Elementary Programme Overview

The Montessori Elementary Years course of study is an integrated view of interrelated disciplines offered in three-year cycles, which starts with the global and historical perspective, then moves forward to current and local events. This approach differs from the traditional model in which the curriculum is compartmentalised into separate subjects, with given topics limited by grade level. In the Montessori approach, lessons are introduced simply and concretely, in the context of history in the early lessons and are reintroduced several times during the following years at increasing degrees of abstraction and complexity. The curriculum from Primary through the Elementary Years program is engineered to meet and capitalise on the changing developmental stages of the child. This is a very key foundation of the Montessori Method. The major developmental change for an elementary child is gaining the ability to reason and to imagine, and these skills are used in the classroom. Bilingual education is integrated in Geography & Earth Science, Biology, History and Geometry in the elementary classroom. Both Chinese and English are used as the medium of instruction in the Montessori classroom. Elementary children can explore diverse subjects and topics in both languages, while they integrate the language learning with their interests.

This course of study is an integrated thematic approach where major concepts are introduced through the Great Stories, which challenge the imagination and provide a framework which ties separate disciplines of the curriculum together into studies of the physical universe, the world of nature, and the human experience. Mathematics, science, literature, the arts, history, social issues, government, philosophy, economics, art, and the study of technology, all complement one another in our curriculum. To further supplement this, children organise Going Out activities which is a great extension of their learning. This is the opportunity for the children to connect the knowledge with the real world.

Geography & Earth Science

- Formation of the Universe
- Geographic Nomenclature
- Maps
- The Universe and its Laws
- Composition of the Earth
- Sun and Earth
- Work of Air
- Work of Water
- Human beings - culture and economic

The first of Montessori's Great Stories covers many exciting things and is an introduction to Geography within the context of History, Earth Science, Chemistry and Physics. It gives an idea of how long it took the Earth to form, how far away the stars are, how fast light travels, the States of Matter (solid, liquid, gas) and the effect of temperature.

All of these areas are studied in increasing levels of complexity, including:

Physical Geography:

The solar system and earth's position in the universe; Earth's unique atmosphere, biosphere and hydrosphere; gravity, seasons & climatic zones, magnetic poles, geology and mineralogy; meteorology; astronomy and cosmology; Physics: light, electricity, magnetic fields, mass water cycle; rivers (their role in urban development); introduction to chemistry: the three states of matter; atomic theory; elements and compounds; Mendeleev's table of the elements; building atomic models; physical and chemical changes; introduction to chemistry lab experiments

Cultural and economic geography - government and taxation

Preparing and analysing graphs and data displays

Biology

- The Story of the Coming of Life
- Botany: The Plant & its needs
- The Leaf, Root, Stem, Flower, Fruit, seed (function, parts, varieties, specialisation, modifications)
- Botany classified nomenclature
- Zoology: Animal characteristics
- Classification: Plant & animal kingdoms
- Ecology: Interdependencies & biomes

The Human anatomy

The second Great Story presents the coming of life on Earth. This story starts with single-celled organisms, life moving from water to land and ends with the appearance of humans on the planet.

The Elementary Years curriculum involves field work and research:

Botany:

Nomenclature and functions of different forms of leaves, flowers, seeds, trees and plants. Study of plants in class/gardening, experimenting with soil, nutrients, light, etc. The plant kingdom: study of the major families of plant life, and classification by division and class.

Zoology:

Vertebrates & invertebrates; internal parts of vertebrates: limbs, body coverings, lungs, heart, skeleton, reproduction. The Animal Kingdom: life cycles, classification by class & phyla.

History

- Story of the Coming of Humans
- Clock of Eras
- Fundamental needs of Man
- Phases of history: Nomadic, Agricultural, Urban
- Civilisations
- Migrations
- Chinese History
- World History and/or child's own country
- Concept of time
- Making timelines

The third Great Story is an introduction to the History of Humans. This story shows how long in the history of the universe humans have been on Earth, and within this context how humans began using tools.

Further study include

Early Human Life in Society:

Study of early societies in terms of food, clothing, shelter, language, mathematics, defense, transportation, arts, entertainment, government, religion.

Concept of Time and Historical Time:

- Timelines of child's life; timelines for a day, week, month, year
- Family trees
- Timeline of the Earth's history
  - Formation of the universe
  - Story of Evolution of the planet: life forms over eras
  - Timeline from 8,000 B.C. to 2,000 A.D. to study ancient to modern history: early civilisations including Mesopotamia, ancient Greece, ancient Rome, ancient China, Middle Ages
- Global Studies including, child's own country/history, folk culture, technology, children's literature, government and geography
- China and other countries' culture & history, global exploration

Trends in human achievement:

Development of transportation, architecture, great inventions, great leaders

Language: English

- History of Language
- Calligraphy
- Composition writing
- Creative Writing
- Word study
- Spelling
- Reading
- Interpretive Reading
- Parts of Speech
- Sentence analysis
- Style - reading and writing
  Research (Library and Reference Books for both research and pleasure)

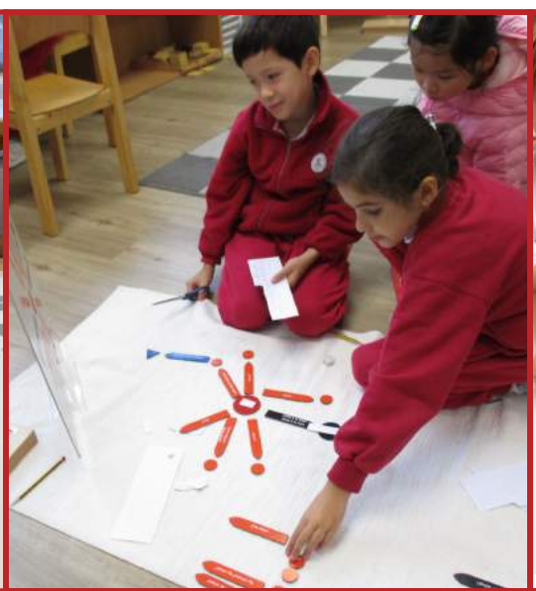
The fourth Great Story introduces the use of signs for communication – the origins of Human Language. This story introduces the first written words, their use in historical contexts, and the impact on the lives of humans.

Reading and writing skills involve:

Reading books of increasing difficulty on a variety of topics

Grammar and Syntax

- Word Study – contractions, prefixes, suffixes, word families, synonyms, antonyms, homonyms, figurative language.
- Parts of Speech – Noun, Article, Adjective, Verb, Preposition, Adverb, Pronoun, Conjunction, Interjection; classifications and modifications
- Study of Verb: tenses, mood, voices, verbal, conjugation
- Sentence Analysis – simple sentences, transitive / intransitive verbs, elliptical sentences, sentence order, sentences with personal pronouns, compound sentences, complex sentences
- Spoken Language – discussions, oral reports speeches, debates, recitation, dialogue, interpretive reading and drama/plays
- Written Language
  - Free expression – imaginative/factual
  - Writing process & mechanics – form and content, capitalisation and punctuation, spelling, handwriting, illustration and decorating
  - Written composition – reports, letters, stories, poetry, drama/plays, news articles, persuasive & narrative
  - Literature



Language: Chinese (Chinese Small Group Lessons)

Each child participates in a tailored Chinese group lesson each day for forty-five minutes. These lessons are given in small groups targeted at the Chinese language level and ability of each child. The curriculum uses specific textbooks to provide a sequence of development with multi-sensory approaches to extend children's Chinese language acquisition.

IMS has developed two Chinese program streams in order to best meet the needs of our children's Chinese language abilities. In both streams, the children are learning all aspects of the Chinese language: speaking, listening, reading and writing. Approaches differ with regard to the relatively greater emphasis placed on communicative skills for second language students. This approach allows the native and near-native speakers to broaden their vocabulary and compositional skills to complement their speaking ability, and provides children in intermediate level with extensive practice in speaking and listening, giving them the confidence to use the Chinese language well, whilst developing their reading and writing skills at the same time.

Stream 1	• Series of textbooks "Huoxue Chinese Language", which has been designed for local schools in Hong Kong • Reading & Literature • Chinese Ancient Poetry • Word study • Sentence making • Pin Yin • Dictation • Diary, poetry, essay & Composition Writing • Chinese cultural research
Stream 2	• Series of textbooks "Meizhou Chinese" and " Chinese Made Easy" • Daily conversation practice • Character writing practice • Word study • Sentence making • Pin Yin & Pronunciation • Dictation • Diary & short essay Writing • Chinese projects
Intermediate * Only for First Year Elementary	• Series of textbooks "Integrated Literacy" and "Meizhou Chinese" • Reading picture story books, and activities • Character writing practice • Word study • Pin Yin • Dictation • Oral activity

Mathematics

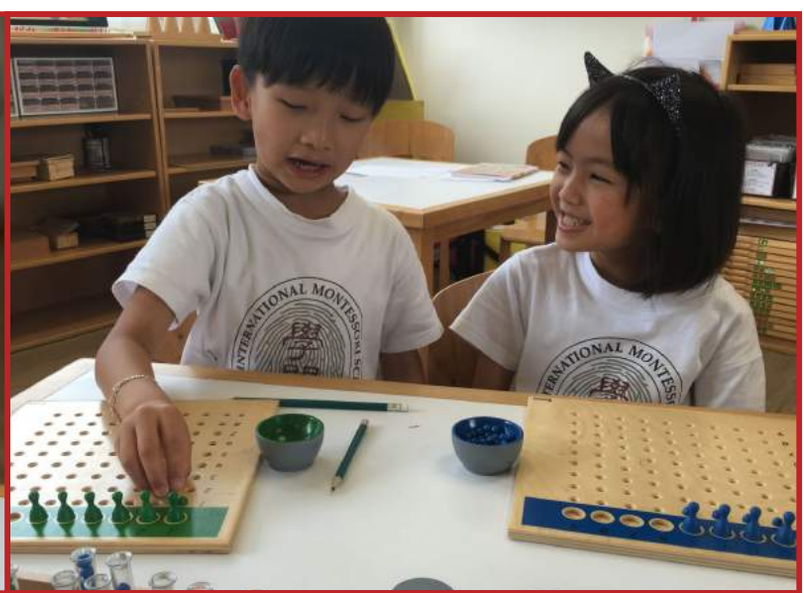
- Story of Numbers
- Decimal System
- Four Operations: whole numbers
  - Addition
  - Subtraction
  - Multiplication / Multiplier
  - Division / Divisibility
- Word Problems
- Fractions/Decimal/Percent
- Squares & Cubes, Square/Cube Roots
- Ratios & Proportions
- Negative Numbers
- Powers of Numbers
- Algebra
- Graphing
- Non-decimal based number systems
- Economics & money systems
- Measurement
- Statistics/Probability

The fifth and final Great Story introduces the use of symbols to communicate quantity and how these symbols have evolved over time, including the development of the concept of zero and its impact on mathematics. The concept of economics is introduced.

Each piece of Montessori apparatus serves a specific function in the step by step learning process. This provides the understanding of mathematics through a 'hands-on' approach to learning. Lessons become increasingly abstract until the mathematical concepts are fully absorbed by the child, enabling abstraction in pencil and paper problems.

Development and reinforcement of the groundwork in Mathematics done in the Primary program continues into the Elementary Years Program at IMS. Again, the concrete to abstract method is employed using manipulative materials suited to each task.

Due to the use of concrete materials, the student's base knowledge is very strong, and more advanced concepts can be introduced even at an earlier age. In addition, there is no limit to the subject matter, and advanced students may continue with studies far beyond their traditional grade level.

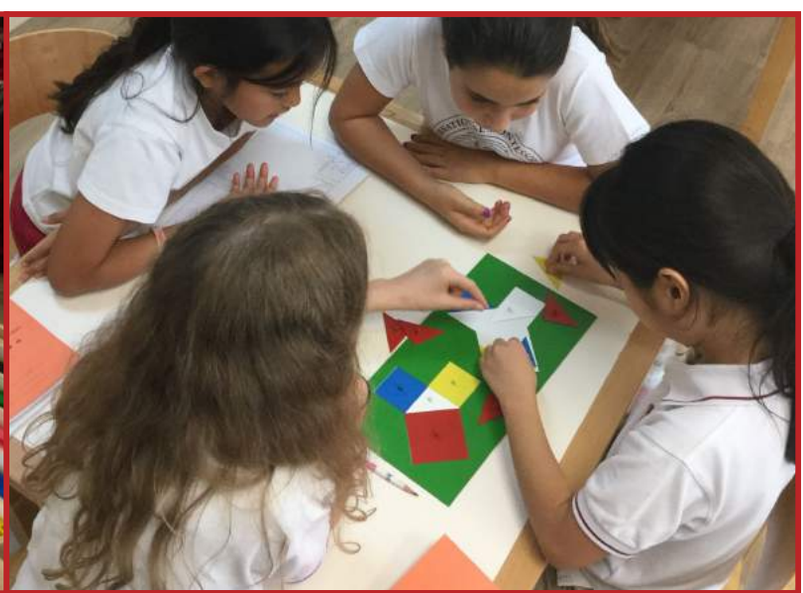


Geometry

- Lines
- Angles
- Polygons
- Circles
- Congruency, Similarity & Equivalence
- Pythagorean Theorem/Euclid
- Area, Volume & Surface Area

Geometry begins in the Primary classroom and continues in great depth in the Elementary Years classroom. The purpose of advanced geometry studies in the Elementary Years classroom is to develop a logical, analytical mind.

The study of geometry includes historical development and application of geometric concepts.



In addition to the academic subjects, the Montessori curriculum includes the following areas.

Physical Education	• Adventure Challenges • Movement Composition - Gymnastics/Dance • Individual Pursuits • Games - Target/Net & Wall/Striking & Fielding/Invasion • Health & Wellbeing
Information Technology	• Vocabulary • Navigation • Graphic Design • Animation • Coding • Data Organisation • Typing Fluency • Digital Citizenship • Robotics
Music	• Fundamental Elements • Vocabulary • Singing • Playing Instruments • Music and Movement • Melodic and Rhythmic Notation • Creating and Composing • Music History • Aural Skill
Visual Arts	• Shapes and Patterns • Painting • String Art • Printing • Ceramics • Paper Construction • Sculpture • Recycled Art

Measurement Systems

- The Montessori Curriculum combined with the Common Core is a well established curriculum, tested over the past sixty years in programmes throughout the world. The detailed curriculum forms the framework for all studies in this enquiry-based method, which is extended to applications outside the classroom through Going Out.
- Weekly lesson plans developed by the teacher provide a structure for the week's lessons.
- The creation and refinement of these lesson plans are based on detailed and strategic observations of individual children and the class as a whole, and on the teachers' interactions with the children during individual and small-group presentations.
- Individual Work List prepared first by the teacher and later by the older students, describe the work that will be accomplished over the course of the week.
- Conferencing between student and teacher to discuss the Individual Work List, plan for the week and review progress with reference to the student's Work List as recorded in their Work Diary.
- Daily Work Diary: This is the student's own record of the time and work undertaken.
- Teacher observations of work undertaken, understanding and readiness of the child for the next challenge.
  Follow up meetings with the teacher to review work done from lessons, student interests added to the work list. Teachers use these meetings and student observations to establish or modify the next week's lesson plans.
- Individual records of lessons given and mastered for each student.
- Standardised testing opportunities: MAP or the Measure of Academic Progress is a computerised adaptive test based on the US Common Core and International Student Assessment (ISA) designed for international schools and schools with an international focus.

Expectations

With today's rapid technological and social changes, it is increasingly difficult for us to understand and keep pace with the modern world. This has put schools under a terrific pressure to re-evaluate what should be taught in an age when no one can predict the skills that our children will need when they reach maturity. In an era of technological revolution and social change, the foundation of a good education fosters a lifelong love of learning and the ability to adapt to change.

The Montessori Method of education was developed to meet these challenges. The Montessori curriculum is an international curriculum which encompasses the full substance of the traditional U.S. and U.K. curricula and goes beyond to teach students to:

- Develop a broad knowledge base, think independently and laterally, enabling development of ideas.
- Express themselves well in writing and speech
- Put their knowledge to use in practical applications
- Do their own research
- Meet challenges, knowing own place within a group
- Manage their time and develop decision making skills
- Understand that learning extends beyond the classroom to the outside world
- Individual records of lessons given and mastered for each student.
- Direct own learning under the guidance of a teacher

Today there are more than 1,400 Elementary Years Montessori programs world-wide. The graduates of these programs typically and consistently stream well into secondary / high school programs with enhanced social skills as well as the academic skills that make them highly successful.