

**GRADE 4 – CURRICULUM
LITERACY**
Based on the UK National Curriculum

Spoken Language

- Listen and respond, ask relevant questions
- Articulate and justify answers, arguments and opinions
- Give well-structured descriptions, explanations and narratives for different purposes
- Use spoken language to develop understanding through speculating, hypothesizing, imagining and exploring ideas
- Participate in discussions, presentations, performances, roleplay/improvisations and debates
- Consider and evaluate different viewpoints

Spelling, Handwriting and Presentation

- Use prefixes, suffixes and how to add them
- Accurately spell using the long vowel, vowel-r and vowel pair syllables
- Apply spelling rules with derivatives, using etymology and morphology in spelling
- Able to write a grammatically correct 10-12 sentence paragraph
- Write using appropriate structure, vocabulary and grammar
- Discuss and record ideas and information
- Use organisational and presentational devices
- Write compare and contrast, persuasive and narrative paragraphs

Reading and Comprehension

- Apply their growing knowledge of root words, prefixes and suffixes, both to read aloud and to understand the meaning of new words they meet
- Read and discuss a wide genre of books or texts
- Develop positive attitudes by
- Recommend books to peers, giving reasons
- Make comparisons within and across books
- Understand what they read by
- Check the text for understanding
- Draw inference and justifying inferences with evidence
- Identify how language, structure and presentation contribute to meaning
- Summarise main ideas drawn from more than one paragraph
- Distinguish between statements of fact and opinion
- Provide reasoned justification for views

Vocabulary, Grammar and Punctuation

- Use expanded noun phrases to convey complicated information
- Use modal verbs, passive verbs
- Use concept of a topic sentence in a descriptive/narrative paragraph
- Combine sentences using compound subjects and predicates
- Link ideas across paragraphs using adverbials of time
- Convert nouns or adjectives into verbs using suffixes
- Use and understand the grammatical terminology accurately and appropriately in discussing their writing and reading.

GRADE 4 – CURRICULUM NUMERACY

Based on Singapore Maths: My Pals Are Here

Whole Numbers

Whole Numbers

- Identify place values of digits
- Compare and order numbers within 100,000.
- Use place-value models to represent numbers to 100,000
- Round numbers within 100,000 to the nearest 10 or 100
- Find and complete regular number patterns for numbers within 100,000
- Find the factors and common factors of whole numbers within 100

Multiplication and division

- Multiply numbers within 10,000 by a 1-digit number
- Divide numbers within 10,000 by a 1-digit number, including situations where there is a remainder
- Multiply numbers within 10,000 by a 2-digit number
- Divide numbers within 10,000 by a 2-digit number
- Use estimation to verify the reasonableness of calculated results in multiplication and division problems
- Check division problems using multiplication.
- Use order of operations to solve mathematical expressions

Decimals and Measurement

Decimals

- Use notation, understand tenths, hundredths, and thousandths, locate decimal numbers on a number line, compare decimal numbers
- Convert a decimal to a fraction and simplify
- Convert a fraction to a decimal number (denominators are a factor of 10, 100)
- Compare and order decimal numbers of up to 3 decimal places and fractions
- Round decimal numbers of up to 3 decimal places to the nearest whole number or to 3 decimal places
- Add/subtract decimal numbers of up to 3 decimal places
- Multiply/divide decimal numbers of up to 2 decimal places by a whole number
- Round off the quotient of a division problem correct to 2 decimal places
- Estimate answers in calculations and check reasonableness of answers

Time

- Tell time with seconds
- Understand the 24 hour clock
- Solve word problems

Geometry

- Identify acute, obtuse, and right angles and relate 90° , 180° , 270° , and 360° with quarter, half, three-quarter, and whole turn
- Measure and construct angles less than 360° with a circular protractor
- Recognise properties of angles, triangles, quadrangles, parallelograms and polygons
- Identify figures that have line symmetry
- Identify congruent and similar figures
- Create tessellations
- Identify perpendicular and parallel lines

Tables and Line Graphs

- Collect, organize, and analyze data using tables and line graphs
- Ask and solve questions related to data representation
- Collect, organize, and analyse data using line plots and line graphs
- Collect, organize, and analyse data using tables and bar graphs

Area, Perimeter & Volume, Fractions

Area, Perimeter and Volume

- Find the area and perimeter of composite figures made from squares and rectangles
- Find the area, perimeter, and unknown sides of rectangles
- Find the volume of solid figures by counting cubic units
- Understand and use units of volume, such as cubic centimeter and cubic inch
- Find the volume of rectangular prisms with centimeter cubes

Fractions

- Find equivalent fractions and simplest form of a fraction.
- Compare and order fractions with different denominators.
- Understand mixed numbers and improper fractions, convert between them, and locate them on a number line.
- Add/subtract related fractions.
- Recognize, find and name the fraction of a set

GRADE 4 – CURRICULUM

INTERNATIONAL PRIMARY CURRICULUM

Learning Goals

Learning Goals are the foundation on which the International Primary Curriculum is built. The Learning Goals define what children might be expected to know, what they might be able to do and the understandings they might develop as they move through grade levels.

The IPC contains Learning Goals for every subject of the curriculum, for personal development and for the development of international understanding.

The subject goals cover the knowledge (the facts and information children might learn), the skills (those practical abilities children need to be able to do) and the understandings (the deeper awareness of key concepts which develops over time).

Grade 4 Units

Themed units help children to see how subjects are both independent and interdependent. This enables them to see the big picture of their learning, make connections across different subjects, and talk about a topic from multiple perspectives.

Brainwave Unit:

Every day we are learning a lot of new and different things – gaining the knowledge, skills and understanding that we will need to become successful adults. By finding out more about how we learn, and how we can improve our learning, we will be better equipped for meeting the many challenges ahead of us.

What a Wonderful World

Natural forces have been shaping our planet for many billions of years and these dramatic changes are still going on, right now, all around us. Throughout this unit we will be learning more about the physical processes that shape our planet – and the vital role that we play in safeguarding our planet and its resources for future generations.

What Price Progress?

Advances in science and technology are transforming the way that we live our lives. Each and every one of us is affected by change – but have we ever stopped to consider what this change means for ourselves, our communities and the world?

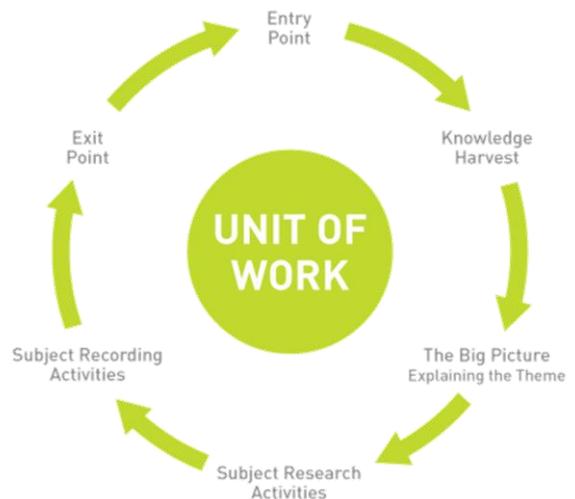
Earth as an Island

Islands used to be isolated places, with unique cultures, geographical features and ecosystems. In today's increasingly-interdependent global community, even the most remote of islands are being ever-more affected by human existence. Explore the impact of humans on islands.

Unit of Work

The Process of the IPC

The units of work provide practical activities, plus a wealth of other supportive information. Each unit is structured to make sure that children's learning experiences are as stimulating as possible.



The **entry point** is an activity for children that begins each unit of work and provides an exciting introduction to the work that is to follow. Entry points can last from one hour to a week, depending on the age of the children and the task at hand.

The **knowledge harvest** takes place in the early stages of each unit and provides an opportunity for children to reveal what they already know about the themes they are studying. This bank of knowledge can then be added to, developed and even challenged by the teacher, throughout the course of the unit.

The **big picture** provides teachers with subject-based background information to the issues contained within the unit. **Explaining the theme** involves the teacher helping the children to see the 'big idea' of the unit of work before embarking on the subject learning.

Each IPC unit has **research activities and recording activities**. Research activities always precede the recording activities. During research activities, children use a variety of methods and work in different group sizes to find out a range of information. During the recording activities, children interpret the learning they have researched and have the opportunity to demonstrate, share and explain their learning in different ways.

The **exit point** has two main purposes. First, to help children pull together their learning from the unit and second, to celebrate the learning that has taken place.

GRADE 4 – CURRICULUM

Science

In addition to the International Primary Curriculum, Grade 4 will have an investigation led science curriculum which will focus on the following topics:

Life Science: Environments

Students will learn and determine an organism's environmental preference for various nonliving factors for survival. They will conduct controlled experiments with organisms to discover their range of tolerance for environmental factors.

Physical Science: Mixtures and Solutions

Students will plan and conduct investigations on saturation, solubility. They will observe and compare reactants and products of chemical reactions.

Physical Education

Students will enhance their gross motor skills acquired during in their lower school stages such as balancing, throwing, agility, running, jumping, and body coordination through a variety of games.

Students will be provided with an opportunity to acquire advance sport skills and strategies on effective performance such as attacking, dribbling, teamwork through a broad range of physical activities including ball games, striking games, athletic, dance, and outdoor activities.

Swimming

The swimming curriculum ranges from learn to swim classes, to competitive programmes. It includes pool safety rules, water confidence and developing appropriate technique in four competitive swimming strokes.

Musical Theatre and Drama

This course is designed specifically for SMMIS by Centre Stage Singapore, and combines process driven musical, movement and drama activities which leads to presentations and performance. Students use drama games, learn singing technique and where appropriate harmonies and develop dance, movement, acting and stagecraft skills. The students can expect to develop; self-confidence, imagination, cooperation, concentration, empathy, communication, coordination, problem solving, physical fitness and to develop an appreciation of the arts.

Mandarin

The Mandarin curriculum aims to develop the four essential skills of listening, speaking, reading and writing. The students will:

- Core vocabulary list of 150 words
- Identify high-occurrence sentence patterns relating to daily routines
- Identify high-occurrence radicals in Mandarin characters to aid recognition
- Understand and express simple words and have a foundation to pursue more advanced studies
- Appreciate Chinese culture in selected topics

PSHE (Personal, Social, Health Education)

PSHE education offers both explicit and implicit learning opportunities and experiences which reflect the students' increasing independence, physical and social awareness as they move through the primary phase.

PSHE builds on the skills for students to develop effective relationships, assume greater responsibility and manage personal safety. It will introduce the students to a wider world and enable them to make an active contribution to their communities.

World Religions

The purpose of World Religions at SMMIS is to provide students with opportunities to learn about and learn from the world's major religions: Hinduism, Buddhism, Christianity, Islam and Sikhism. Various aspects of these religions are discussed, with knowledge and understanding being built up over the years.

Grade 4 will focus on: Religion; Family and the Community; Beliefs; Journey of Life and Death and Worship.

Robotics- Nullspace

Students learn the fundamentals of good robot construction and programming. The course is designed with several hands-on students activities, pertaining to the Grade level to allow to integrate and apply the different concepts and lessons learnt.