



THE LAB

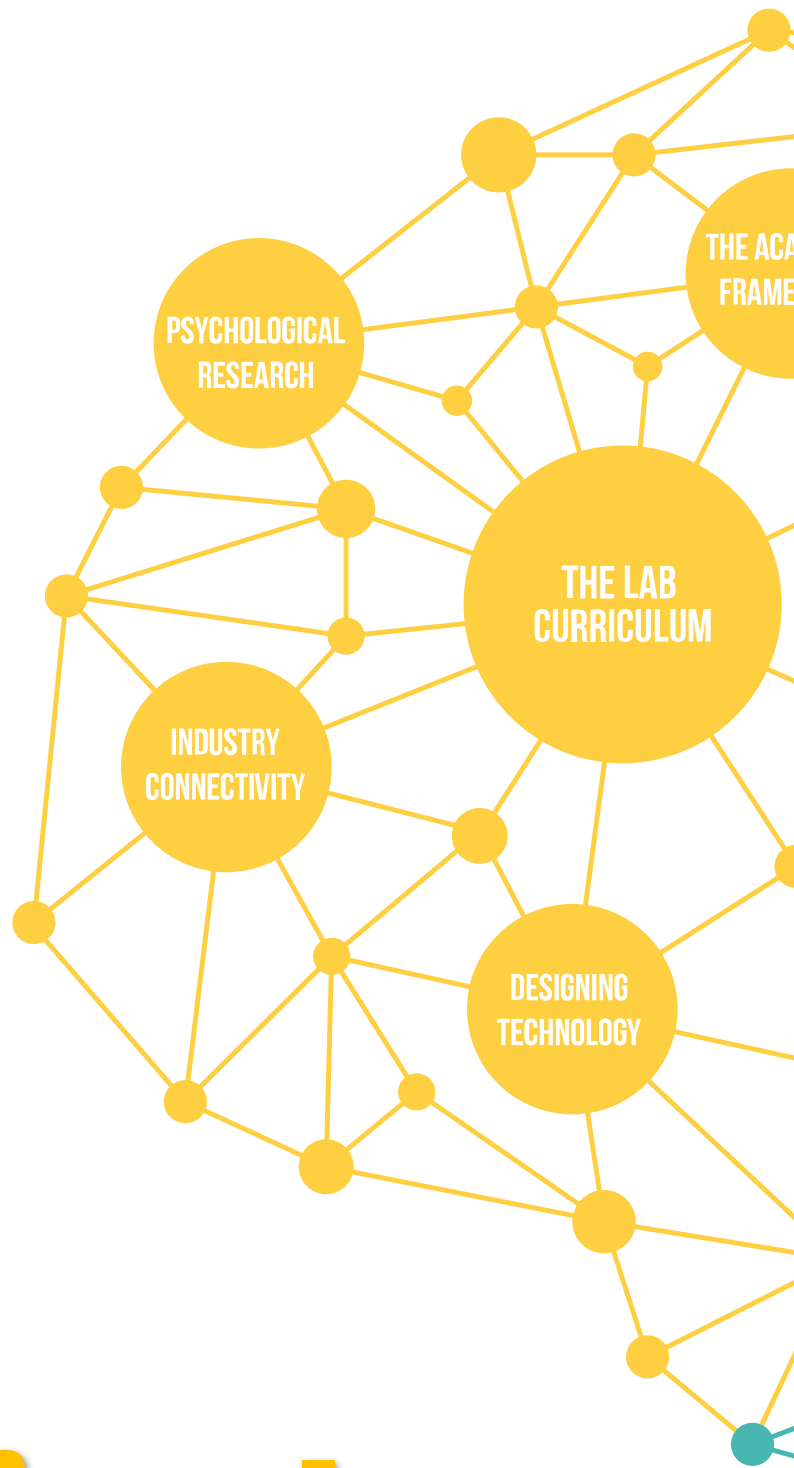
LEARNING WITHOUT BOUNDARIES

# THE LAB KINDER

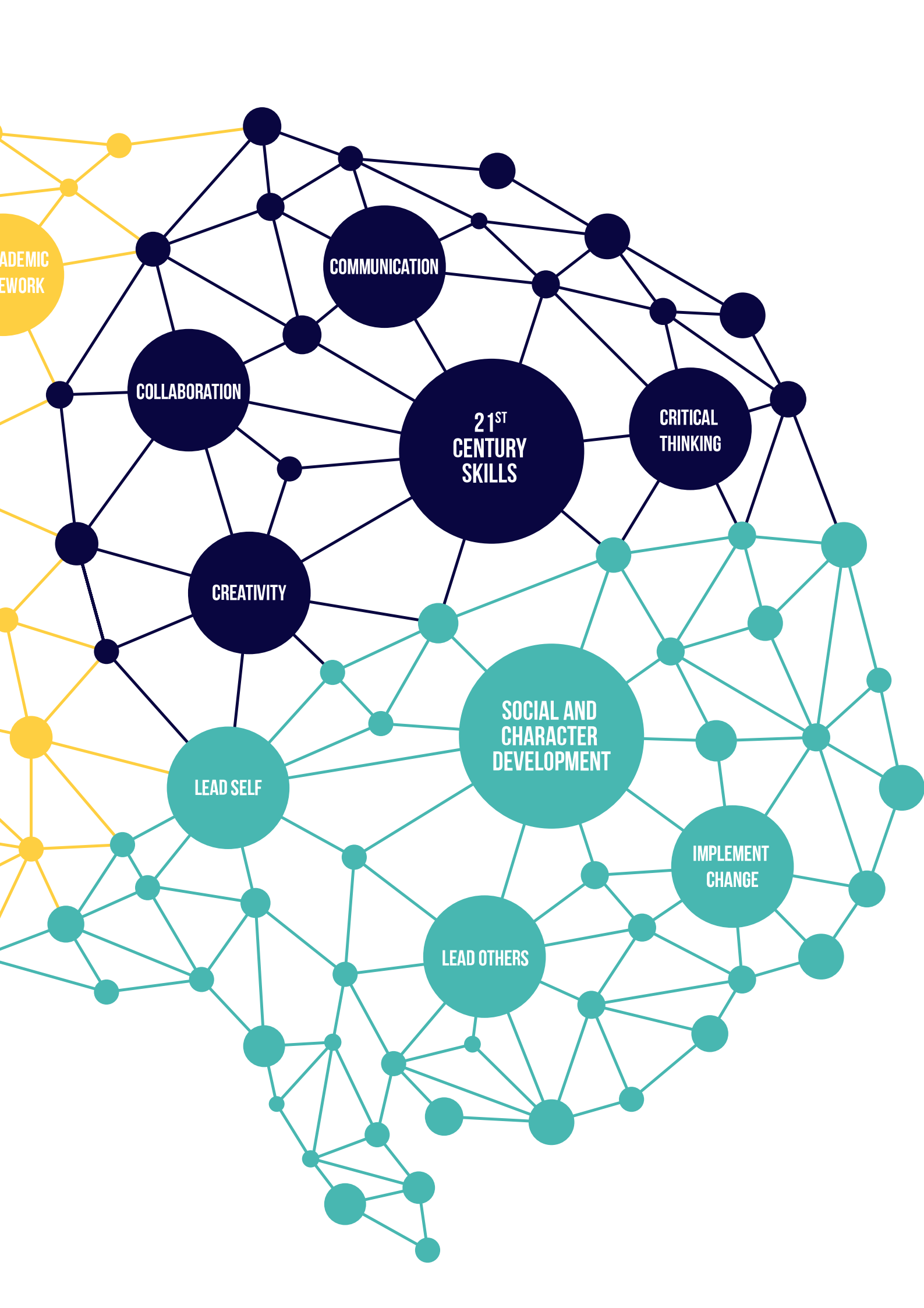
Early Childhood is a wonderful time to spark a kid's interest in Coding, Robotics, Engineering. Young children are curious about the world around them, and today that would include technology.

But how best to promote positive, creative and educational engagement with technology?

We got the answer for you.



# Curriculum



ACADEMIC NETWORK

COMMUNICATION

COLLABORATION

21<sup>ST</sup> CENTURY SKILLS

CRITICAL THINKING

CREATIVITY

SOCIAL AND CHARACTER DEVELOPMENT

LEAD SELF

IMPLEMENT CHANGE

LEAD OTHERS

# Senior Team

**Dr. Oka Kurniawan**  
**The Lab Curriculum Specialist**

Dr. Oka is a Senior Lecturer for Singapore University of Technology and Design. His research areas include Computer Science Education.



**Dr. Scarlett Mattoli**  
**Child Psychologist Specialist**

Dr. Scarlett is a Psychotherapist/Counsellor, Coaching Psychologist & Supervisor and Psychometrist, specialising in psychological and therapeutic support.

**Dr. Collin Ang**  
**Technology/Industry Specialist**

Dr. Collin is the Managing Director of Decision Science and is a thought leader in the industry for digital transformation and analytics.



# Students

Empowering  
through  
Computational  
Thinking



## For Ages 5 – 6

The curriculum is an introductory course to the world of technology and programming. The curriculum promotes Computational Thinking (Programming) and Engineering Design Process (Building) through play. It stresses cultivating the right habits in the use of technology to students at an early age.

The curriculum is also built upon the MOE Primary 1 Math syllabus, hence providing a sneak preview of your child's Primary 1 learning journey in a fun and interactive way.

**Classroom-based structure**

**Fuses Coding with multiple disciplines**

**One Year Program  
4 terms of 10 weekly lessons**

**Ratio 1:4**

# PROGRAM OUTLINE

## TERM 1

Week	Topic	Math/Science Concept	Tech/Eng Concept
1	Introduction to Robots and Coding	Components of a robot	LEGO Build and Code: Tricycle
2	Electric Circuits and Electrical Conductivity	Electric Circuit Identification and Classification of objects with and without electrical conductivity	Manipulation of Snap Circuits Manipulation of LED Matrix through Coding
3	Numbers to 10 Programming: Events and Sequence	Numbers to 10	Event and Sequence Gyro Sensor Buzzer
4	Ordinal Numbers and Pattern Recognition	Ordinal Numbers (Positions to 6 <sup>th</sup> ) Time Speed	Manipulation of Motors Pattern Recognition through Grouping
5	Math Operators Programming: Events and Sequence	Greater/Lesser Than Loudness (i.e. Frequency)	Event and Sequence
6	Moments	Moments – Clockwise and Anti-clockwise	LEGO Build and Code: Fishing Rod
7	Motor Manipulation with Angles, Power and Speed	Angles Power Speed	Manipulation of Motors
8	Positive and Negative Numbers	Subtraction within 10 and Negative numbers	LEGO Build and Code: A Crocodile Jaw
9	Additions to 10 and Sequence	Numbers and Additions to 10	Sequence Manipulation of Motors LEGO Build and Code: Terminator
10	<b>Final Project</b>		



# PROGRAM OUTLINE

## TERM 2

Week	Topic	Math/Science Concept	Tech/Eng Concept
1	Animations	X Y axis	LCD Screen
2	Fractions Programming: Events and Random	Fractions and The Value of Money	Manipulation of Motors Events and Random
3	Sequence (Movements)	Understanding of Angles in Geometry	Sequence Pattern Recognition
4	Subtraction within 10 Programming: Positive and negative	Numbers and Subtraction within 10 Positive and Negative Numbers	Manipulation of Motors
5	Additions and Subtraction within 10	Concept of Symmetry Mechanism of a Balancing Beam	Symmetrical structures with Strawbees
6	Sound Programming: Sequence with Sound, Motor and RGB Light	Concept of Sound	Sequence
7	Map Reading Sequence with movement and turns	Mapping 3D visualization	Sequence
8	Introduction to Gears	Gear Ratio Speed	LEGO Gears
9	Introduction to Drone	Map Visualization Aerodynamics of a Drone	Technology of a Drone
10	<b>Final Project</b>		

# PROGRAM OUTLINE

## TERM 3

Week	Topic	Math/Science Concept	Tech/Eng Concept
1	Components of an Electric Circuit	Electricity Circuitry	Electricity
2	Sequencing with Mindstorms Programming	Music	Sequence Lego Build and Code: Racing Car
3	Coding with X and Y in programming world	X and Y axis	Using of X and Y axis in Coding
4	Exploring sensors with Mindstorms	Binary Greater/Less Than	Touch sensor Ultrasonic sensor Lego Build and Code: Robot Cat
5	Gears and Sequence	Gearing	Sequence Lego Build and Code: Automatic Door
6	Sequencing with Mindstorms using Time	Concept of Time: Analog vs Digital	Sequence Time Lego Build and Code: Terminator
7	Mechanism of a Robot Hand	Mechanics of a Robotic hand	Lego Build and Code: Grabber
8	Infrared sensor with Codey Rocky	Infrared sensor Infrared vs Ultrasonic Proximity	Infrared sensor
9	Math Operators with Ultrasonic sensor	Math Operators	Ultrasonic Sensor Lego Build and Code: Robot Cat
10	<b>Final Project</b>		

# PROGRAM OUTLINE

## TERM 4

Week	Topic	Math/Science Concept	Tech/Eng Concept
1	Sequencing with Mindstorms using Speed	Speed	Sequence
2	3D Printing with X, Y and Z axis	Graphs (X, Y and Z Axis)	Technology of 3D printing
3	Learning aerodynamics with Mindstorms	X and Y axis	Touch sensor Lego Build and Code: Flying Bird
4	Introduction to Augmented Reality	Directions	Technology of Augmented Reality
5	Remote Controlled Devices		Infra-red Bluetooth Wifi
6	Concept of Light	Concept of Light Reflection/Refraction Light Intensity/luminosity	Colour sensor Lego Build and Code: Light sensor robot
7	Loop and AND/OR operator with Codey Rocky	Logic and Pattern Recognition	AND/OR Operator Loop
8	Sound and Colour with Mindstorms	Sound Colour	Colour Sensor Touch Sensor Lego Build and Code: Camera
9	Introduction to Virtual Reality		Technology of Virtual Reality
10	<b>Final Project</b>		



# Membership Fees

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## Exclusive Access

**Elective Workshops at members' prices**

**Merchandise at members' prices**

<b>10 Classes</b>	<b>\$600 (\$60/class)</b>
<b>40 Classes</b>	<b>\$2,200 (\$55/class)</b>

**\*\* Registration fee is \$80 per student.**



# CONTACT US

## **For General Enquiries:**

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