International School of Lyon

Middle School Curriculum Guide

2022-23

Introduction

In Grades 6-8, students follow an in-house curriculum designed by subject specialists in ISL.

The curriculum is a broad, balanced curriculum. It aims to build on the inquiry-based, transdisciplinary curriculum framework of the IB Primary Years Programme, while moving to a more interdisciplinary approach to learning.

The programme is fully aligned with the ISL Vision and Mission.

ISL Vision
'Building our Best Selves.'

ISL Mission
'To develop curious, responsible and independent lifelong learners who actively help to shape their diverse communities.'

Students are challenged to make connections between the knowledge and understanding they acquire in different subject areas, to enable them to better understand their local, and also national and international contexts.

Aims of the Middle School Programme

1. To connect student learning to real world situations
2. To enable inquiry into issues of significance locally, nationally, globally
3. To develop students who are open minded and internationally minded
4. To encourage students to demonstrate empathy, compassion and an understanding of our common humanity
5. To encourage a sense of personal responsibility to contribute positively for public good
6. To develop critical thinking skills (identifying bias and assumptions, evaluating sources and information)
7. To develop research skills
8. To develop analytical skills
9. To develop communication and presentation skills
10. To develop interpersonal and collaboration skills
11. To provide opportunities for the students to be creative (problem solving, innovative, exploration, produce their own content)
12. To provide opportunities for reflection on and potential of student learning
13. To equip students with necessary exam skills and prepare them for future exam success

Subject Briefs

English Grades 6-8

Nature of Subject

This course aims to promote an active interest and appreciation for the English language and English literature, whilst still focusing on improving reading, writing, speaking, and listening skills. Throughout the course, students will have the opportunity to explore and to express their own independent analyses through the use of critical thinking skills.

Aims and Objectives

The aims and objectives of the curriculum are to:

- improve reading comprehension skills and extend vocabulary
- read a variety of texts, summarise, and explain meaning
- identify context, author's voice, purpose, and intended audience within a text
- gain an understanding of literary devices, such as imagery, metaphor, and symbolism
- improve writing skills, such as spelling, grammar, punctuation, and organisation
- develop a structured writing and editing process
- produce clear, coherent writing with a discernible purpose and audience
- understand verbal and written information and instructions
- communicate ideas orally in a clear and organized manner
- develop presentation skills through performance poetry, skits, debates, and the like.

Course Content

The program exposes students to a wide range of texts, from a selection of genres, eras, backgrounds, and themes. The selection of prose, plays, non-fiction, poetry, short stories and media is based on the criteria that they should both challenge and improve the student's critical reading and writing skills. As well as 'teacher selected' texts being used throughout the curriculum, students are urged to read texts chosen on their own initiative. Book discussion groups, book reviews and library sessions will be used to promote independent reading. Students often work collaboratively in lessons, deliver presentations and participate in discussion, all of which develop cross curricular skills of speaking and listening. Drama skills are used to enable students to empathize with characters and issues and to develop their confidence.

Assessment

A variety of tasks such as creative writing compositions, oral presentations, tests, homework, group work, research assignments, class participation, and quizzes will be used for assessment and evaluation. This allows students the opportunity to solidify the skills in which they are more confident, while at the same time challenging the skills which they need to improve. Targeted criteria for specific tasks, as well as peer and self-assessment help students focus their efforts.

ESOL Grades 6-8

Nature of the Subject

The ESOL course offers English language support across the curriculum with a focus on developing skills in listening, speaking, reading, and writing.

Aims and Objectives
This course enables students to:

- develop a level of fluency necessary for academic success in an English-speaking school
- use English effectively as a means of practical communication.
- learn how the English language works and how to manipulate it
- develop the essential skills of listening, speaking, reading and writing
- use correct pronunciation and intonation
- develop curiosity, interest and enjoyment in the English language
- build vocabulary needed to communicate ideas in other areas of study

Course Content

Because reading and writing skills are fundamental to academic success in Middle School, the course emphasizes the building of vocabulary and the accurate use of grammatical structures. Students receive individual attention and resource materials are chosen to meet the various levels of language proficiency of the class. Materials include grammar and text books as well as texts from a variety of authentic sources such as newspapers and magazines, short stories and extracts from literary works.

Assessment

The skills of listening, speaking, reading and writing are assessed through class work, quizzes, tests, written work, oral presentations and participation.

FRENCH A - Grades 6-8

Nature of the subject

French A is a course designed for students whose mother tongue is French or who have a command of French close to native speaker level. Given the specific nature of the subject and the diversity of students, students will put in differentiated groups, in order to build up on previous knowledge.

Aims and objectives

- Oral Communication Skills
  - Express coherent ideas using appropriate grammar and vocabulary
  - Express opinions in debates and be able to respond to counter opinions
  - Give oral presentations
  - Learn through active and respectful listening skills

- Written skills
  - Write with accurate grammar, spelling, punctuation and structures
  - Write creatively or critically, while respecting instructions for spelling and structure
  - Use main discursive forms (narration, description, explanation, argumentation)
  - Read a variety of texts, summarize, and explain meaning

- Independent reading
- Research
- Picture observation and description

Main content or themes

- La poésie
- La nouvelle
- Textes et enfance
- Théâtre classique
- Les héros/mythologie
- Littérature de jeunesse
- Textes journalistiques

Assessment

Formative assessment is a continuous process where reading and writing are monitored as well as oral presentations. Homework, projects, class work and participation are also part of the final assessment grades. More formal summative assessments are also given on a regular basis to assess grammar and spelling understanding and at the end of units or during exam time. There is a strong emphasis on redrafting and on students' responsibility to work independently and cooperatively.

FRENCH B - Grades 6-8

Nature of the subject

Language B is a language development course aimed at students who have a level of French equivalent to A2/B1 according to the Common European Framework for languages. The curriculum builds on the skills students have developed in previous language learning lessons, reinforcing the student's ability to communicate clearly, accurately and effectively both in written and spoken form.

Aims and objectives

The French B course aims to:

- develop the ability to use a foreign language as a means of practical communication
- offer insight into the culture and civilisation of countries where the language is spoken
- develop a positive attitude towards language learning, towards the speakers of other languages, and towards other cultures and civilisations
- provide techniques which can be applied to other areas of learning, such as analysis and memory skills
- offer a sound foundation for progression to employment or further study
- promote and encourage integration with the local community.
- develop the understanding of the nature of language and the process of language learning.
- begin to develop a common understanding of the cultural patterns that affect the thinking, feeling and acting of the societies in which the language is spoken.

Main content or themes

Themes (including but not restricted to):

Food, health and fitness
Personal and social life
Holidays, Festivals and special occasions
House and home
The world of work
Tourism at home and abroad
Environmental issues
The world around us
Public services
Travel and transport
World events and issues
Communication
Shopping
Francophonie

Assessment

Formative assessment is a continuous process where reading and writing are monitored as well as oral presentations. The course assessment is based on student performance in homework, class-work, tests and oral participation. Students will be exposed to a wide range of language activities during the course and are expected to work as a whole class, in smaller groups, in pairs and individually, according to the task. Students are assessed on their competence in the four skills of speaking, writing, reading and listening. There is a particular focus on accuracy in spelling and grammar as well as intonation and pronunciation.

FRENCH Ab Initio- GRADES 6-8

Nature of the subject

Language Ab Initio is a language acquisition course designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken. This process encourages the learner to go beyond the confines of the classroom, expanding an awareness of the world and fostering respect for cultural diversity.

Aims and objectives

- develop the skills of listening, speaking, reading and writing
- use correct pronunciation and intonation as a means of practical communication
- instill curiosity, interest and enjoyment in the target language

Main content or themes

The presentation of topics will be based on speaking, listening, reading and writing activities with a strong emphasis on oral communication and spelling accuracy. The course covers a variety of topics to allow the learning of a wide range of vocabulary, grammar points and cultural awareness.

These include but are not limited to:

- introducing oneself & family
- physical & moral descriptions
- food & drinks
- fashion & shopping
- hobbies & leisure activities
- towns & cities
- daily routine & telling the time
- jobs & pocket money
- school
- house & bedroom
- holidays...

Assessment

Formative assessment is a continuous process where reading and writing are monitored as well as oral presentations. The course assessment is based on student performance in homework, class-work, tests and oral participation. Students will be exposed to a wide range of language activities during the course and are expected to work as a whole class, in smaller groups, in pairs and individually, according to the task. Students are assessed on their competence in the four skills of speaking, writing, reading and listening.

SPANISH

Nature of the subject
Language Ab Initio is a language acquisition course designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken. This process encourages the learner to go beyond the confines of the classroom, expanding an awareness of the world and fostering respect for cultural diversity.

Aims and objectives
● develop the skills of listening, speaking, reading and writing
● use correct pronunciation and intonation as a means of practical communication
● instill curiosity, interest and enjoyment in the target language

Main content or themes
The presentation of topics will be based on speaking, listening, reading and writing activities with a strong emphasis on oral communication and spelling accuracy. The course covers a variety of topics to allow the learning of a wide range of vocabulary, grammar points and cultural awareness.

These include but are not limited to:

- Classroom equipment
- Classroom instructions
- Spanish speaking countries
- Spanish letters, accents and pronunciation
- Numbers, days, months, birthdays
- Introducing oneself & family
- Physical & moral descriptions
- Cultural celebrations

HUMANITIES - Grades 6-8

Nature of the Subject

This syllabus offers an integrated and multidisciplinary approach to the subject and its content by interweaving a variety of source material across different disciplines. The humanities course is designed to lead students from an understanding of their immediate natural and social environment to an appreciation of spatial geographical and historical phenomena on local, regional, national and global scales. An important dimension of the humanities programme is fostering an awareness of the challenges to humankind, as well as of our individual and collective responsibilities in the past, present and future. The course also seeks to promote an awareness and appreciation of cultural differences, a respect for the values of others, a sense of responsibility toward our environment, and a genuine understanding of the international and inter-connected nature of individual and social development.

Aims and Objectives

The course aims to teach students to:

- research, collect and analyze data
- develop their sense of curiosity, their imagination, and critical thinking skills
- evaluate theories, concepts and arguments
- consider a range of points of view and detect bias
- make interdisciplinary connections
- develop an understanding of the ways in which environments and eras change through physical as well as human action
- develop an understanding of how local changes may affect human lives on a wider scale
- develop a concern for the quality of the environment, and an understanding of the need to plan and manage the present for future generations
- appreciate the relevance of geography and history in analyzing contemporary world issues
- appreciate diversity and combat bias, prejudice and stereotyping

Course Content

Grade 6

What is history? What is geography?
Prehistory - people, tools, migrations, settlements
Ancient Rome
Medieval times
Population, settlement and citizenship

Grade 7

Rivers and Ancient Civilizations
Democracy and Ancient Greece
Disaster relief and response across time, place and space
The Sustainable Development Goals

Grade 8

Making you a data heavyweight (data skills)
Cities - past, present and future
Lyon, France, Europe, European Union: are we important?
Case Study of Japan
Why do global issues matter to you?
Can we live without conflict?

Assessment and Resources

A mixture of formative and summative assessments will take place throughout the year, from in-class work to end of year examinations. A variety of tasks will be used for assessment and evaluation, such as: oral presentations, tests, homework, group work, research assignments, class participation, and quizzes. This allows students the opportunity to excel at the skills in which they are more confident, while at the same time challenging themselves with the skills in which they need to improve.

Use of ICT

Use of computers for project/research work - website research and referencing for academic honesty.
Making data "speak" - turning data into graphs.
Google Docs - collaboration, teaching students "netiquette", communication of ideas, Credibility of sources.
Google slides/Powerpoint presentations/Google sites.
Managebac.

Science Grades 6-8

Nature of the Subject
This is an integrated science course which emphasizes the role of scientific enquiry in improving our knowledge and understanding of important scientific ideas. Practical laboratory work is an integral part of the course and skills including: planning, data collection and analysis, evaluation, manipulation and the ability to work within a team are developed. Middle School Science cultivates the importance of developing student's critical thinking and reasoning skills in the context of authentic real life problems.

Aims and Objectives
The course aims to enable the student to:

- Develop skills that are relevant to the study and practice of science in everyday situations.
- Acquire understanding and knowledge of the concepts, principles and applications of science.
- Recognize the usefulness and limitations of a scientific approach and to appreciate its applicability to other disciplines and to everyday life.
- Develop curiosity, interest and enjoyment in science and its methods of enquiry.
- Develop an awareness of science as a cooperative activity between individuals.
- Develop an awareness of science as an increasingly international activity involving cooperation at all levels.
- Develop an awareness of the historical evolution & context of scientific knowledge and understanding.
- Develop and apply information technology skills in the study of science.
- Develop scientific research skills to deepen the understanding of scientific concepts and topics in the universe around us.

Content
The core concepts of Biology, Chemistry & Physics are revisited regularly however in more depth each successive year in Middle School. The cornerstone of the course is to develop scientific inquiry, deductive reasoning, and scientific research skills enabling students to apply their science knowledge in both familiar and unfamiliar contexts.

	Grade 6	**Grade 7**	**Grade 8**
Biology	Plants & humans as organisms Cells & organisms Living things in their environment Variation and classification	Plants Food & digestion The circulatory system Respiration Reproduction & development	Plants *(Photosynthesis)* Living things in their environment *(Adaptations)* Variation & inheritance
Chemistry	States of matter Material properties Material changes The Earth	States of matter *(Diffusion,Gas Pressure)* Elements & compounds Mixtures Material changes *(Physical & Chemical changes)*	Material properties *(The Atom)* Energy Changes Reactivity Salts Rates of Reaction
Physics	Forces & motion Energy The Earth & beyond	Measuring motion Sound Light Magnetism	Forces in action Electricity Energy *(How we use energy)*

Assessment
Students are assessed on their communication of scientific ideas, their knowledge and understanding of scientific concepts, and their experimental skills. Students are also evaluated on their critical thinking, deductive reasoning, research and presentation skills. This is based on formative assessment on student performance in assignments, projects, practicals, and summative assessments in end of topic evaluations as well as a cumulative end of year exams.

Mathematics Grades 6-8

Nature of the Subject

The course is designed to take the previously learned general mathematical concepts and begin to apply them at a higher level of difficulty. Arithmetic, measurement and number theory are included in all topics and are not covered as separate subject material. Several mathematical concepts will be further developed including: statistics, geometry, algebra and probability. Students are expected to learn and use a variety of problem solving strategies.

An emphasis is placed on a thorough understanding of basic operations on numbers, number systems and computation skills. These skills are used in problem solving.

In Algebra, the students develop an understanding of variables, expressions, equations and simple formulae, pattern recognition and transformations used for algebraic expressions.

Geometry includes measurement, constructions and model building, investigative methods and an introduction to trigonometric ratios.

Statistics includes interpretation of graphs and the presentation of data, calculation of mean median, mode and range.

Extended problems are given throughout the course.

Students also make extensive use of the digital interactive copies of *Haese Mathematics* textbooks, *Oxford MYP* textbooks, the online software *myimaths.com* and the educational content on Managebac.

Aims and Objectives

The course aims to enable the student to

- Develop a positive attitude toward the continued learning of mathematics.
- Appreciate the usefulness, power and beauty of mathematics. Recognize its relationship with other disciplines and with everyday life.
- Gain knowledge and develop understanding of mathematical concepts.
- Develop mathematical skills and apply them.
- Develop the ability to communicate mathematics with appropriate symbols and language.
- Develop and apply information and communication technology skills in the study of mathematics.
- Develop patience and persistence when solving problems.

Course Content

Grade 6 (34 weeks, 170 periods)

Unit 1: Number

- Whole numbers
- The number system
- Operating with numbers
- Index or exponent notation
- Squares and cubes
- Order of operations
- Decimal numbers
- Place value
- Ordering decimal numbers
- Operations with decimals
- Properties of numbers
- Divisibility tests
- Factors of natural numbers
- Multiples of natural numbers
- Multiplying and dividing by powers of 10

Unit 2: Percentages

- Representing percentages
- Changing a percentage into a decimal
- Changing a percentage to a fraction
- Finding one quantity as a percentage of another
- Finding percentages of quantities
- The unitary method in percentage

Unit 3: Algebra

- Patterns and models
- Geometric patterns
- Number sequences
- Using patterns
- Algebraic expressions
- Substituting into formulae
- Equations, setting up and solving equations

Unit 4: Geometric construction

- Terminology
- Constructing Angles

- Geometric construction
- Angles in parallel lines
- Angles in a triangle
- Names of polygons
- Names and Nets of 3D shapes

Unit 5: Fractions

- Fractions
- Simplifying / Multiplying / Dividing / Adding and subtracting fractions

Unit 6: Data management

- Statistics
- Data analysis
- Bar charts
- Pie chart
- Terminology
- Collecting data
- Mean, median, mode and range

Unit 7: Perimeter, Area and volume

- Finding the perimeter of polygons
- Finding the area of triangles and special quadrilaterals
- Calculating the volume of a cuboid and prism

Grade 7 (34 weeks, 170 periods)

Unit 1: Number

- Whole numbers. The number system. Rounding numbers. Estimation. Operating with numbers. Index or exponent notation. Squares and cubes. Order of operations.
- Properties of numbers. Divisibility tests. Factors of natural numbers. Multiples of natural numbers. Directed numbers. Roots of whole numbers.
- Fractions. Manipulating fractions. Operations with fractions. Problem solving. The unitary method with fractions. Square roots of fractions.
- Decimal numbers. Place value. Ordering decimal numbers. Adding and subtracting decimal
- Numbers. Multiplying and dividing by powers of 10. Multiplying decimal numbers. Dividing decimal numbers. Terminating and recurring decimals. Decimal approximations. Comparing sizes.
- Percentage. Understanding percentages. Interchanging number forms. One quantity as a percentage of another. Finding percentages of quantities.
- Ratio and proportion. Ratio. Writing ratios as fractions. Equal ratios. Proportions. Using ratios to divide quantities. Scale diagram.

Unit 2: Algebra and graphs

- Patterns and models. Geometric patterns. Number crunching machines. Substituting into formulae. Using patterns. Practical problems. Number sequences.
- Expressions and evaluations. Building expressions. Keywords in algebra. Simplifying expressions. Algebraic products. Evaluating algebraic expressions.
- Expansion and factorization. The distributive law. Simplifying algebraic expressions. Brackets with negative coefficients. The product. Geometric applications. Factorisation of algebraic expressions
- Equations. Maintaining balance. Inverse operations. Building and undoing expressions. Solving equations. Equations with a repeated unknown.
- Line graphs. Properties of line graphs. Estimating from line graphs. Conversion graphs. Travel graphs. Continuous and discrete graphs. Graphing linear relationships.
- Rates. Comparing prices. Using rates. Average speed. Density. Converting rates.
- Algebraic Fractions. Simplifying algebraic fractions. Multiplying algebraic fractions. Dividing algebraic fractions. Adding and subtracting algebraic fractions.
- Problem solving. Writing equations using symbols. Problem solving with algebra. Measurement problems. Money problems. Miscellaneous problem solving. Problem solving by search. Problem solving by working backwards.

Unit 3: Geometry

- Angles lines and parallelism. Points and lines. Measuring and classifying angles. Angle properties. Geometric construction. Angle pairs. Parallel lines.
- The geometry of solids. Solids. Nets of solids. Drawing rectangular solids. Constructing block solids.
- Polygons. Classifying triangles. Angles of a triangle. Angles of isosceles triangles. Polygons. Quadrilaterals. Angles of a quadrilateral. Interior angles of polygons. Deductive geometry (Extension).
- Circles. Parts of a circle. Circumference. Area of a circle. Cylinders.

Unit 4: Mensuration

- Length and area. Length. Perimeter. Area. Areas of polygons. Areas of composite shapes.
- Further measurement. Volume. Volume formula. Capacity. Mass. Time.

Unit 5: Probability

- Chance. Assigning numbers to chance.
- Experimental probability. Listing possible outcomes.
- Theoretical probability.
- Tree diagrams.
- Making probability generators.

Unit 6: Statistics

- Statistics
- Data collection
- Categorical data
- Numerical data
- The mean, median and mode

Grade 8 (34 weeks, 170 periods)

Unit 1: Number

- Number. Natural numbers. Divisibility tests. Integers. Order of operations. Fractions and rational numbers. Decimal numbers. Ratio. Prime numbers and index notation.
- Percentage. The unitary method in percentage . Finding a percentage of a quantity. Percentage increase and decrease. Percentage change using a multiplier. Finding the original amount. Simple interest. Compound interest.

Unit 2: Algebra and graphs

- Algebraic operations. Algebraic notation. The language of mathematics. Changing words to symbols. Generalising arithmetic. Algebraic substitution. Collecting like terms. Product and quotient simplification.
- Algebraic expansion. The distributive law. The expansion of $(a+b)(c+d)$. The expansion rules.
- Interpreting and drawing graphs. Interpreting graphs and charts. Travel graphs. Information from line graphs. Using technology to graph data.
- Solving equations. The solution of an equation. Maintaining balance. Isolating the unknown. Formal solution of linear equations. Equations with a repeated unknown. Fractional equations. Unknown in the denominator.
- Indices. Algebraic products and quotients in index notation. Index laws. Expansion laws. Zero and negative indices. Rational indices. Scientific notation (Standard form). Significant figures
- Pythagoras. Square roots. Rules for square roots. Solving equations of the form. The theorem of Pythagoras. The converse of Pythagoras' theorem. Problem solving using Pythagoras. Three dimensional problems (Extension). Cube roots.
- Further algebra. Converting into algebraic form. Forming equations. Problem solving using equations. Finding an unknown from a formula. Linear inequations. Solving linear inequalities.
- Simultaneous equations (mostly linear). Trial and error solution. Graphical solution. Solution by substitution. Solution by elimination. Problem solving with simultaneous equations
- Algebraic factorization. Common factors. Factoring with common factors.
- Quadratic equations. The Null Factor law. Equations of the form.
- Algebraic fractions. Evaluating algebraic fractions. Simplifying algebraic fractions. Multiplying and dividing algebraic fractions. Adding and subtracting algebraic fractions. Simplifying more complicated fractions factoring quadratic expressions in numerator and denominator.

Unit 3: Geometry

- The geometry of polygons. Review of geometrical facts. Triangles. Isosceles triangles. Quadrilaterals and other polygons. Deductive geometry. Special quadrilaterals.
- Transformations, similarity and congruence. Translations. Reflections and line symmetry. Rotations and rotational symmetry. Enlargements and reductions. Similar figures. Similar triangles. Areas and volumes of similar objects. Congruence of triangles.

Unit 4: Mensuration

- Length and area. Lengths and perimeters. Circumference of a circle. Area. Areas of circles. Areas of composite figures. Surface area. Problem solving.
- Volume and capacity. Units of volume. Volume formulae. Capacity. Problem solving.

Unit 5: Coordinate geometry

- Coordinate geometry. Plotting points. Linear relationships. Plotting linear graphs. The equation of a line. Gradient or slope. Graphing lines from equations. Other line forms. Finding equations from graphs. Points on lines.

Unit 6: Trigonometry

- Using scale diagrams in geometry.
- Trigonometry with right-angled triangles and acute angles.
- The trigonometric ratios.
- Problem solving with trigonometry.

Unit 7: Probability

- Estimating probabilities.
- Probability by experiment.
- Probabilities from tabled data.
- Probabilities from two way tables.
- Chance investigations
- Theoretical probability. Sample space. Theoretical probability. Using grids to find probabilities. Multiplying probabilities.
- Using tree diagrams.
- Expectation.

Unit 8: Statistics

- Comparing categorical data. Categorical data.
- Examining categorical data.
- Comparing and reporting categorical data.
- Data collection.
- Misleading graphs.
- Quantitative statistics. Quantitative data. Grouped discrete data. Measuring the centre. Comparing and reporting discrete data.
- Bi-variate statistics. Scatter diagram. Line of “Best Fit” by eye.

Resources

The course is supported by the following sets of textbooks:

Grade 6

- Mathematics for the international student. MYP 2 (Haese Mathematics)
- MYP Mathematics 1 (Oxford University Press)

Grade 7

- Mathematics for the international student. MYP 2 (Haese Mathematics)
- MYP Mathematics 2 (Oxford University Press)

Grade 8

- Mathematics for the international student. MYP 3 (Haese Mathematics)
- MYP Mathematics 3 (Oxford University Press)

Web Resources

Online website : www.myimaths.com

Channels:

- MathAntics http://www.mathantics.com/
- MyWhyU MyWhyU
- Eureka! https://www.youtube.com/watch?v=HRq-v4Gmzxg&list=PL_pjxFpIQgU1Om7QA9lF_K1rjOWkr2k3m
- Dr Math http://mathforum.org/dr.math/
- Khan Academy http://www.khanacademy.org/

Occasional related videos from different sites (for Pythagoras Theorem, The Sieve of Eratosthenes, Fibonacci and Golden Ratio and many more).

Assessment

The Subject Skills (SS) grade reflects the students' level of knowledge and understanding, their application and reasoning, and their ability to communicate. The course assessment is based on student performance in classwork, in homework, tests and end of year exams. The Approaches to Learning (ATL) grade reflects the students' general enthusiasm and interest for the subject, their self motivation and ability to work individually and observe deadlines, and their perseverance in solving problems. Overall assessment reflects students' following the IB Learner Profile principles.

Art and Design

Nature of the Subject

The Art program aims to encourage personal response through creative critical thinking, whilst enhancing the ability to visualize and heighten aesthetic awareness and sensitivity. Tasks are presented in such a way as to stimulate problem solving and decision-making that require an individual personal response. Self-confidence is developed through the acquisition of new skills, experimentation with a variety of media, and exploration of the visual language of line, form, shape, pattern, texture and color through both two and three-dimensional work.

Aims and Objectives

- To encourage creative thinking
- To increase understanding and integration of self and the world around by learning to observe
- To enhance the ability to visualize
- To heighten aesthetic awareness and sensitivity
- To build self-confidence through the development of new skills
- To stimulate problem solving and decision-making
- To provide a means of communication
- To develop appreciation for the individuality of others
- To enjoy and explore the creative process

Content

At every level, students are introduced to a range of activities that aim at developing their skills and techniques further, such as, use of the brush and painting techniques, shading and tonal work, 3D techniques, space and composition, and creative thinking.

Projects are designed to develop a unique way of approaching and understanding Art from both a personal and theoretical point of view. Students are encouraged to develop their individual ideas from an understanding of the work of others and the world around them. Visits to galleries will be done with the class when possible, but visits are also encouraged outside of school hours.

Assessment

Assessment is based on finished products, the students' individual artistic and aesthetic growth, as well as attitude and effort, but it is also given throughout the lesson, in a less formal way, enabling students to reflect on the work in progress and refine the work as it goes along.

Design and Technology Grades 6-8

Nature of the Subject
Design and Technology teaches students about the effective use of technology in its broadest sense. Students are introduced to a wide range of materials and tools and are encouraged to use them fully. The curriculum allows students to gain knowledge, develop concepts, as well as acquire analytical, problem solving and creative skills.

Aims and objectives
In Design and Technology students participate in varied, flexible and challenging project based activities to allow them to gain an understanding of the design process which includes investigating, sketching, prototyping and evaluating. They develop their creativity and acknowledgement of the steps involved in the design process through experimental and innovative approaches. Students reinforce their practical skills through the manipulation of tools and materials and the development of built objects.

Objectives: Student will

- Demonstrate personal commitment, enthusiasm, curiosity, self-motivation, initiative, willingness to take informed risks.
- Display care and attention to detail, neatness, and desire to produce quality work, individually and collaboratively.
- Identify and analyze problems that need to be solved and conduct an inquiry into the nature of the problem.
- Develop ideas, plan and create a prototype sufficient for testing and evaluation.
- Reflect on their projects, evaluate the success of their designs, and identify areas where the solution could be improved.

Main content or themes
Using the Google Education Suite effectively
Coding through various means
3-D Design in Sketchup
Model making, e.g., bridge, pasta tower, vehicles.
STEAM project in Grade 6
Web Design in Google Sites and HTML
Robotics through Lego Mindstorms
Product design, e.g., lampshade, junk couture, bag, desk organiser, logos

Assessment

There is no end of year exam in the DT programme, but rather an end of year project which will be assessed. Students receive guidance and feedback during the lessons, and teachers assess for understanding during lessons through observation and questioning of students.

Students work on individual and paired/group projects. Teachers provide regular feedback to students and give them guidance on how to improve their project outcomes. Students are graded at the end of each project/assignment based on the middle school assessment criteria for Design Technology.

Music Grades 6-8

Nature of the Subject

Students in grades 6 to 8 receive two forty-minute music classes each week. The Middle school music program is designed to be an initiation to practical music skills, while helping students to develop an appreciation and understanding of various styles of music. Students will participate in a diverse curriculum involving opportunities to play a variety of instruments, arrange and compose their own pieces, learn the basics of written theory and develop their listening skills. The program is run through creative assignments which form a meaningful context for the activities in class. Students are encouraged to apply their knowledge together with their emotions, imagination, and critical thinking skills.

Aims and Objectives (3 year program)

- ♪ Explore and analyse elements of music (pitch, tempo, dynamics, melody, rhythm, form, texture, tone colour) and their function;
- ♪ Study music from a variety of countries, cultures, and musical time periods;
- ♪ Read and perform works of music;
- ♪ Sing and play instruments with expression and proper technique;
- ♪ Communicate responses to music in appropriate ways.
- ♪ Realize a connection between music and the culture which creates it

Course Components – Preparatory Year (Grade 6)

The preparatory year will be used as an opportunity to present two types of instruments as well as basic music theory and analysis, and is divided into three sections: the first two are dedicated to exploring two major families of instruments – fretted strings and keyboards – and the third is focused on ensemble playing and performance.

<u>Grade 6</u>

Semester 1 - Guitar / Piano
- Theory and analysis
- Instrumental technique
- Practice strategy
- Small / Large ensemble experience

Semester 2 - Guitar / Piano
- Theory and analysis
- Instrumental technique
- Practice strategy
- Small / Large ensemble performance

Course Components – Second / Third Years – Grades 7 and 8

The second and third years will continue the study of different orchestral instruments including bowed strings, woodwind and or brass, and a consolidation of some preparatory year instruments in ensemble work. Rhythms will be learned up to eighth notes, and the student will continue studying the theory and practice of rehearsal and performance. The remaining semester will be dedicated to ensemble playing, with a focus on a single genre of music and culminating in a large ensemble concert.

Grade 7

Semester 1
- Instrumental Technique
- Practice Strategy
- Music Theory

Semester 2
- Instrumental Technique
- Practice Strategy
- Research project
- Listening skills
- Small/ Large ensemble performance

Grade 8

Semester 1
- Instrumental Technique
- Practice Strategy
- Music Theory
- Small/ Large ensemble performance

Semester 2
- Theory and analysis
- Listening skills
- Instrumental technique
- Research project
- Small/ Large ensemble performance

Assessment and Evaluation:

Assessment and evaluation is based on the observation of the student's performance in class (taking into account the progress they have demonstrated over time), their ability to communicate to others what they have learned and their homework, which consists of written work and a maintained practice routine. Group work constitutes a significant component of the program. Students are expected to work collaboratively with their peers to solve musical problems, and to provide thoughtful, constructive feedback to others. A range of assessment tools will be used, including formative teacher observation, self-assessments, peer-assessments, and summative tests.

Resources

Gr. 6-8 music uses a variety of resources, both written and multimedia, including method books, original scores and musical arrangements. We have a growing collection of CD's and DVD's accessible in the library.

Method Books:

A New Tune a Day – multi-instrumental
Alfred's Piano Library – Older Beginner
Essential Elements for Strings, Book 1
Essential Elements Band Method, Book 1
Hal Leonard Guitar method, Book 1

Reference Books :
Oxford Dictionary of Music
Practiceopedia
Practicespot articles
The Practice Revolution

Music Scores:
Original compositions and arrangements of compositions

ICT:
ICT is used in composing and theory studies, as well as for creating electronic music.

Programs:
Noteflight or Finale Notepad – composition
Crescendo 6 – theory exercises
Acid Xpress, GarageBand – electronic music

Physical Education Grades 6-8

Nature of the Subject
Physical Education aims to educate students within a holistic learning environment, allowing them to acquire the knowledge, concepts, skills and attitudes to enable them to become active, healthy, and happier citizens. In doing so, it aims to improve their physical, social, and emotional well being.

Aims and objectives
Physical Education aims to educate students through participation in a broad range of physical activities. The PE programme is structured to ensure that students are given the opportunity to enjoy a varied, flexible and balanced programme featuring a variety of movement experiences. It aims to develop students' technical skill and tactical awareness in a variety of activities allowing them to participate confidently in physical activity. It also develops student's ability to collaborate and communicate, and to acquire a sense of aesthetic appreciation.

Through participation in Middle School PE all students should develop the ability to;

- Demonstrate the basic skills associated with a wide range of physical activities.
- Participate effectively in a wide range of games and physical activities.
- Understand the basic rules in a wide range of games and physical activities.
- Acquire positive values and attitudes for the development of an active, healthy lifestyle.
- Acquire an appreciation of athletic potential and athletic achievement.
- Acquire an appreciation of aesthetic movement.
- Maintain good health and achieve a higher level of physical fitness.
- Develop desirable social traits such as friendliness, cooperation, respect for others, honesty and good sportsmanship.
- Develop desirable emotional traits such as courage, determination, commitment, self confidence and resilience.

Main content or themes
Invasion Games - Basketball / Football / Rugby / American Football/ Ultimate frisbee/ Lacrosse
Net Games - Tennis / Badminton / Volleyball / Speedminton
Striking Games - Rounders / Baseball / Longball / Cricket
Athletics - Sprints & Middle Distance / Relays / Discus / Shot Put / Long Jump / High Jump
Team Building Games
Fitness Testing & Health Related Exercise - Components of Fitness.

Assessment
Students receive constant guidance and feedback during all lessons. All lessons begin with a low intensity skill development and warm up phase providing students with the opportunity to develop their skills and refine their technique. Students receive immediate feedback following fitness tests and are given guidance on how to improve their fitness levels.

Project Work in Middle School

Project work is a strong feature of the Middle School Programme.

There is a strong emphasis on cross-curricular links between the different subject areas.

Middle school students engage in a range of different projects throughout their 3 year programme. These projects include:

- Cross-curricular project work in Grade 6-8
- Grade 6 - Leading your Learning Project
- Grade 6 - STEAM Project
- Grade 7 - UN SDG Project
- Grade 8 - Personal Project

Cross curricular projects

Through cross curricular project work, students learn to connect the dots between the different knowledge and skills they acquire in their subjects. Cross curricular projects are based around a concept/or concepts. Examples of such projects can be seen below. The concept is highlighted in bold text.

Time/Space/Place (History / Geography) - The Industrial Revolution and Cities of the Future.

Identity and Systems (Maths / French / Geography) Origins of traditional recipes / ingredients / different units of measurements.

Development (History / Science) The development of medicine over time, microbes, resistance and genetics.

The Grade 6 Leading your Learning Project

This project takes place in November in Grade 6. It is a student-led, group research project. At the beginning of the project, each student in the class is given the opportunity to propose topics they would like to learn about. The list of ideas is then presented to the class.

Students can pitch their idea to their classmates to encourage their classmates to vote for it. The class then votes to select a subsection (normally 3-4) of the proposed topics.

Once the 3-4 topics have been chosen, all students decide to join one of the 3 chosen research projects. The students, supported by Mr. O'Reilly, will then decide what they are going to research about their chosen topic. They will then complete a research project in their groups over a 3-week period. At the end of the project they will present their projects to another class in the school.

The Grade 6 STEAM Project

This is a team based, cross curricular design challenge.

Students use the knowledge and skills they gain in Science, Design Technology, Art and Maths classes to develop Rube Goldberg type machines

It takes place every year during a 4-week period in April / May 2023 (Construction phase) but the project is year long.

The science teachers prepare the students for the project by studying different types of energy and energy transfer. The math teachers will focus on things like angles, acceleration, weight, levers etc.

The art and design technology teachers work with the students on designing their machine on paper and in Google Sketch Up. They will then build small prototypes of their ideas in cardboard to test their viability.

The Grade 7 UN Sustainable Development Goals Project: From where I stand…

Phase One

In phase one of this project, (which takes place in December) all students will research one of the UN SDGs in detail.
They will produce a presentation about their SDG. This presentation will provide the following information:

- an overview of the SDG goal
- what progress has been made in relation to reaching the objectives set for the goal.
- details of 3 projects taking place around the world which are working towards the goal
- Details about the practical, service learning project they will put in place in phase two of the project

They will present their projects to other classes in the school.

Phase Two

From where I stand…

In phase two of this project, (which takes place in January) the students will develop a service learning project based on their SDG. They can do this individually or with another student who is working on the same / or a complementary SDG to their own.

Their project will seek to improve their local (family, class, school, club) community by raising awareness around their goal, and putting in place a plan to help advance their goal.

Typically, the projects involve small fundraising efforts by the students, or campaigns to raise awareness about specific issues.

The Grade 8 Personal Project

This is an extended, independent research project in an area of personal interest. It takes place every year in a 4-week period between the February and April holidays. This is a capstone project which builds on all of the research, project management and presentation skills which the students will develop as they move through middle school.

Students are allowed to choose any topic for their project, as long as we do not consider it to be dangerous or offensive. Topics do not have to be related to any subject area. They choose a topic of study, and then they refine a research question(s) which become the focus of the investigation. Unlike the Grade 5 Exhibition, students work independently on this project. They are not assigned a mentor. However, they are supported fully through the project by Mr. O'Reilly, and their other teachers.

During the four weeks of the project, students are taken off timetable for 10 periods per week. Students are also expected to work on their projects at home. The project finishes with a presentation to students, staff and parents on the Friday of the fourth week from 08h30 - 10h30.