### THE LEARNING LAB



#### CORE PROGRAMMES

PRIMARY 5 & 6

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To sign up for our Primary 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 not only nurture the love of learning, but to also help your child achieve academic success in school and beyond.

We are here to lend our support and guidance at every stage of your child's learning journey, helping him or her to develop the knowledge, skills and dispositions needed to tackle challenges faced both in school and in life.

With dedicated curriculum experts and highly trained teachers, we help your child build a strong foundation in reading, writing and communicating, in strategic thinking and problem-solving, as well as essential techniques and skills to achieve success at key examination milestones. We are also committed to helping your child develop positive learning attitudes and habits.

With the ever-evolving education landscape, we continuously strive to make advancements to our programmes to ensure that our lessons are engaging and effective in meeting your child's learning needs.

As you explore this programme booklet, discover the breadth and depth of a curriculum that does not just make learning engaging, but also enables your child to demonstrate progress and growth while attaining academic excellence.

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. We believe that academic growth and success in school, and beyond, are built on a strong foundation of knowledge, skills and dispositions.



### Knowledge

To help your child achieve each milestone in his or her learning journey, we equip your child with the concepts and knowledge needed to tackle tasks and exams in school with confidence. Besides building a strong foundation in content mastery, we further stimulate your child's intellectual curiosity by drawing connections with what is learnt in school to real-world phenomena.



### Skills

With The Learning Lab's teaching methodology and curriculum, your child will develop the necessary skills such as critical thinking, analytical and evaluative skills, to help him or her successfully address all types of academic challenges at school. A strong focus on task and error analysis, problem-solving strategies as well as communication skills means that your child will become a more confident, engaged and articulate thinker a learner who is able to present what he or she knows and strive 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, whether in the classroom or beyond. He or she will develop selfawareness and a growth mindset — understanding his or her strengths and weaknesses, seeing mistakes or setbacks as opportunities for progress, and planning the next stage of success with an open mind.

### Our Curriculum and Teaching Team

Our dedicated curriculum team of over 40 specialists and teachers help forge meaningful learning journeys for your child through the creation of bespoke lesson materials that are designed to motivate and enthuse your child. We believe learning is optimal when children are motivated and engaged. Our lesson materials excite and inspire, and are designed to build the knowledge and skills necessary for school success.

Our TLL teachers are also the best that your child can have. They are caring and passionate individuals who always strive to give their very best in class. As knowledgeable experts that focus on deep subject knowledge and pedagogical know-how, TLL teachers guide your child through the intricacies of the required exam syllabus using our renowned in-house tailor-made curriculum.



### Our Promise

Our materials are prepared with your child's best interests in mind. We provide your child with lessons that not only help your child become invested in his or her learning journey, but also encourage him or her to take charge of it.



#### Nurturing the Love of Learning

These two elements run through all our lesson materials:

- Sparking interest even when the topics are abstract or studying has elements of drill and practice
- Making connections with the real world so that our students can see the relevance of what they are learning



#### Attaining Academic Excellence

Our students achieve academic excellence through our teaching methods and curriculum which focus on nurturing:

- deep understanding of the topics
- strong analytical and problem-solving skills that help students in answering any question in tests and exams



#### Achieving Student Progress and Growth

At The Learning Lab, every child's growth and progress is important to us:

- Our curriculum introduces topics and skills progressively, revisiting and weaving deep threads of learning.
- Our teachers check on your child's progress throughout the term through in-class activities, end-of-lesson exit tickets as well as more rigorous mock tests.
- Personalised feedback is provided to parents about their child, identifying key challenges and strengths.

# Our Three Learning Goals for Your Child's 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

### Developing Knowledge for the Classroom and Beyond

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 contexts.



### Show What You Know

#### Applying the Knowledge and Skills Learnt

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 they will be dealt with.



### Present What You Know

#### Be Your Best Self

We teach our students how to master answering techniques that allow them to address questions accurately. Using the right phrasing and terminology, they learn how to craft precise and coherent answers.

Our teachers continually reinforce good habits and techniques of answering questions accurately and comprehensively so that your child grows in confidence and realises his or her personal best, again and again.

### English

Our Primary 5 and Primary 6 programmes focus on preparing students for success in their PSLE. We do this through a structured and systematic approach that strengthens skills and knowledge of techniques in reading comprehension, writing, grammar, vocabulary and oral communication.

As part of our exam-ready modules, we help students understand and apply the success criteria necessary to excel at each PSLE exam component. Students develop their ability to analyse questions, craft precise answers and learn from their mistakes.

Our programmes help students build awareness of their own strengths and weaknesses as well as impart strategies on how to be exam-ready.

### Primary 5 and 6 Curriculum

In Primary 5 and 6, our reading comprehension lessons help students further develop their close and critical reading skills to identify character traits and motivations in passages. In addition, the lessons refine their question analysis and answering techniques to phrase answers accurately and address examination requirements.

Students are also exposed to situational and continuous writing components. They will learn to expertly craft situational writing pieces that suit a variety of purposes, audiences and contexts. Furthermore, students will also hone their continuous writing skills, developing narratives with compelling plots and incorporating a variety of grammatical structures and complex writing techniques into their compositions.

#### Writing

- Excel in writing skills through:
  - the use of TLL's writing framework to understand the different elements that contribute to writing success
  - frequent writing practices that focus on the learning and application of grammatical devices, advanced writing techniques and the development of relevant and coherent plots
- analysis of scaffolded responses to learn from models of good writing, evaluating errors and making edits for improvement
- Situational writing exercises for real-life purposes and contexts like reports, emails and letters

#### Reading

- Develop critical thinking and comprehension skills through:
  - TLL's reading framework that teaches reading comprehension skills

This framework develops students' critical reading skills to:

- i) identify character traits and motivations
- ii) apply inferential skills to understand concepts, themes and suggest meanings
- iii) analyse questions
- iv) demonstrate logical reasoning
- v) distinguish between relevant and irrelevant information in the passage
- vi) phrase their answers accurately to address examination requirements

- Develop an interest in reading through:
  - access to an online curated book collection including genres like Fantasy, Mystery and Classics
  - exposure to extracts and passages that serve as excellent models of writing and storytelling

#### **Oral Communication**

- Develop public speaking skills and experience through:
  - individual presentation lessons
  - teacher and peer evaluation
- Develop oral communication skills through:
  - oral conversation practices
  - individualised teacher feedback

#### Grammar

- Consolidate grammar through:
  - instructional modules with clear explanations and examples on intermediate grammar concepts (infinitives and gerunds, active and passive voice)
  - intensive revision practices and online activities
  - integrated grammar instruction and writing lessons to master sentence construction

#### Vocabulary

- Build up an extensive vocabulary through:
  - exposure to curated reading materials and licensed content from premier news sites and world-renowned publications
  - word games and interactive online activities
- Gain an exposure to linguistics through:
  - an introduction to prefixes and suffixes

#### Key features of our Primary 5 and 6 English programmes Exposure: Grow What You Know **Specially Curated** Active Learning Materials Questioning techniques Passages crafted from to help students engage world-renowned in and explore topics journalistic publications Interactive games and such as The New guizzes that help York Times and students check on The Washington Post understanding and Comprehensive in-house reinforce learning notes teaching specific skills and the relevant steps to take for key examinable components Applied Learning Introduction of exciting topics Creation of a wide range to students, like developments of questions, following around the world, so that national examination formats they are more engaged and are able to develop content knowledge

### Analysis and Strategy: Show What You Know





Mnemonics to recall steps and skills taught, like SETS — Subject + Evidence + Tense + Sentence Structure for Reading Comprehension answers



#### **Problem-Solving Strategies**

- Teaching of brainstorming techniques to select and develop unique and engaging storylines
- Posing of critical thinking questions on current topics to address real-world problems in order to better relate to reading comprehension passages and oral themes

### Answering Technique: Present What You Know



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### Mathematics

Our Primary 5 and 6 programmes prepare students to achieve PSLE success. To help our students revise effectively, we provide comprehensive notes, concept maps and regular practice papers. Our curriculum materials keep up with prevailing PSLE trends to ensure that students are ready for the more current question types.

A key feature of our programmes is the explicit teaching of heuristics in problem-solving. Rather than teach the mechanical application of formulae, our programmes emphasise deep conceptual understanding so that students are able to identify concepts, select and apply the correct methods to successfully solve all types of questions, including non-routine and higher-order-thinking ones.

Another key focus is on developing strong exam performance techniques. Students are taught to adeptly analyse questions so as to optimise the methods they choose to maximise time and effort in the examination. Error analysis exercises and checking techniques are covered as well.

### Primary 5 Curriculum

In Primary 5, students will learn new concepts in topics such as Area of Triangles, Ratio, Volume, Rates, Average and Percentage. Additionally, they will learn and apply heuristics such as making a table, working backwards, forming equations, branching and unitary method to solve problems effectively. Students will also use calculators to solve word problems in Paper 2. They will hone examination skills such as error analysis and time management through practice tests.

### Whole Numbers up to 10 000 000

Mastering:

- number notation and place values
- rounding off numbers
- factors and multiples
- order of operations
- prime factorisation and index notation\*
- divisibility rules\*
- word problems

#### Fractions

Mastering:

- four operations of mixed
  numbers and improper
  fractions
- multiplication and division of fractions without the use of calculators
- word problems

#### Area of Triangles

- identification of base and height
- application of area of a triangle formula
- area and perimeter of composite figures
- area and perimeter involving figures with overlapping parts
- area and perimeter involving figures with folded parts

#### Ratio

Mastering:

- notation, representation and interpretation of ratios
- expressing equivalent ratios
- finding the missing term in a pair of equivalent ratios
- word problems

#### Measurements

#### Mastering:

 conversion of units of measurements for length, mass and volume

#### Decimals

Mastering:

- four operations of decimals
- recurring decimals\*
- word problems

#### Average

Mastering:

- average of given data set
- finding unknown quantity given average
- change in average

#### Volume and Surface Area

Mastering:

- volume of cubes and cuboids
- surface area of cubes and cuboids
- fitting cubes into
  rectangular containers
- volume of liquid in rectangular containers
- word problems involving rates of inflow / outflow of liquid, conjoined tanks and submerged objects in a tank

#### Rates

- constant rates
- combined rates
- multiple rates

#### Percentage

Mastering:

- conversion between fractions, decimals and percentages
- expression of one quantity as a percentage of another
- finding percentage increase or decrease
- word problems involving percentage, discount, tax and interest

#### Geometry

Mastering:

- vertically-opposite angles, interior angles, corresponding angles and alternate angles
- angle properties of triangles
- angle properties of quadrilaterals (including trapeziums, parallelograms, rectangles, rhombuses and squares)
- geometrical construction of triangles and four-sided figures
- geometrical properties of polygons\*
- angle properties of kites\*

#### Tables and Graphs

Mastering:

- reading and interpreting tables, bar graphs and line graphs
- word problems

#### Number Patterns

Mastering:

- linear patterns
- square patterns
- Gauss summation
- triangular patterns
- inference from diagrams
- method of finite differences\*
- introduction to Pascal's triangle, Fibonacci sequence and factorials\*

#### Solid Figures\*

Mastering:

- views of a solid
- nets

#### Investigative Problem Solving\*

- application-based questions
- logical-reasoning questions

### Primary 6 Curriculum

In Primary 6, students will complete the PSLE syllabus including learning new topics such as Algebra, Circles, Speed and Pie Charts.

Students will master key heuristics such as unitary method, units and parts and comparing difference to solve questions more efficiently.

Throughout the year, there will be a strong emphasis on exam preparation leading up to PSLE. Students will work through topical revision with noteworthy past PSLE questions and comprehensive concept maps. Additionally, examination techniques such as error analysis and checking techniques will be reinforced.

#### Algebra

Mastering:

- simplifying algebraic expressions
- evaluating simple algebraic expressions by substitution
- word problems

#### Speed

Mastering:

- application of formula to find average speed given distance, time and / or speed
- word problems involving speed, average speed, 'meetup' and 'catch-up' concepts

#### Circles

Mastering:

- area and circumference of circles
- area and perimeter of composite figures involving parts of a circle

#### Area and Perimeter

- area and perimeter involving figures with folded parts
- area and perimeter involving overlapping figures
- area and perimeter of composite figures involving squares, rectangles, triangles, semicircles and quarter circles

#### Solid Figures

Mastering:

- nets of cubes, cuboids, prisms and pyramids
- identification of possible nets

#### Pie Charts

Mastering:

- reading and interpreting data from pie charts
- conversion of fractions and
  / or percentages in a pie chart
- word problems

#### Rates

Mastering:

- direct proportion
- inverse proportion
- interpreting rates graphically

#### Whole Numbers (Revision)

Mastering:

- number notation and place values
- rounding off numbers
- factors and multiples
- order of operations
- word problems

#### Fractions (Revision)

Mastering:

- four operations of mixed numbers and improper fractions
- word problems

#### Decimals (Revision)

Mastering:

- four operations of decimals
- word problems

#### Percentage (Revision)

Mastering:

- conversion between fractions, decimals and percentages
- expression of one quantity as a percentage of another
- finding percentage increase or decrease
- word problems involving percentage, discount, tax and interest

#### Ratio (Revision)

- ratio of two or more quantities
- equivalent ratios
- word problems

#### Average (Revision)

Mastering:

- average of given data set
- finding unknown quantity given average
- change in average

#### Number Patterns (Revision)

Mastering:

- linear patterns
- triangular patterns
- square patterns
- inference from diagrams

#### Geometry (Revision)

Mastering:

- vertically-opposite angles, interior angles, corresponding angles and alternate angle
- angle properties of triangles
- angle properties of quadrilaterals (including trapeziums, parallelograms, rectangles, rhombuses, squares and kites)
- geometrical construction of triangles and four-sided figures

#### Volume and Surface Area (Revision)

- volume of cubes (including stacked cubes) and cuboids
- surface area of cubes (including stacked cubes) and cuboids
- word problems involving fitting of cubes, rates of inflow / outflow of liquid, conjoined tanks and submerged objects in a tank



#### Key features of our Primary 5 and 6 Maths programmes

#### **Applied Learning**

 Exposure to questions in real-world context to equip students with the skills to handle the higher-order thinking/non-routine questions in the PSLE

### Analysis and Strategy: Show What You Know



### Answering Technique: Present What You Know







#### Exam Excellence

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



### Science

In Primary 5 and Primary 6, the focus shifts to the integration of knowledge with performance skills for PSLE success.

Our curriculum is designed to expose students to new topics in an engaging manner while placing emphasis on how concepts apply to the world around them. Comprehensive topical notes and a wide range of practice questions equip students with a firm knowledge foundation.

Beyond developing a good grasp of concepts, our programme helps students to hone question analysis skills which are key to the understanding of experiment-based and application-based questions. Consistent practice of structured answering techniques allows students to craft comprehensive answers confidently while avoiding common pitfalls.



### Primary 5 Curriculum

In Primary 5, students will be introduced to new topics such as Electrical System, Air and Living Things, Reproduction in Plants, and Water and Changes of State. They will explore the properties of series and parallel circuits, investigate the effects of exercising on heart rate, observe the reproductive structures in a flower, and witness evaporation and condensation in action through engaging experiments, hands-on activities, in-class demonstrations and interactive games.

Students will learn to integrate knowledge from different scientific concepts and relate them to unfamiliar or real-life contexts. They will also gain more exposure to questions involving data analysis and experimental analysis, and be closely guided on the use of appropriate scientific keywords to construct answers in specific contexts of different openended/free response questions.

Additionally, students will revise topics covered in Primary 3 and 4 at greater depth, and learn how to apply the concepts to questions which require higher-order thinking.

#### Systems

#### Air and Living Things

### Transport System and Gaseous Exchange in Plants

- Parts and functions of plant transport system
- Effects of removing foodcarrying tubes and/or watercarrying tubes in stem
- Function of stomata
- Distribution of stomata on surface of leaf
- Change in size of stoma during day and night

#### **Respiratory System**

- Parts and functions of respiratory system
- Inhalation and exhalation
- Effects of exercising on breathing rate
- Human respiratory system and fish respiratory system

#### **Circulatory System**

- Parts and functions of circulatory system
- Flow of blood through the heart
- Effects of exercising on heart rate
- Human circulatory system
  and fish circulatory system

#### Cells\*

- Parts and functions of plant and animal cells
- Different types of cells
- Unicellular organisms

#### **Electrical System**

- Electric circuits
- Circuit card
- Electrical conductors and insulators
- Arrangement of electrical components
- Electromagnets
- Safety precautions
- Conservation of electricity

\*Topic will be removed starting from 2023 P3 cohort

#### Cycles

#### Water and Changes of State

- Changes of state
- Melting
- Boiling
- Evaporation
- Freezing
- Condensation
- Water cycle

#### Water Uses and Conservation

- Methods of water conservation
- Types of water pollution

#### Reproduction and Heredity

- Parts and functions of human female reproductive system
- Parts and functions of human male reproductive system
- Fertilisation
- Heredity
- Family tree

#### **Reproduction in Plants**

- Parts and functions of a flower
- Pollination
- Fertilisation
- Seed dispersal

### Primary 6 Curriculum

In Primary 6, students will learn new topics such as Forces, Sources and Forms of Energy, and Adaptations, and practise applying critical answering techniques to provide complete answers. To prepare for the PSLE, students go through rigorous topical revision covering all topics from Primary 3 to Primary 6.

During this crucial exam year, students will hone their exam techniques with multiple mock examinations that allow them to receive feedback and gain a firm understanding of exam requirements.

#### Energy

#### Sources and Forms of Energy

- Sources of energy
- Forms of energy
- Energy conversion
  and transfer

#### Energy and the Sun

- Process of photosynthesis
- Factors affecting photosynthesis

#### Interactions

#### Forces

- Types of forces
- Effects of forces

#### Environment

- Non-living factors of the environment
- Living factors of the environment
- Organisation in an environment
- Habitats and their communities

#### **Environmental Interactions**

- Food chains and food webs
- Transfer of energy in a food chain

- Effect of changes in
  population size on a food web
- Relationships between organisms in a food web
- Decomposition

#### Adapting to the Environment

- Adaptations for surviving in extreme environments
- Adaptations for obtaining food
- Adaptations for avoiding predators

#### People and the Environment

- Depletion of natural resources
- Pollution
- Deforestation, soil erosion and greenhouse effect

#### Revision of P3 to P5 Topics

- Diversity
- Life Cycles of Animals
- Life Cycles of Plants
- Matter
- Magnets
- Human Body Systems
- Plant System

- Light
- Heat
- Air and Living Things
- Cells
- Electrical System
- Water and Changes of State
- Reproduction and Heredity
- Reproduction in Plants



and how they relate to concepts learnt in school

### Analysis and Strategy: Show What You Know



- Question analysis handouts demonstrate the application of a three-step methodical approach to aid in understanding of questions:
  - Highlight clues in the question that help identify the topic(s) and concept(s) tested
  - Identify the command words/restrictors and determine if any comparisons are needed
  - Analyse and annotate on any diagrams/tables/ graphs provided and pick out relevant information to be included in the answer

#### Memory Techniques

 Fun mnemonics are introduced to facilitate easy recall of scientific concepts and keywords required in answers for commonly tested open-ended/free response guestions



#### **Problem-Solving Strategies**

- Questions that highlight concepts in action in various real-life scenarios build flexibility in applying concepts to unfamiliar situations
- Experiment-focused handouts stimulate critical thinking about how to design a fair experiment to achieve an aim

### Answering Technique: Present What You Know



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