



**Sir Manasseh Meyer  
International School**

A VISION FOR EXCELLENCE

## **GRADE 8 CURRICULUM**

- ENGLISH
- MATHEMATICS
- SCIENCE
- INTERNATIONAL MIDDLE YEARS CURRICULUM
- JEWISH EDUCATION
- LANGUAGES
- ART
- PE
- CENTRE STAGE
- ROBOTICS
- PSHE



## ENGLISH

Students will be empowered to become independent, creative, critical thinking readers, writers and orators.

Assessment focuses on the three key skills of reading, writing, and speaking and listening. Through the year we will study the following units of work:

- Portraits of People (study of selected poetry pre-1900 and modern)
- *The Hunger Games* by Suzanne Collins (study of a novel)
- Creative writing inspired by 19<sup>th</sup> century texts (developing the writer's craft)
- *Sir Gawain and the Green Knight* trans. By Simon Armitage (study of an epic poem and the History of the English Language)
- *Romeo and Juliet* by William Shakespeare (study of Shakespearean Tragedy)
- *Kindertransport* by Diane Samuels (study of a dramatic play)

**Reading:** Students will be encouraged to build their skills of inference and analysis in order to understand the writer's craft. They will be taught how to write convincingly about texts, and to appreciate the importance of context.

**Writing:** Students will be supported to learn how to independently plan and structure extended pieces of writing. They will extend their repertoire of methods to engage the reader, including using literary devices. Accurate grammar, punctuation, vocabulary and spelling underpin good writing and these skills are taught throughout all units of work.

**Speaking and Listening:** Students will learn through discussion and debate; role play, and presentation activities. Speaking and listening tasks also develop social skills such as appropriate modes of speech (e.g. levels of formality; how to express disagreement politely) and turn taking in discussion.

## MATHEMATICS

We follow the Singapore Maths curriculum. In Grade 8 the topics and skills acquired are outlined below.

### Ratio and Proportion

Students will learn about:

- (i) Map scales (distance and area)
- (ii) Direct and inverse proportion

### Algebraic Expressions and Formulae

Students will learn about:

- (i) Expansion of the product of Algebraic expressions
- (ii) Changing the subject of a formula
- (iii) Finding the value of an unknown quantity in a given formula
- (iv) Use of special products of Algebraic expressions
- (v) Factorisation of linear expressions
- (vi) Factorisation of quadratic expressions
- (vii) Multiplication and division of simple algebraic fractions
- (viii) Addition and subtraction of algebraic fractions with linear or quadratic denominator

## **Functions and Graphs**

Students will learn about:

- (i) Quadratic functions
- (ii) Graphs of quadratic functions and their properties: (a) positive or negative coefficient of x-squared, (b) maximum and minimum points, (c) symmetry

## **Equations and Inequalities**

Students will learn about:

- (i) Graphs of linear equations in two variables
- (ii) Solving simultaneous linear equations in two variables by (a) substitution and elimination methods and (b) graphical method
- (iii) Solving quadratic equations in one variable by factorization
- (iv) Formulating a pair of linear equations in two variables to solve problems

## **Problems in real-world context**

Students will learn about:

- (i) Solving problems based on real-world contexts: (a) in everyday life and (b) involving personal and household finance.
- (ii) Interpreting and analyzing data from tables and graphs, including distance-time and speed-time graphs
- (iii) Interpreting the solution in the context of the problem
- (iv) Identifying assumptions made and the limitations of the solution

## **Congruence and Similarity**

Students will learn about:

- (i) Congruent figures
- (ii) Similar figures
- (iii) Properties of similar triangles and polygons: (a) corresponding angles are equal and (b) corresponding sides are proportional
- (iv) Enlargement and reduction of a plane figure
- (v) Scale drawings
- (vi) Solving simple problems involving congruence and similarity

## **Pythagoras' theorem and trigonometry**

Students will learn about:

- (i) Use of Pythagoras' theorem
- (ii) Determining whether a triangle is right-angled given the lengths of three sides
- (iii) Use of trigonometric ratios of acute angles to calculate unknown sides and angles in right-angled triangles.

## **Mensuration**

Students will learn about:

- (i) Volume and surface area of pyramid, cone and sphere

## **Data Analysis**

Students will learn about:

- (i) Analysis and interpretation of (a) dot diagrams, (b) histograms and (c) stem-and-leaf diagrams
- (ii) Purposes and uses, advantages and disadvantages of the different forms of statistical representations
- (iii) Explaining why a given statistical diagram leads to misinterpretation of data
- (iv) Mean, mode and median as measures of central tendency for a set of data
- (v) Purposes and use of mean, mode and median
- (vi) Calculation of the mean for grouped data

**Probability**

Students will learn about:

- (i) Probability as a measure of chance
- (ii) Probability of single events (including listing all the possible outcomes in a simple chance situation to calculate probability)

**SCIENCE**

Science combines the best of the FOSS curriculum (developed by UC Berkeley) and IMYC units for Earth Science to give a broad Scientific understanding across the three Sciences of Biology, Physics and Chemistry.

**ELECTRONICS:** Students learn fundamental electrical circuitry and basic electronic principles. They make simple and complex circuits, quantify electrical interactions and properties (current, voltage, resistance) using a digital multimeter and discover how different components affect circuits (resistors, diodes, LED's, capacitors, transistors). They make and read schematics and construct solid-state devices.

**HUMAN BRAIN AND SENSES:** Students investigate how the brain and senses acquire, interpret, and respond to information. An emphasis on vision and touch leads to investigations on the structure and function of the sensory organs and the brain itself. Images (MRI and EEG) are used to reveal brain anatomy and activity. Students also explore learning, memory, and sensory dysfunction.

**IMYC Topic:**

Earth Science

**Robotics**

An external provider comes to school once a week to teach the Science of Robotics and Coding. (See below for more details)

**INTERNATIONAL MIDDLE YEARS CURRICULUM****Geography:**

In many places around the world, traditional ways of life are under threat as the result of an expanding global population and the corresponding increase in demand for resources. For many groups of people, the ways in which they have always lived are in danger of disappearing, along with the environments on which their culture is based. Standing up to a powerful majority requires bravery, both from members of the communities affected and their advocates around the world. Students will explore ways in which different indigenous groups of people try to remain true to themselves and their culture. They will examine the factors that are threatening traditional ways of life and will then investigate the people who have demonstrated their bravery in attempting to protect their ability to be true to themselves and their cultural identity.

Students will discern through the issue of climate change and enhanced global warming, developing an awareness of the challenges facing the world's population in the future, especially those relating to climate change, and how the actions chosen by individuals, governments and other groups impact upon these challenges.

The persistent pursuit of new sources of energy has brought with it incredible success. In pre-Industrial times, persistent exploitation of the power of fire, water, wind, animals and even people without doubt enabled humans to develop as a species. Students will examine the innate persistence of people, both in the past and today, who contributed to our ability to exploit the world's fossil fuels. They will investigate the future of fossil fuels: how much coal, oil and gas still remains to be used, and the debates surrounding the cost of making use of these reserves, identifying ways in which they will need to be persistent in overcoming problems with using renewable sources of energy, and ways in which their lifestyles may need to change if we are to continue to be a 'sustainable' species now, and in the future.

**History:**

Liberal societies tend to be based on the belief that the myriad differences between individuals and groups of people are valid, important and often to be celebrated. These differences are seen to contribute to the richness

and diversity of contemporary culture. Such liberalism rests on a secure basis of accepted civil rights for all individuals and their individuality. Students will analyse the way in which entire generations of Australian children were taken from their families and communities as part of the process of 'civilising' Australia initiated by the white settlers. They will explore the way in which the 'stolen generation' were prevented from being themselves, and will look at the ways in which the victims of this responded to their experiences. They will then study examples of bravery; people who resisted and tried to stay true to themselves and their culture. They will examine the process by which the government changed its policy towards aboriginal children and what measures were introduced in order to create a different kind of society, in which everyone in Australia would have the right to be true to themselves.

As individuals, we all make decisions and choices every day, all day long. Regardless of whether we give consideration to our actions or just act, we are responsible for the consequences of the actions, whether they are good or bad. Studying examples of significant success in the past gives students the opportunity to explore the journey taken by those involved before the final goal was achieved. They can identify the strategies used to determine how and why different individuals, communities and even whole societies have been successful. More importantly, they can also analyse the ways in which people in the past have responded to the setbacks they faced. In doing so, students can draw inspiration from the ways in which people in the past persisted in their aims, even when they did not immediately achieve their objectives.

## **JEWISH EDUCATION: HERITAGE**

### **TEFILA: DAILY PRAYER (Optional)**

The students begin each day with Tefila (prayer) which progresses through each grade. They are introduced to the meaning of the prayers being said, their origin and the concept of Kavana (how we should focus during prayer).

### **CHAGIM: JEWISH FESTIVALS**

Throughout the year, the students build on prior knowledge to learn about each Jewish Festival. They look at the festivals from both a historical and contemporary perspective, the stories behind the festivals and how they lead to the laws and customs Jews practice today. The students feel the atmosphere of the festivals with songs, crafts, re-enact and experience the rituals connected to the festival.

### **TANACH: BIBLE (with Rashi)**

In Middle School the students use the original text and related workbooks. The learning of Chumash is taught in a dynamic and interactive way. Each workbook teaches the Chumash text using word glossaries, maps, charts, diagrams, and illustrations. The workbooks use engaging activities and exercises designed to highlight the human, moral, and religious values of each portion of the Chumash.

The focus of Tanach class in the Middle School is to acquire the necessary skills to learn and understand the original text, understanding the layout of the Chumash: Psukim; Parashot; Chumashim, and to develop independent text skills.

This study includes translation skills (from biblical to Modern Hebrew), knowledge of prefixes, suffixes, root words, and the ability to recognise the similarities of the Psukim.

Students use the study of Rashi commentaries more frequently to encourage questioning that leads to a deeper understanding of the text.

### **PARASHA: WEEKLY TORAH PORTION**

The study of the weekly Parasha familiarises the students with the characters, events and laws of the Torah. As they learn the storyline, they discuss the Jewish values and ethics encountered, and how they can be practically incorporated into their daily lives.

Students are encouraged to prepare a Dvar Torah (an oral summary) to share at home.

## **DINIM & MINHAGIM: LAWS AND CUSTOMS**

The students follow units of work on the Jewish laws and customs applicable to daily life and to festivals including: Shabbat; Tefilla; Brachot, and Kashrut.

The material is presented progressively, from simple to advanced, and is accompanied by maps, charts, diagrams, illustrations and an assortment of interactive activities. The material is designed to promote love for Judaism, acquaint the students with various Jewish customs and enhance Hebrew comprehension.

## **JEWISH EDUCATION: CULTURE**

### **TEFILA: DAILY PRAYER (Optional)**

The students begin each day with Tefila (prayer) which progresses through each grade. They are introduced to the meaning of the prayers being said, their origin and the concept of Kavana (how we should focus during prayer).

### **OVERVIEW**

This course provides students with opportunities to learn about and learn from Judaism. The curriculum builds on the foundations of knowledge and understanding acquired in the Grade School.

The curriculum covers five key areas: Jewish History; Jewish Values; the Holocaust; Israel and Tikun Olam. Students are encouraged to respond to and reflect on the lessons being taught with a strong emphasis on an understanding of the impact that Jewish History has had on the Jewish People today.

Jewish values have a central focus in this curriculum where students are encouraged to explore Jewish values from different perspectives that are thought provoking and meaningful. Each class will focus on Jewish values in a way that highlights the distinctive contribution Judaism can make to the challenges of modern life.

This course is taught in an interactive and dynamic way with students being expected to involve themselves in research projects and presentations.

### **OUTCOMES**

#### **Judaism**

- To know about and understand the origins and development of Judaism
- To appreciate the vibrancy of Judaism, its rich heritage and culture
- To develop a meaningful and life long relationship with Judaism, its rich heritage and culture

#### **Jewish History and the Jewish People**

- To know about and understand the origins and the development of Jewish History and the Jewish People
- To identify with the diversity of individuals and groups that make up the Jewish People
- To understand the impact Jewish History has had and continues to have on the Jewish People today

#### **Israel**

- To know about and understand the history and development of the modern State of Israel
- To appreciate Israel as central to the Jewish People
- To develop a meaningful and life long relationship with the State of Israel

#### **Tikun Olam**

- To know and understand how the Jewish People have engaged in Social Action throughout the ages
- To appreciate the value of Social Action as a fundamental aspect of Judaism
- To engage in Social Action, as an expression of Jewish values, both inside and outside of the Jewish community

#### **Universal Values**

- To understand that Jews have a responsibility to have a positive impact on the world
- To understand the many similarities Judaism has with other cultures and shared values
- To develop a lifelong commitment to engaging with these universal values and integrating them into their daily lives

## LANGUAGES

Students are required to take either Hebrew or Mandarin.

### **Mandarin**

The Mandarin curriculum aims to develop the 4 essential skills of listening, speaking, reading and writing. Below is an outline of the curriculum content.

- Core vocabulary list of 250 words.
- Develop listening and speaking of high-occurrence sentence patterns relating to basic survival.
- Recognise high-occurrence Mandarin characters to aid recognition in electronic medium.
- Ability to converse using skeletal sentences or large chunks of sentences about familiar topic.
- Chinese culture appreciation in selected topics.

### **Ivrit: the Hebrew Language**

**Speaking:** At SMMIS we follow the Talam Ivrit B'Ivrit philosophy where the students are fully immersed in a Hebrew environment, which leads to a mastery of conversational and written Hebrew. A progressive Hebrew language programme is introduced through the use of themes and concepts which are explored in Hebrew. Common Hebrew phrases are integrated into the classroom, objects are referred to by their Hebrew names, and instructions are given in Hebrew. Hebrew vocabulary holds a main focal point in the study of Hebrew and is emphasised with weekly lists and various games and activities. The students practice their language skills by reading and writing Hebrew in correlation to the topics taught in class.

In Middle School the student are divided based on their ability and proficiency in Hebrew. We ensure that an appropriate enrichment and levelling programme is implemented in all Hebrew classes.

A special enrichment programme is offered to Hebrew speakers and the use of various workbooks relevant to each level is implemented.

**We follow the Israel Ministry of Education recommended syllabus for native Hebrew speakers.**

**Writing:** Middle School students write book reports and keep a journal in Hebrew using all the skills acquired in Grade School. They practice and reinforce these skills through various level appropriate workbooks. Each class is given a set of Matarot, (goals) to achieve throughout the year.

**Ulpan:** We ensure that students that are new to the Hebrew language, or that do not have enough prior language acquisition are placed in our Ulpan programme. This enables them to have a solid foundation before entering the mainstream classroom.

In our Hebrew programme the students in Ulpan have an opportunity to move up to the next level once their learning goals have been achieved. Students are monitored regularly throughout their time in Ulpan.

## 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 8 will focus on rights and responsibilities; ethics and relationships and global issues.

## ART

The Art curriculum follows the International Middle Years Curriculum (IMYC) framework that revolves around the eight central learning dispositions: responsibility, adaptability, enquiry, morality, thoughtfulness, respect, communication and reliance. The curriculum aims to incorporate these life skills through the students' appreciation of art. We seek to promote enthusiasm, a sense of increased personal responsibility and a sense of pride in the artwork produced.

**Skills:** Students will learn how to effectively apply the elements of art (line, shape/form, colour, space, and texture) and the principles of design (unity, balance, movement, rhythm, emphasis/focal point and scale/proportion) in order to accurately portray one and two-point perspectives, as well as draw and shade objects, people and faces in a realistic manner. They will also be able to combine these techniques with the application of tempera, water colours, and acrylic paints.

**Application:** Besides the mediums mentioned above, students will be working with clay by using the pinch-pot, slab and coil methods of hand building, and multi-media such as art/colour pencils, oil/chalk pastels, charcoals, colour construction paper, scissors, glue, clay, cloth, paints, ink, bushes, beads, feathers, gems, mosaics, craft sticks, card board, etc. Students will be encouraged to work with various artistic styles of the past and modern time (Realism, Impressionism, Fauvism, Cubism, Pop, Surrealism and Abstract Expressionism) to broaden their artistic horizon.

**Objective:** Our aim is to develop aesthetic values by providing students with the technical skills needed to perceive and interpret visual images in various media through realism and by using their imagination. Students will be exposed to the design process, creative problem solving, and to help them to see the connections beyond the art studio. Student will be able to recognize, distinguish and appreciate art and cultural influences of different cultures and historical periods and to analyse, compare, interpret, and evaluate one's own art, the art of other students and of major artists. This is with the aim of enhancing creativity and to develop an awareness of each student's inherent creative potential.

## PHYSICAL EDUCATION

The P.E. curriculum is underpinned by the International Middle Years Curriculum (IMYC), facilitating an environment for pupils to develop holistically focusing on academic, social and lifelong skills such as respect, resilience and caring for others in a sporting context. These life skills are enhanced through real-life situations in outdoor and adventure activities.

Through a skills centred approach, we aim to provide students with an opportunity to acquire advanced sports skills and strategies focusing on effective performance (attacking, dribbling, teamwork) through a broad range of physical activities:

- Ball games
- Striking games
- Athletics
- Dance
- Swimming activities

By the end of grade 8, pupils are expected to perform a broad range of advanced sports skills, including the monitoring and evaluation of their own performance and that of their peers. Furthermore, pupils should be able to swim a distance of over 50 meters in two different swimming strokes and perform a basic water rescue technique, as well as understanding the importance of leading a physical and active lifestyle. Our curriculum ensures that our pupils acquire a knowledge of the benefits of physical activities at both a local and at an international context.

## 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.

## **ROBOTICS - NULLSPACE**

Students learn the fundamentals of good robot construction, programming and coding. The course is designed with several hands-on activities to allow students to integrate and apply the different concepts and lessons learnt. Students will embark on a Micro:Bit programme which will allow them to create prototypes of project ideas. They will then be introduced to a project-based lesson structure consisting of brainstorming of ideas in alignment to a common theme, planning the project timeline and working on both the hardware and software of the project prototype.

## **PSHE (Personal, Social, Health, Education)**

PSHE is a developmental programme of learning through which students acquire the knowledge, skills and understanding to manage their lives now and in future. PSHE builds on the skills for students to develop effective relationships, assume greater responsibility and manage personal safety. It introduces students to a wider world and enables them to make an active contribution to their communities.

### **Topics covered:**

- the history and impact of human rights and how this connects us to a global community
- how to be healthy, looking after our bodies through eating and exercising appropriately
- the impact of drugs and alcohol