role plays and debates. They will be able to use prefixes - suffixes, varn vichched and employ effective strategies in spelling and reading. In addition to recognizing and responding to the types of punctuation marks, students will also be able to make use of a few parts and figures of speech while writing. They identify and understand the main ideas, viewpoints, themes and purposes in a text.

THIRD LANGUAGE

Grade 7 curriculum offers Kannada or Sanskrit as the third language*. The third language curriculum helps students with the skills of listening, speaking, reading and writing in a variety of contexts and trains students to be able to adapt language to suit different tasks, audiences and purposes. It aims to develop confidence in the students so that they can communicate in the language effectively. It helps the students work on their ability to critique - to analyse and evaluate diverse texts, thereby, questioning ideas and articulating their point of view.

*Please check school specific second and third language options as Boards specify these for all their schools.

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COMPUTER SCIENCE

In Computer Science, students analyse the use of Creative Commons licences for sharing information online. Students get an introduction to Electronics. They identify basic electronic components, determine resistance values and build simple series and parallel circuits. They discuss the hazards of working with electricity.

Students use HTML to create websites and CSS to style HTML pages. They also create and publish websites using Google Sites. They explore lists and iterations in Python. Students describe and analyze searching and sorting algorithms. They implement searching and sorting algorithms using Python. Students also learn about the need for databases, database management systems and use MS Access to create and maintain databases.

Practical Skills:

- Use resistors, power supply and LEDs to build simple series and parallel DC circuits.
- Use Google apps to create and share information and collaborate with peers.
- Create, open, save and retrieve databases.
- Create queries, forms and reports for a database using MS Access.
- Manipulate Python lists.
- Demonstrate how standard searching and sorting algorithms work using Python.
- Construct HTML code to create websites with text, images and suitable layouts with the help of tables and hyperlinks.
- Style HTML using CSS to add font, size and text properties.
- Create websites with multimedia content using Google Sites.

LIFESKILLS

The life-skills curriculum in Middle School is modelled off habits of the mind and heart, used by both students and teachers. This helps students develop a realistic sense of their personal abilities, qualities, strengths and the factors that influence and affect their emotional responses.

Students participate in discussions on real life situations and understand how to tackle such instances – learning how to deal with roles and responsibilities, importance of teamwork, etc. Students are able to express themselves freely in a positive and safe environment.

Through role plays and activities, they learn to show respect for and understand others' perspectives. As learners, they manage and monitor their own emotional responses, and persist in completing task and overcoming hurdles.

OTHER

Students in Grade 7 also attend weekly sessions in Yoga, Physical Education, Outdoor games and quiet reading time at the school library.

Call: 91-80254-40693 | Email: cmrnps@cmr.ac.in | Website: http://nps.cmr.ac.in/