

THE LEARNING LAB

NURTURING THE LOVE OF LEARNING™



CORE PROGRAMMES

Secondary 1 to 4

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To sign up for our Secondary Core Programmes:
Please email enrollment@thelearninglab.com.sg
or contact our service hotline at 6733 8711

Dear Parent,

Over the past 20 years, our goal at The Learning Lab has always been to nurture the love of learning through an encouraging and engaging learning environment. We are here to lend our support and guidance at every stage of your child's development in school, and to help your child acquire the knowledge, skills and dispositions needed to overcome challenges they face both in school and in life.

With the ever-evolving education landscape, we continuously strive to make advancements to our programmes to better prepare your child for his or her life ahead.

With dedicated teams of curriculum experts and highly trained teachers, we help your child build a strong foundation in literacy and numeracy, in writing and communicating, and in strategic thinking and problem-solving. We are also committed to helping your child develop positive learning attitudes and habits.

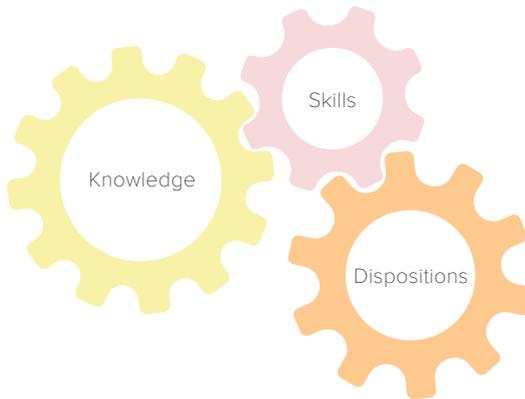
As you explore this programme booklet, discover the wide range of learning opportunities available to your child. Experience the breadth and depth of a curriculum that does not just prepare your child for the classroom but also demonstrates how what is learnt is so intertwined with the world he or she lives in today.

We look forward to being part of your child's learning journey.

Welcome to The Learning Lab.

A Teaching and Learning Model That Puts Your Child First

Your child's rich and meaningful learning journey begins with us. In our classrooms, we create learning experiences that empower and motivate him or her. We believe that your child should be equipped with the right knowledge, skills and dispositions to be ready to learn and to be ready for school.



Knowledge

Your child will attain the necessary knowledge at each stage of his or her learning journey. Whether your child is getting ready to learn well or getting ready for school, we help him or her achieve each milestone with confidence and joy. We also ensure that your child learns about the people, places and events that will further stimulate his or her intellectual curiosity.



Skills

Your child will learn skills that are related to day-to-day learning and to formal learning. In class, teachers help your child hone specific skills to tackle each academic component or topic. A strong focus on communication skills and reflection means that your child will become a more confident, engaged and articulate thinker and learner who strives for improvement.

Dispositions

Your child's education at TLL is about nurturing his or her whole person. Our programmes recognise the importance of helping your child develop positive attitudes, habits and mindsets towards learning as a journey. He or she will develop self-awareness and a growth mindset — always planning for the next stage of success and progress.

Our Curriculum

We have a team of over 40 dedicated curriculum specialists continually researching, crafting and updating our weekly lesson materials. At The Learning Lab, we understand that lesson materials must engage the learner and be relevant to learning outcomes in order to meet students' learning needs.

This is why our curriculum is designed based on the following principles:

- relevant to every student
- cultivates the curiosity to learn
- develops the 'whole' student
- balances learning and exam needs with life skills
- current and research-informed





Our materials are prepared with your child's best interests in mind. These five design principles set the stage for meaningful learning in the classroom so that your child can make clear and significant connections between what goes on in class and what he or she sees in day-to-day life.

Themes and Topics That Engage Your Child

Across all subjects and levels, we ensure that your child learns about the issues, themes, topics and concepts that are relevant to life and prepare your child for formal assessments. Whether the lesson is about cities of the world, interesting occupations or about the world's most interesting volcanoes, one thing remains the same — our belief that contextualised learning makes your child's lessons come alive.

Enabling Your Child for Success

Helping your child to find success in learning stems from giving him or her the confidence to enjoy the learning journey and to face challenges with the right skills and attitudes.

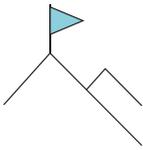


Grow What You Know

Gaining the Exposure to Knowledge
beyond the Classroom

Learning is not only about getting your child school and exam-ready but it is also about preparing for what lies beyond the classroom.

Our curriculum has the breadth and depth to help your child achieve this — with comprehensive lesson materials such as notes, practice papers and interactive games that strengthen areas requiring attention while exposing them to real-world context.



Show What You Know

Unlocking the Key to Deep Learning

When your child is aware of their thought processes, he or she is able to refine their thinking and problem-solving skills to overcome problems in class or in life.

By equipping your child with a wide range of problem-solving strategies and techniques, he or she learns how to analyse questions, understand the success criteria and know which methods to use to solve the different problems he or she will be dealt.



Present What You Know

Applying the Knowledge Learnt

We see our students go from strength to strength in the subjects they undertake as they master answering techniques that allow them to address questions accurately. Using the right phrasings and terminologies, they learn how to craft the most precise and coherent answers.

These techniques are reinforced and practised throughout each year so that your child may grow in confidence and realise his or her personal bests, again and again.



English

Our Secondary English programmes prepare students to achieve O-Level success, or the equivalent Secondary 4 examination in IP schools, with a strong emphasis on structured approaches that help students become strong writers, exemplary communicators and critical thinkers with a global outlook.

Students will learn to read, think and write about a wide range of topics while honing key analytical skills for exam excellence. Classroom practices encourage reflection and help students become introspective learners who are keenly aware of their strengths and weaknesses. This helps students develop problem-solving skills to rise above academic and personal challenges.

Secondary 1 Curriculum

At Secondary 1, we use structured, skills-based lessons to introduce students to expectations of new components that they would not have encountered in primary school like summary writing and Literature. We also provide step-by-step guidance to help students understand the higher expectations of components they have already encountered in primary school: continuous writing, situational writing, comprehension and oral communication.

Writing

- Excel in writing skills through:
 - Scaffolded writing lessons that help students understand the different requirements of each text type (e.g. descriptive writing, narrative writing or personal recounts)
 - Writing practices that allow students to apply what they have learnt
 - Introduction to expository writing* (for IP students)
 - Situational writing practices for real-life purposes (focus on formal and informal letters and emails)
 - Critical analysis of sample essays (for continuous and situational writing) to learn from models of good writing, evaluating errors and making edits for improvement

Reading

- Excel in writing skills through:
 - Close reading lessons geared towards helping students understand main ideas in a text, pay attention to the language and techniques used and make inferences based on contextual clues
 - Scaffolded comprehension, summary, visual text comprehension and Literature lessons geared towards exam excellence
 - For comprehension: question types and answering techniques, tackling deeper inferential questions (e.g. use of literary techniques)
 - For visual text comprehension: understanding and analysing visual texts (e.g. advertisements, posters)
 - For Summary: question analysis, identifying relevant points, paraphrasing and using varied sentence structures
 - For Literature: introduction to poetry and prose in a range of styles, focus on characterisation, themes and literary techniques

Oral Communication

- Develop public speaking skills and experience through:
 - Individual oral practice / presentation lessons
 - Step-by-step strategies (POLE) to respond to the visual stimulus
 - Teacher and peer feedback

Secondary 2 Curriculum

At Secondary 2, we continue to use structured, skills-based lessons to deepen our students' grasp of the various examinable components. We ensure a progression of literary skills and techniques, expose students to more complex types of text and writing styles, and develop critical-thinking skills in order for them to craft answers of greater depth for both writing and oral communication.

Writing

- Excel in writing skills through:
 - More exposure to a complex text type: expository writing (discussions and personal views)
 - Scaffolded writing lessons that help students understand the requirements of more complex text types (e.g. how to elaborate in expository essays)
 - Writing practices that allow students to apply what they have learnt
 - Situational writing practices for real-life purposes (focus on formal proposals and speeches)
 - Critical analysis of scaffolded responses (for continuous and situational writing) to learn from models of good writing, evaluating errors and making edits for improvement

Reading

- Excel in writing skills through:
 - Close reading lessons geared towards helping students learn how to: understand main ideas in more complex texts, pay attention to the language and techniques used, make inferences based on contextual clues
 - Scaffolded comprehension, summary, visual text comprehension and Literature lessons geared towards exam excellence
 - For comprehension: question types and answering techniques, tackling deeper inferential questions (e.g. tone/ perspective of author, use of complex literary techniques like irony)
 - ^ IP students will receive a separate set of questions based on IP school requirements
 - For visual text comprehension: understanding and analysing visual texts (e.g. web pages, advertisements, posters, magazine covers*)
 - For summary: question analysis, identifying relevant points, inferring valid points, paraphrasing and using varied sentence structures
 - For Literature: introduction to poetry and prose in a range of styles, focus on characterisation, themes and literary techniques, how to craft responses to essay questions
 - For Application Question: scaffolded lessons that teach students how to identify and evaluate an author's claims as well as applying those claims to the Singapore context* (IP only)

Oral Communication

- Develop public speaking skills and experience through:
 - Individual oral practice / presentation lessons
 - Teacher and peer feedback

Secondary 3 Curriculum

At Secondary 3, we ensure that students are exposed to all the components that will be tested in the O-Level or equivalent IP examinations. Our programme builds on what students have learnt in Secondary 1 and 2 to develop more powerful language techniques, as well as to read and write with more skill, accuracy, depth and speed in order to tackle the questions that will be tested in the O-Level or equivalent IP examinations.

Writing

- Excel in writing skills through:
 - More exposure to complex text types: argumentative writing and hybrid essays
 - Guided practices that help students understand the requirements of more complex text types (e.g. how to draw from personal experiences to add a layer of introspection in their writing)
 - Situational writing practices for real-life purposes (focus on speeches and feature articles)
 - Critical analysis of scaffolded responses (for continuous and situational writing) to learn from models of good writing, evaluating errors and making edits for improvement

Reading

- Excel in writing skills through:
 - Critical reading lessons geared towards helping students understand main ideas in a text, pay attention to the language and techniques used, make inferences based on contextual clues and evaluate the author's overall argument
 - Scaffolded comprehension, summary, visual text comprehension and Literature lessons geared towards exam excellence
 - For comprehension: focus on tackling higher-level inferential questions (e.g. use of punctuation, rhetorical question)
 - ^ IP students will receive a separate set of questions based on IP school requirements
 - For visual text comprehension: focus on more difficult language and inferential questions (e.g. analysing effectiveness of taglines, describing why certain images serve the purpose of the visual text)
- For Summary: focus on inferring valid points and using varied sentence structures
- For Literature: focus on crafting full essay responses to the poem or prose piece
- For Application Question: focus on crafting full responses to the AQ prompt*. (IP only)

Oral Communication

- Develop public speaking skills and experience through:
 - Individual oral practice / presentation lessons
 - Step-by-step strategies (POLE) to respond to the visual stimulus
 - Teacher and peer feedback

Secondary 4 Curriculum

At Secondary 4, we ensure that students undertake a thorough review and consolidation of skills that are necessary for them to excel in their O-Level or the equivalent IP examinations. We achieve this by using passages and questions that closely follow prevailing exam trends and establishing frequent correlations to tips and strategies taught in previous years in order to ensure exam excellence.

Writing

- Excel in writing skills through:
 - Review of the whole range of text types, including those that were introduced at Lower Secondary
 - Guided practices that help students draw from these text types to incorporate into frequently tested hybrid essays
 - Situational writing practices for real-life purposes
 - Critical analysis of scaffolded responses (for continuous and situational writing) to learn from models of good writing, evaluating errors and making edits for improvement

Reading

- Excel in writing skills through:
 - Critical reading lessons geared towards helping students understand main ideas in a text, pay attention to the language and techniques used, make inferences based on contextual clues and evaluate the author's overall argument
 - Scaffolded comprehension, summary, visual text comprehension and Literature lessons geared towards exam excellence
 - For comprehension: focus on answer precision and error analysis
 - ^ IP students are introduced to A-Level question phrasing and marking requirements
 - For visual text comprehension: focus on more difficult language and inferential questions (e.g. analysing effectiveness of taglines, describing why certain images serve the purpose of the visual text)
 - For Summary: focus on answer precision and error analysis where students are provided with common errors and must correct them
 - ^ IP students are introduced to A-Level question phrasing and marking requirements
 - For Literature: focus on crafting full essay responses to poems and prose pieces that are of higher complexity
 - For Application Question: focus on crafting full responses to more complex AQ prompts. (e.g. AQ questions with multiple parts or whose applicability to Singapore is not immediately discernible)* (IP only)

Oral Communication

- Develop public speaking skills and experience through:
 - Individual oral practice / presentation lessons
 - Step-by-step strategies (PEAR) to respond to stimulus-based conversation
 - Teacher and peer feedback

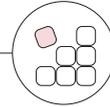
Key features of our Secondary English programme

Exposure: Grow What You Know



Specially Curated Materials

- Passages adapted from credible international publications such as The New York Times, TIME, The Economist and The Wall Street Journal
- Comprehensive guided notes developed in-house to help students excel in key examinable components



Active Learning

- Discussion questions to help students explore and engage in topics
- Students are encouraged to ask questions, clarify doubts, hear others' opinions and learn how to use logic and evidence to support their points when sharing ideas with others



Applied Learning

- Introduction of exciting and relevant topics, like advancements in technology, cutting-edge medical research and sociopolitical issues
- Engage in thought-provoking discussions in class
- Exposure to wide range of questions, following National Examination formats

Analysis and Strategy: Show What You Know



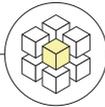
Question Analysis Skills

- Methods to systematically analyse and annotate question requirements



Answer Precision

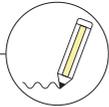
- Easy-to-use checklists to evaluate work for weaknesses



Problem-solving

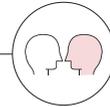
- Teaching of brainstorming techniques to select and develop engaging writing content
- Teaching of organisational approaches to formulate logical responses
- Posing of questions on current topics to address real-world problems to better make links to Comprehension and Summary passages as well as Oral topics

Answering Technique: Present What You Know



Answering Techniques

- Detailed scaffolded, sample answers that are analysed to help students with precision and clarity of answers for different components



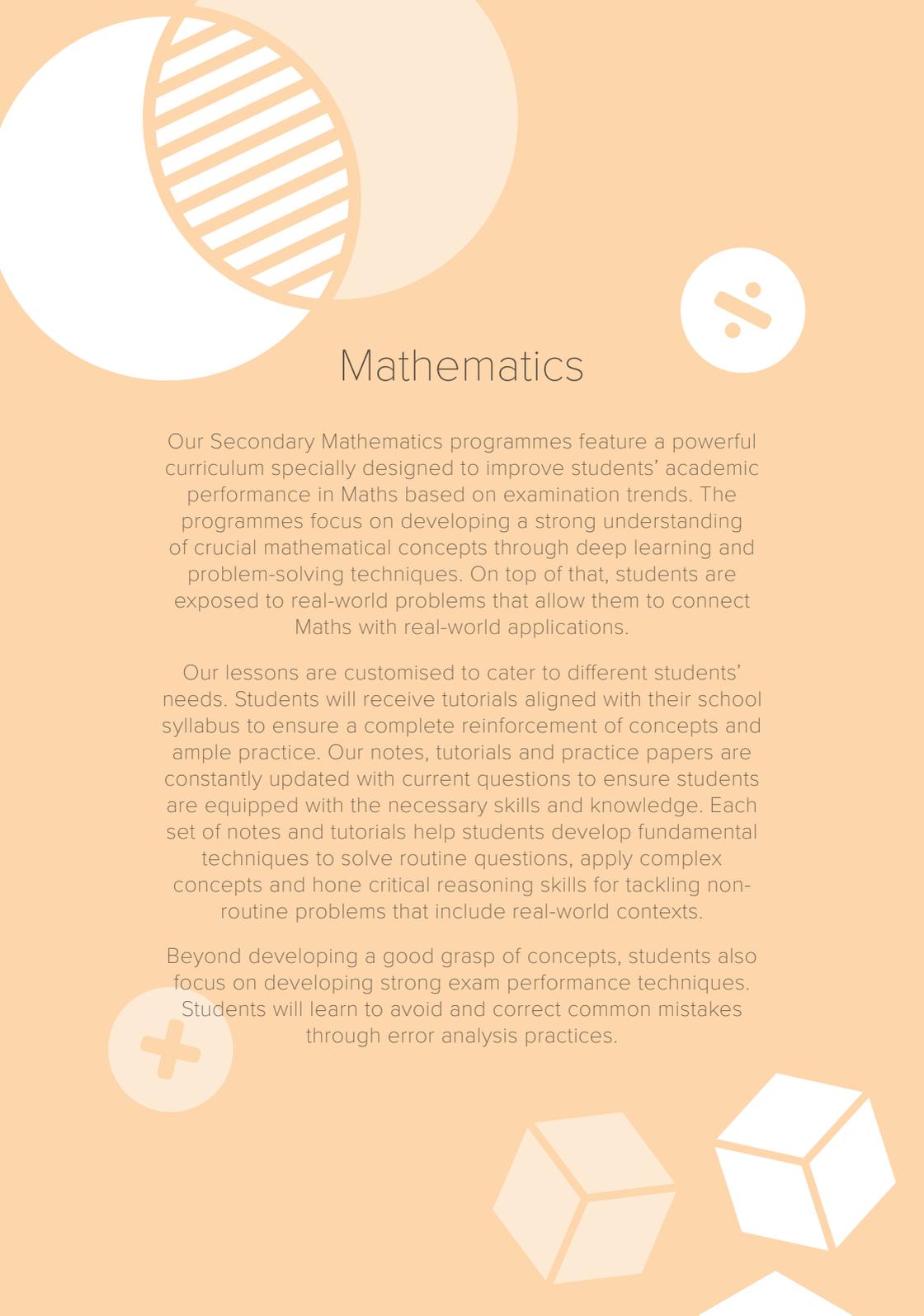
Reflective Learning

- Error analysis of answers to reinforce expectations of good answers
- Feedback and discussion on common mistakes so that similar pitfalls can be identified and avoided



Exam Excellence

- Practice tests that simulate exam conditions to prepare for examinations



Mathematics

Our Secondary Mathematics programmes feature a powerful curriculum specially designed to improve students' academic performance in Maths based on examination trends. The programmes focus on developing a strong understanding of crucial mathematical concepts through deep learning and problem-solving techniques. On top of that, students are exposed to real-world problems that allow them to connect Maths with real-world applications.

Our lessons are customised to cater to different students' needs. Students will receive tutorials aligned with their school syllabus to ensure a complete reinforcement of concepts and ample practice. Our notes, tutorials and practice papers are constantly updated with current questions to ensure students are equipped with the necessary skills and knowledge. Each set of notes and tutorials help students develop fundamental techniques to solve routine questions, apply complex concepts and hone critical reasoning skills for tackling non-routine problems that include real-world contexts.

Beyond developing a good grasp of concepts, students also focus on developing strong exam performance techniques. Students will learn to avoid and correct common mistakes through error analysis practices.

Secondary 1 Curriculum

In Secondary 1, students will learn new topics such as Primes, Highest Common Factor and Lowest Common Multiple, Approximation and Estimation, Basic Algebra and Algebraic Manipulation, Linear Equations and Simple Inequalities, Functions and Linear Graphs, and Polygons. The topics taught in primary school will be covered in greater depth while students master new and more complex concepts.

Numbers

- Real numbers
- Integers
- Rational & irrational numbers
- Number lines
- Factors & multiples
- Number sequences
- Approximation & estimation
- Rate, ratio & speed
- Percentages

Algebra

- Algebraic expansion, factorization & manipulation
- Linear equations
- Linear inequalities
- Functions & graphs

Geometry

- Basic geometrical concepts & properties
- Angle properties of polygons
- Geometrical constructions
- Pythagoras' Theorem*
- Mensuration

Statistics

- Statistical diagrams
- Measures of central tendency — Mean, mode & median
- Data analysis

Secondary 2 Curriculum

In Secondary 2, students will learn new topics such as Expansion and Factorisation of Quadratic Expressions, Quadratic Equations and Graphs, Algebraic Fractions, Linear Simultaneous Equations, Direct and Inverse Proportions, Maps and Scales, Congruency and Similarity, Probability and Trigonometric Ratios. Additionally, the topics taught previously in Secondary 1 will be expanded on. For example, the topic on Volume and Surface Area will include new content such as cone, pyramids, and spheres.

Numbers

- Direct & inverse proportions
- Maps & scales
- Indices*

Algebra

- Algebraic expansion, factorization & manipulation
- Subject of formulae
- Algebraic fractions
- Quadratic factorization
- Quadratic equations
- Quadratic graphs & its applications
- Linear simultaneous equations

Geometry & Trigonometry

- Pythagoras' Theorem
- Congruence & Similarity
- Proof of Congruency & Similarity
- Area & volume of similar figures & solids*
- Trigonometric ratios
- Further Trigonometry*
 - Sine Rule
 - Cosine Rule

Statistics

- Statistical Diagrams
- Measures of central tendency
 - Mean, mode & median
- Data Analysis

Secondary 3 Curriculum

In Secondary 3 Mathematics, students will learn new topics such as Quadratic Equations and Functions, Linear Inequalities, Indices and Standard Form, Coordinate Geometry, Graphs of Functions and Graphical Solutions, Further Trigonometry and its Applications, Circular Measure, Congruency and Similarity Tests, Area and Volume of Similar Figures and Solids and Geometrical Properties of Circles.

Comprehensive notes and tutorials will be provided after each topic to strengthen students' conceptual knowledge in ensuring competency and mastery. Additionally, practice tests will provide students with the rigorous revision that can help them confidently ace their year-end examinations.

Algebra

- Solutions to Quadratic Equations
- Indices and Standard Form
- Linear Inequalities

Graphs

- Graphs of Power Functions
- Graphs of Exponential Functions
- Estimation of the gradient of a curve
- Graphs applied to Kinematics

Geometry

- Congruent and Similar Triangles
- Area and Volume of Similar Figures and Solids
- Geometrical Properties of Circles
- Trigonometrical Ratios
- Further Trigonometry
 - Bearings
 - Sine-Cosine Rules
 - Area of Triangles

Mensuration

- Arc length, sector area, radian measure

Coordinate Geometry

- Gradient of a straight line
- Length of a straight line
- Equation of a straight line

Secondary 3 and 4 Curriculum (Additional Mathematics)

To prepare students for O-Level success and beyond, they will be exposed to topical revision through comprehensive concept maps and noteworthy past examination questions. Students will further solidify their examination skills through error analysis exercises and practice tests.

On top of that, there will also be a focus on Additional Mathematics, where students will be introduced to brand new topics on the A-Maths level such as Algebra, Calculus and Geometry & Trigonometry.

Algebra & Functions

- Non-linear simultaneous equations
- Indices*
- Surds
- Logarithms
- Polynomials
- Factor & remainder theorems
- Partial fractions
- Quadratic equations & functions
- Quadratic inequalities
- Binomial theorem
- Graphs of logarithmic & exponential functions
- Modulus*
- Graphical transformations*
- Functions*

Geometry & Trigonometry

- Coordinate geometry in two dimensions
- Circles
- Linear law
- Trigonometric functions
- Simple trigonometric identities & equations
- Further trigonometric identities
- Proof in plane geometry

Calculus

- Differentiation
- Application of differentiation — Equations of tangents & normal, Rate of Change, Maxima & Minima
- Derivatives of trigonometric functions
- Derivatives of exponential & logarithmic functions
- Integration
- Area of a region
- Kinematics

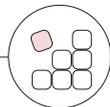
Key features of our Secondary Maths programme

Exposure: Grow What You Know



100% TLL Developed Materials

- Developed in-house, our weekly worksheets contain essential notes and examples to explain key concepts and show how to solve different question types
- Tutorials provide exposure to a wide range of questions from basic application skills to questions that require critical thinking



Applied Learning

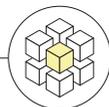
- Exposure to questions in real-world contexts to equip students with the skills to handle higher-order thinking/ non-routine questions in the examinations and develop an understanding of how mathematical concepts are applied
- Interactive games that help students apply mathematical concepts in real-world contexts to consolidate learning and check on understanding

Analysis and Strategy: Show What You Know



Question Analysis Skills

- Learn to spot key information and identify problem types



Problem-solving

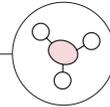
- Questions that highlight concepts in real-life scenarios to build flexibility in applying concepts to unfamiliar situations

Answering Technique: Present What You Know



Presentation Skills

- Emphasis on presentation skills, especially in practice tests, to ensure proper presentation of mathematical concepts to eliminate any misunderstanding and hence, loss of marks



Metacognition

- Error analysis handouts introduce common mistakes so that similar pitfalls can be identified and avoided



Exam Excellence

- Formative assessment through low-stakes testing using topical quizzes to provide ongoing feedback
- Regular practice tests are conducted to simulate exam conditions such as time management



Science

The transition from Primary Science to Secondary Science requires students to acquire more in-depth conceptual knowledge and analytical ability in Biology, Chemistry and Physics.

Our Secondary School Science programmes will fully equip students with comprehensive scientific knowledge and skills, and train them in higher-order thinking skills such as critical reasoning, logical deduction, and question analysis. These skills will allow students to apply deep insights into specific scientific inquiries and hone their ability for data analysis, while also being able to appreciate the relevance of science in their daily lives.

Comprehensive notes and tutorials over a wide range of topics equip students with firm scientific knowledge, while immersive and extensive experiments conducted physically or virtually, such as through experiment videos, allow students to acquire experimental skills to develop a vibrant and dynamic relationship with the sciences.

Secondary 1 and 2 Curriculum

Secondary 1 Curriculum

In Secondary 1, students will acquire knowledge of new topics such as Cell Structure and Organisation, Elements, Compounds and Mixtures, and Light, and learn to apply their insights in the disciplines of General Science, Biology, Chemistry and Physics.

Students will be exposed to foundational questions to cement their conceptual understanding, as well as challenging questions to develop higher-order thinking skills.

This programme is open to students taking both the O-Level and IP curricula.

Secondary 2 Curriculum

In Secondary 2, students will continue to develop their scientific knowledge and understanding, as well as skills and dispositions, through topics such as Transport System in Humans, Chemical Bonding and Current of Electricity.

Students will continue to be trained in question analysis, answering techniques and higher-order thinking skills in the disciplines of Biology, Chemistry and Physics.

This programme is open to students taking both the O-Level and IP curricula.

General Science

- Experimental Skills
- Experimental Design
- Laboratory Skills
- Laboratory Safety

Biology

- Cell Structure and Organisation
- Movement of Substances
- Biological Molecules
- Enzymes
- Human Digestive System
- Transport System in Plants
- Transport System in Humans
- Human Sexual Reproductive System
- Ecology
- Diversity of Living Things*
- Photosynthesis*
- Respiration*
- Microorganisms*
- Hydroponics*
- Plant Tissue Culture*

Chemistry

- Elements, Compounds and Mixtures
- Separation Techniques
- Kinetic Particle Theory

- Atomic Structure
- Periodic Table
- Chemical Bonding (Ionic)
- Chemical Bonding (Covalent)
- Chemical Changes
- Chemical Formulae and Equations
- Acids and Bases

Physics

- Exploring Diversity of Matter by Its Physical Properties
- Forces and Pressure
- Work, Energy and Power
- Turning Effect of Forces*
- Kinematics*
- Kinetic Model of Matter*
- Transfer of Thermal Energy
- Temperature and the Effects of Heat
- Light — Reflection
- Light — Refraction
- Light — Thin Lenses*
- Current of Electricity
- D.C. Circuits
- Practical Electricity
- Sound*
- General Wave Properties*

Secondary 3 and 4 Curriculum (Biology)

The Upper Secondary Biology programmes develop students' scientific knowledge and understanding through the use of comprehensive curriculum materials, which focus intensively on answering techniques through a systematic thought process. The programmes cater to students taking both the O-Level and IP curricula.

Comprehensive notes, topical and thematic tests will cement students' conceptual knowledge after each topic to ensure competency and mastery. Additionally, mock practice tests that mirror examination settings will provide students with the rigorous revision that can help them confidently ace their O-Level or end of year examinations.

Lessons are enriched with experiment videos, simulations or games, allowing students to acquire experimental skills while also developing a keen interest in taking their Biology education further.

Principles of Biology

- Cell Structure and Organisation
- Movement of Substances
- Biological Molecules
- Enzymes

Maintenance and Regulation of Life Processes

- Nutrition in Humans
- Nutrition in Plants
- Transport in Flowering Plants
- Transport in Humans
- Respiration in Humans

- Excretion in Humans
- Homeostasis
- Co-ordination and Response in Humans
 - The Nervous System
 - The Human Eye
 - Hormones

Continuity of Life

- Reproduction in Plants
- Reproduction in Humans
- Cell Division
- Molecular Genetics
- Inheritance

Man and his Environment

- Organisms and their Environment

Secondary 3 and 4 Curriculum (Chemistry)

The Upper Secondary Chemistry programmes develop students' scientific knowledge and understanding through the use of comprehensive curriculum materials, which focus on fundamental concepts and answering techniques before challenging students with higher-level application questions. The programmes cater to students taking both the O-Level and IP curricula.

Comprehensive notes, topical and thematic tests are provided to build competency and mastery in every topic. On top of that, mock practice tests provide rigorous revision for students under examination settings.

Lessons are enriched with experiment videos, simulations and games to deepen students' knowledge on the real-life application of Chemistry and allow students to acquire experimental skills while also developing a strong appreciation in the discipline of Chemistry.

Experimental Chemistry

- Separation Techniques
- Experimental Chemistry
- Qualitative Analysis

Atomic Structure and Stoichiometry

- Kinetic Particle Theory
- Atomic Structure
- Chemical Bonding
 - Ionic Bonding
 - Covalent Bonding
 - Giant Molecular Structures
 - Metallic Bonding

- Chemical Formulae and Equations
- Mole Concept and Chemical Calculations

Chemistry of Reactions

- Acids and Bases
- Salts
- Ammonia
- Rate of Reaction
- Redox Reactions
- Energy from Chemicals
- Electrolysis

Periodicity

- Periodic Table
- Metals

Atmosphere

- Air and the Atmosphere

Organic Chemistry

- Fuels and Crude Oil
- Alkanes
- Alkenes
- Alcohols
- Carboxylic Acids
- Macromolecules

Secondary 3 and 4 Curriculum (Physics)

The Upper Secondary Physics programmes develop students' scientific knowledge and understanding through the use of comprehensive curriculum materials. Emphasis is placed on grasping fundamental concepts before students are challenged with higher-level application questions. The programmes cater to students taking both the O-Level and IP curricula.

Practice tests and mock practice papers that mirror actual examination conditions help give students the practice and confidence needed to ace their examinations.

Revision packages are provided to help students consolidate their knowledge, review the typical questions for each topic and gain awareness of the common pitfalls encountered when answering questions.

Experimental skills, such as tabulation, drawing graphs, identifying experimental errors and experimental design, are also taught to prepare students for practical examinations.

Measurement

- Physical Quantities, Units and Measurement

Newtonian Mechanics

- Kinematics
- Dynamics
- Mass, Weight and Density
- Turning Effect of Forces
- Pressure
- Energy, Work and Power

Thermal Physics

- Kinetic Model of Matter
- Transfer of Thermal Energy
- Temperature
- Thermal Properties of Matter

Waves

- General Wave Properties
- Light
- Electromagnetic Spectrum
- Sound

Electricity and Magnetism

- Static Electricity
- Current of Electricity
- D.C. Circuits
- Practical Electricity
- Magnetism
- Electromagnetism
- Electromagnetic Induction

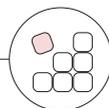
Key features of our Secondary Science programme

Exposure: Grow What You Know



Specially Curated Materials

- Comprehensive notes to cover learning outcomes required in the Secondary syllabus and concept maps to consolidate key concepts for quick revision before exams
- Tutorials provide exposure to a wide range of questions, including commonly tested question types such as data analysis and application questions



Engaging Delivery Methods

- Hands-on experiments, experiment videos and simulations for students to hone their experimental skills and master key techniques for practical examinations
- Interactive games and videos aid in visualisation of abstract concepts and instil a passion for Science



Applied Learning

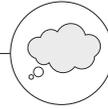
- Application questions to provide exposure to real-world situations and develop an understanding of how Science concepts are applied
- Handouts which go beyond the curriculum to introduce cutting-edge scientific news
- for students to appreciate and relate to concepts learnt
- A spiral approach to learning by building on simpler concepts and applying them to progressively complex and cross-topic questions

Analysis and Strategy: Show What You Know



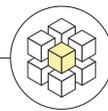
Question Analysis Skills

- Introduction to techniques to analyse questions in a methodical manner:
 - Highlight keywords or key phrases provided
 - Observe diagrams, analyse data and compare experiment set-ups provided
 - Identify topics and concepts tested by the questions
 - Jot down relevant keywords or key phrases needed to answer the questions



Experimental Skills

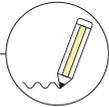
- Experiment-focused handouts and activities to equip students with a wide range of experimental skills:
 - Experimental design
 - Practical techniques
 - Data tabulation and graph drawing
 - Experimental analysis and evaluation



Problem-Solving Strategies

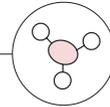
- Exposure to questions based on real-life scenarios to strengthen students' proficiency and inculcate flexibility in applying concepts to unfamiliar situations

Answering Technique: Present What You Know



Answering Techniques

- Introduction to various techniques to provide a complete and concise answer in a structured manner



Metacognition

- Question analysis and experiment analysis during lessons refine thinking processes and analytical skills
- Error analysis during lessons identifies common misconceptions and common mistakes so that similar pitfalls can be avoided



Exam Excellence

- Formative assessment through low-stakes testing using topical and thematic tests to provide ongoing feedback
- Practice tests simulate exam conditions to prepare for examinations

To sign up for our Secondary Core Programmes:
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or contact our service hotline at 6733 8711

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