Po Leung Kuk Lam Man Chan English Primary School

優質教育基金計劃成果推廣－主題網絡計劃 總結分享會(2024/25)

2025年6月30日

Content

LMC a School of Love and Care

PLK LMC a School of Love and Care

01

School's Introduction

學校簡介

Our School- History

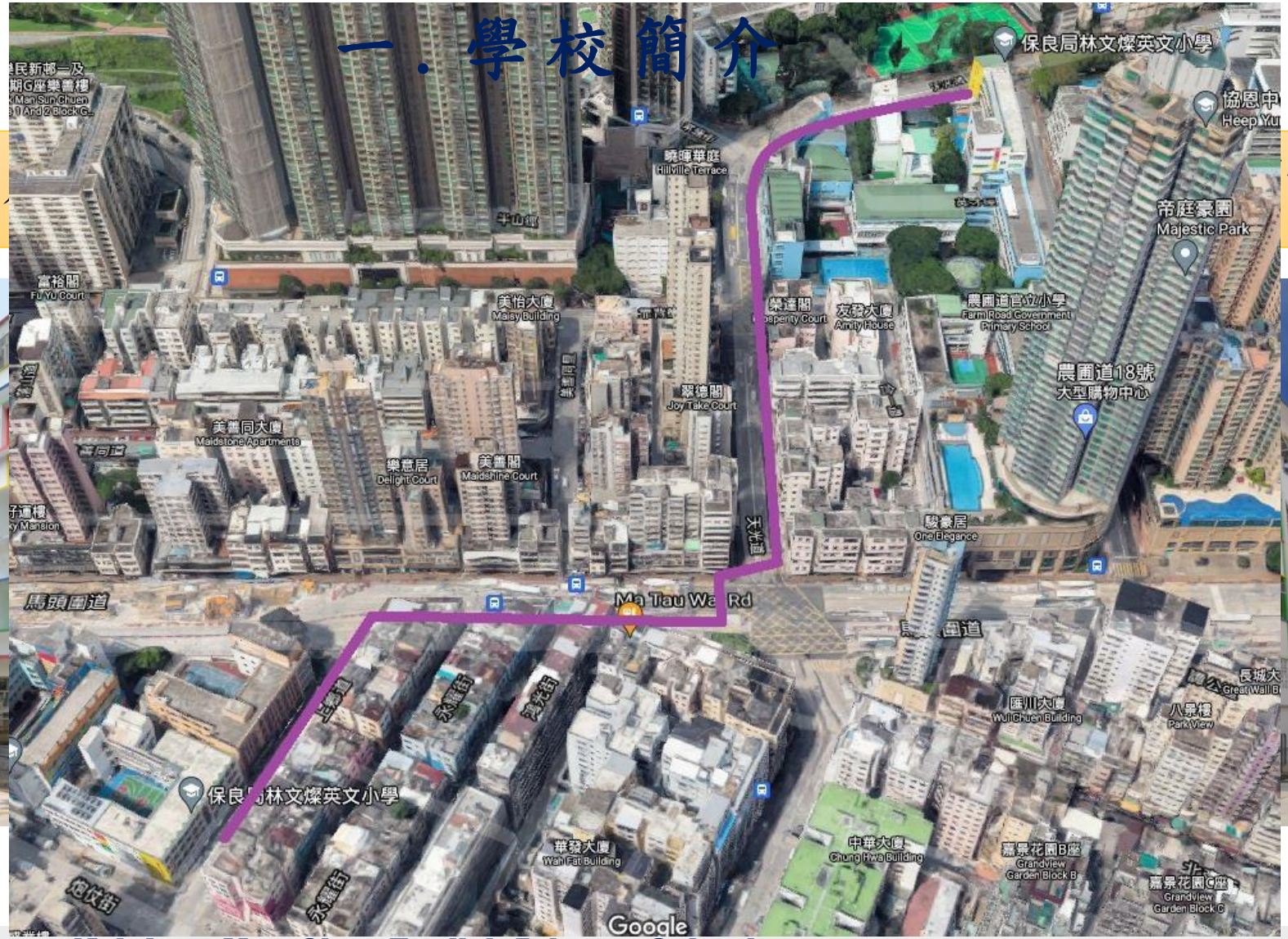
LMC a School of Love and Care ♥

Our School-Campuses

LMC a School of Love and Care ♥

一. 學校簡介

➢兩間校舍：



Our School- School mottos

LMC a School of Love and Care ♥

- **School motto:**
  Love, Respect, Diligence and Integrity
  and guided with PLK Spirit

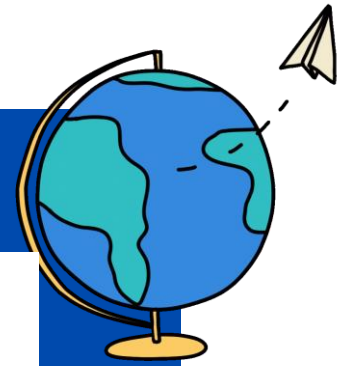
愛，敬，勤，誠

- **School Slogan:**
  Stand as ONE,
  Make a Difference,
  One Team One Mind,
  We Care We Respect

保良精神	The Kuk's Spirit
相互尊重	Mutual Respect
團結合力	United Effort
延展愛心	Benevolence
行善助人	Charitable
感恩知德	Gratefulness and Recognition
造福社群的奉獻精神	Dedication to Serving the Community

Our School- Nationalities

LMC a School of Love and Care



Po Leung Kuk Lam Man Chan English Primay School
2024-2025 Nationalities (All LMCites)

1	Chinese	中國	713	79.84%
2	American	美國	8	0.90%
3	Australian	澳洲	7	0.78%
4	Bangladeshi	孟加拉	1	0.11%
5	Brazilian	巴西	2	0.22%
6	British	英國	14	1.57%
7	Canadian	加拿大	12	1.34%
8	Danish	丹麥	1	0.11%
9	Egyptian	埃及	3	0.34%
10	Filipino	菲律賓	7	0.78%
11	French	法國	3	0.34%
12	Georgian	格魯吉亞	1	0.11%
13	German	德國	1	0.11%
14	Indian	印度	62	6.94%
15	Indonesian	印尼	1	0.11%
16	Irishman	愛爾蘭	1	0.11%
17	Japanese	日本	16	1.79%
18	Korean	韓國	12	1.34%
19	Malaysian	馬來西亞	2	0.22%
20	Nepalese	尼泊爾	11	1.23%
21	New Zealander	紐西蘭	1	0.11%
22	Norwegian	挪威	1	0.11%
23	Pakistani	巴基斯坦	4	0.45%
24	Portuguese	葡萄牙	1	0.11%
25	Russian	俄羅斯	4	0.45%
26	Singaporean	新加坡	1	0.11%
27	Sri Lankan	斯里蘭卡	3	0.34%
		Total	893	100%

Po Leung Kuk Lam Man Chan English Primary School
2024-2025 Nationalities (All Lmcites)

Asia 亞洲 (12)		Europe 歐洲 (9)		Oceania 大洋洲 (2)		America 美洲 (3)		Africa 非洲 (1)	
Chinese 中國	713	British 英國	14	Australian 澳洲籍	7	American 美國	8	Egyptian 埃及	3
Bangladeshi 孟加拉	1	Danish 丹麥	1	New Zealander 紐西蘭	1	Brazilian 巴西	2	Total	3
Filipino菲律賓	7	French 法國	3	Total	8	Canadian 加拿大	12		0.34%
Indian 印度	62	Georgian 格魯吉亞	1		0.90%	Total	22		
Indonesian 印尼	1	German 德國	1				2.46%		
Japanese 日本	16	Irishman 愛爾蘭	1						
Korean 韓國	12	Norwegian 挪威	1						
Malaysian 馬來西亞	2	Portuguese 葡萄牙	1						
Nepalese 尼泊爾	11	Russian 俄羅斯	4						
Pakistani 巴基斯坦	4	Total	27						
Singaporean 新加坡	1		3.02%						
Sri Lankan 斯里蘭卡	3								
Total	833								
	93.28%								

Our School-Houses

LMC a School of Love and Care ♥

4 Houses

Phoenix PLK LMCites
Leopard PLK LMCites
Kraken PLK LMCites
Unicorn PLK LMCites

We call ourselves LMCites.

- Build up the sense of belongings
- Friday is our House Tee Day

Our School- Core Values

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Knowledge	Skills	Attitude
Language & Curriculum		Morals & Control

+ Innovative approaches to **National Security**, **National Conditions**, and **Values Education**

Major Concerns

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National Security Education

1. **Fully implement education on national security and civic education, and strive to cultivate a positive set of values in students.**

20 Major Fields of National Security

1. **Fully implement education on national security and civic education, and strive to cultivate a positive set of values in students.**

The 12 Priority Values and Attitudes

Love 愛	Respect 敬	Diligence 勤	Integrity 誠
Benevolence 仁愛	Respect for Others 尊重他人	Diligence 勤勞	Integrity 誠信
Filial Piety 孝親	Unity 團結	Perseverance 堅毅	Law-abidingness 守法
Empathy 同理心	National Identity 國民身份認同	Responsibility 責任感	Commitment 承擔精神

Major Concerns

2. Pay attention to the physical and mental health quality of students and create a “Positive, Healthy and Energetic” campus.

"Positive, Healthy, and Energetic" campus

「正向健康活力」校園

1

Physical Health 身體健康

Provide a variety of sports activities and
health education to help students develop good lifestyle habits.

2

Mental Health 心理健康

Establish psychological counseling services
to help students cope with academic and life pressures.

3

Social Health 社交健康

Organize various social activities
to cultivate students’ interpersonal skills and team spirit.

4

Diversified Development 全面發展

Through comprehensive attention,
nurture students to become physically and mentally healthy, and vibrant individuals.

PLK LMC a School of Love and Care

02

教育局優質教育基金主題網絡計劃 2024/25

ATS (人工智能 x 科技x STEAM)教育

Aim of the Program 參加計劃的目標

- Further enhance students' basic abilities in the field of A.I.
  進一步提升學生在A.I.領域的基本能力
- Cultivate students' scientific and technological thinking, as well as their creativity and problem-solving skills.
  培養學生的科學和科技思維，以及創造力和解決問題的能力
- Strengthen teachers' professional development in artificial intelligence.加強教師於人工智能方面的專業發展

LMC a School of Love and Care ♥

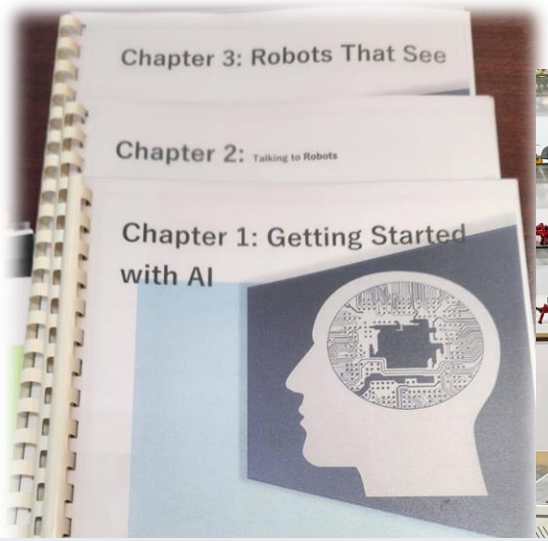
教育局優質教育基金主題網絡計劃 2024/25
ATS (人工智能 x 科技x STEAM)教育

+

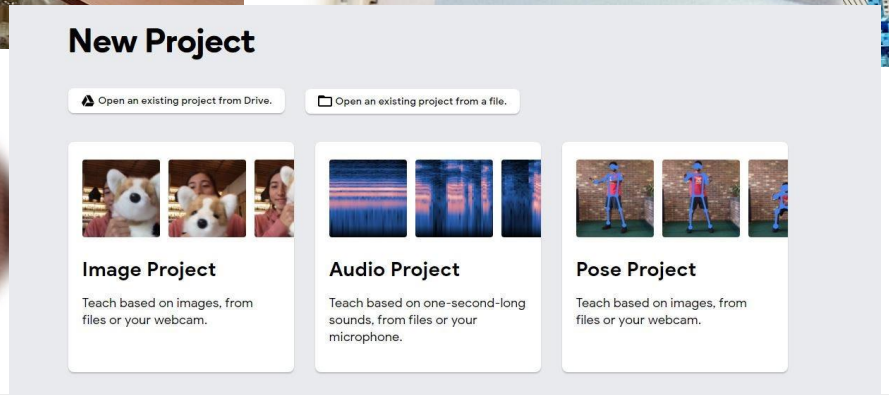
Major Concerns
學校關注事項

QTN – Teaching AI using Teachable Machine

- It's our honour to join the QTN programme led by Aberdeen Technical School



統籌學校：香港仔工業學校



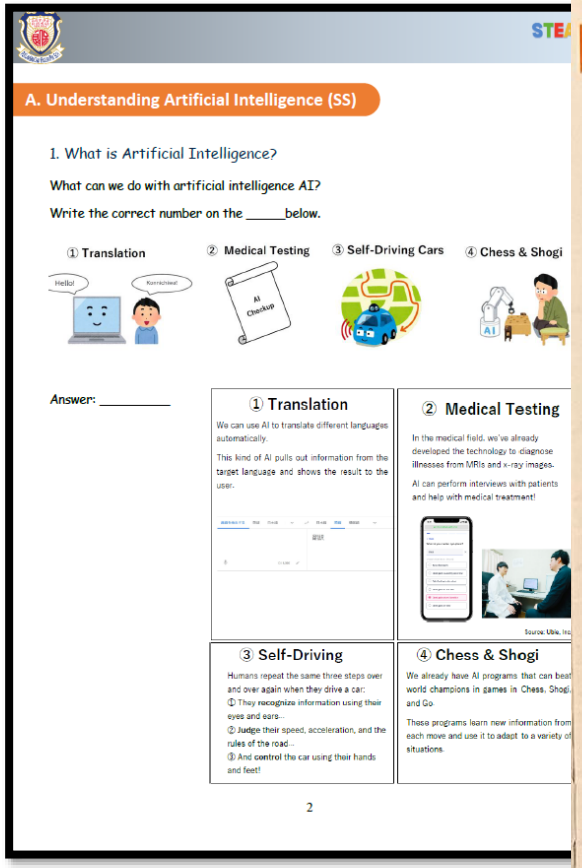
QTN - Teacher workshops

LMC a School of Love and Care

03

STEAM

P.6 Smart Gate (AI)
Face recognition



A. Understanding Artificial Intelligence (SS)

1. What is Artificial Intelligence?

What can we do with artificial intelligence AI?

Write the correct number on the _____below.

① Translation ② Medical Testing ③ Self-Driving Cars ④ Chess & Shogi

Answer: _____

① Translation

We can use AI to translate different languages automatically.

This kind of AI pulls out information from the target language and shows the result to the user.

② Medical Testing

In the medical field, we've already developed the technology to diagnose illnesses from MRIs and x-ray images.

AI can perform interviews with patients and help with medical treatment!

③ Self-Driving

Humans repeat the same three steps over and over again when they drive a car:

① They **recognize** information using their eyes and ears...

② **Judge** their speed, acceleration, and the rules of the road...

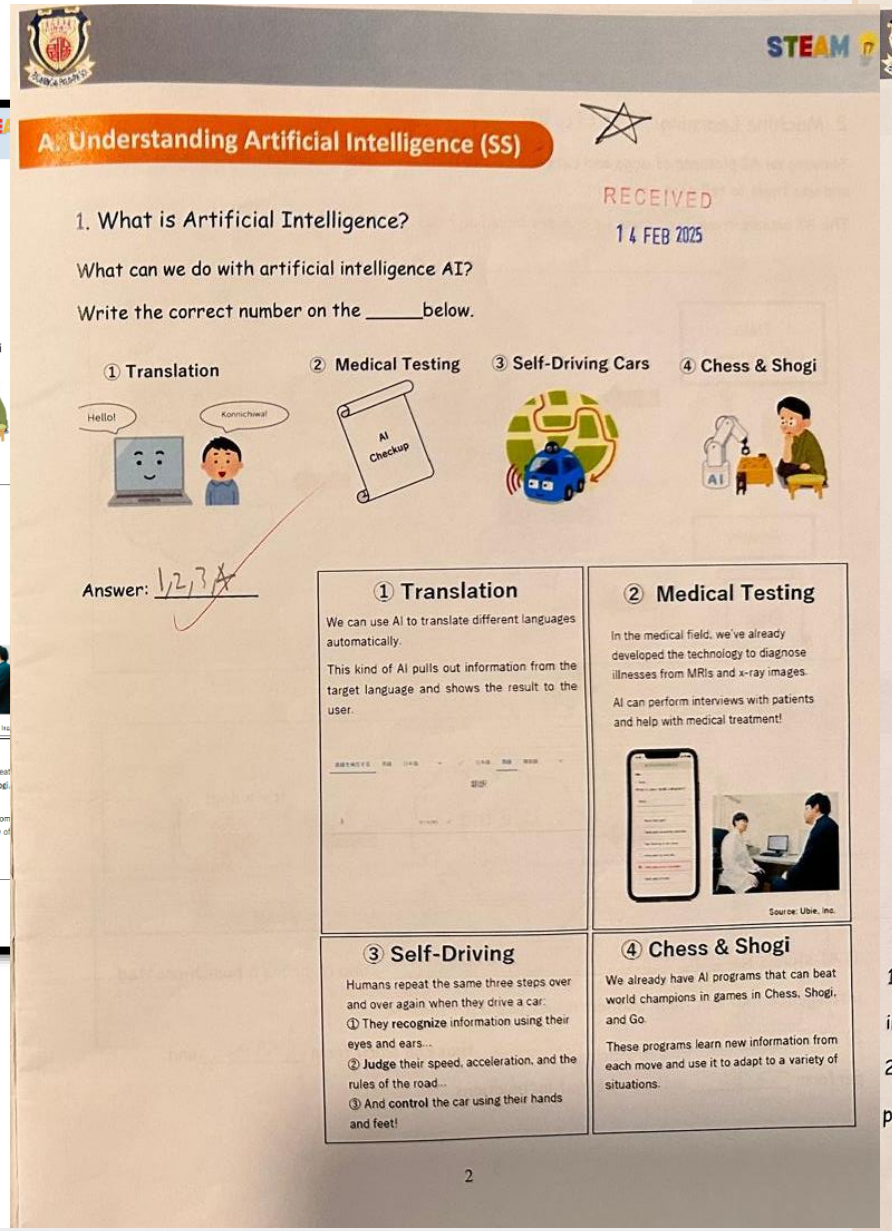
③ And **control** the car using their hands and feet!

④ Chess & Shogi

We already have AI programs that can beat world champions in games in Chess, Shogi, and Go.

These programs learn new information from each move and use it to adapt to a variety of situations.

2



STEAM

A. Understanding Artificial Intelligence (SS)

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1. What is Artificial Intelligence?

What can we do with artificial intelligence AI?

Write the correct number on the _____below.

① Translation ② Medical Testing ③ Self-Driving Cars ④ Chess & Shogi

Answer: 1,2,3,4

① Translation

We can use AI to translate different languages automatically.

This kind of AI pulls out information from the target language and shows the result to the user.

② Medical Testing

In the medical field, we've already developed the technology to diagnose illnesses from MRIs and x-ray images.

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Source: Ubie, Inc.

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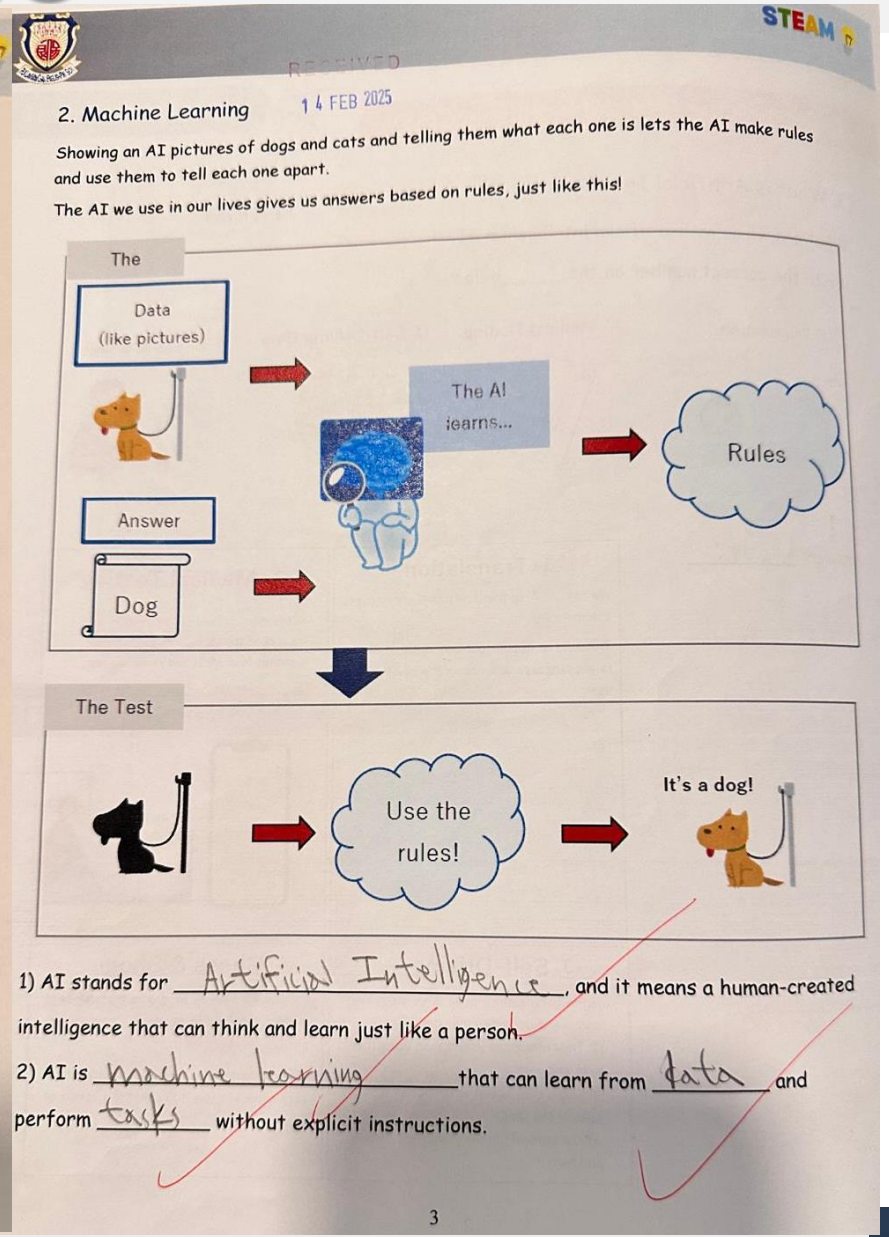
2



STEAM

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2. Machine Learning

Showing an AI pictures of dogs and cats and telling them what each one is lets the AI make rules and use them to tell each one apart.

The AI we use in our lives gives us answers based on rules, just like this!

The

Data (like pictures)

Answer

Dog

The AI learns...

Rules

The Test

Use the rules!

It's a dog!

1) AI stands for Artificial Intelligence, and it means a human-created intelligence that can think and learn just like a person.

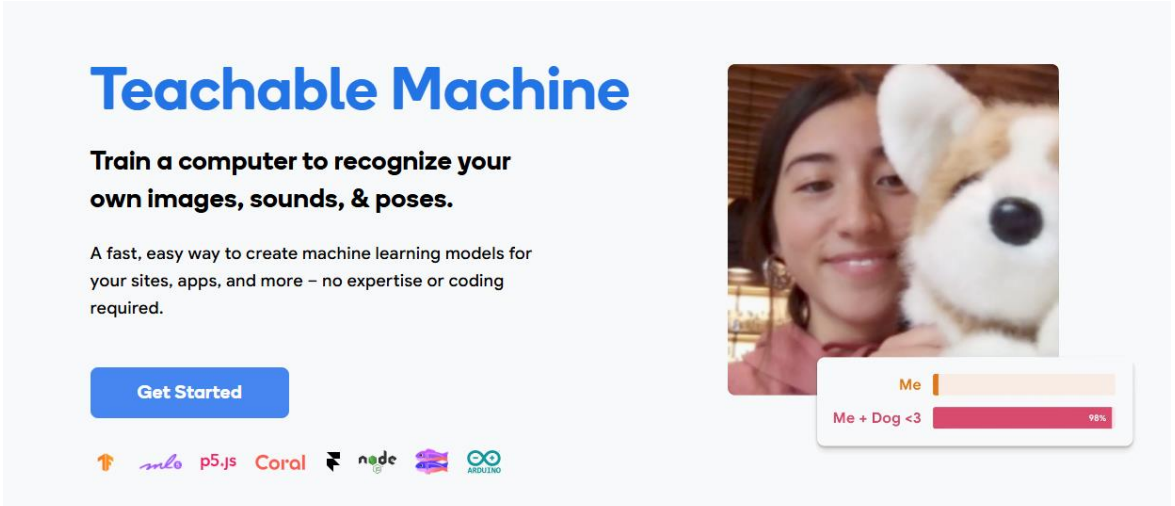
2) AI is machine learning that can learn from data and perform tasks without explicit instructions.

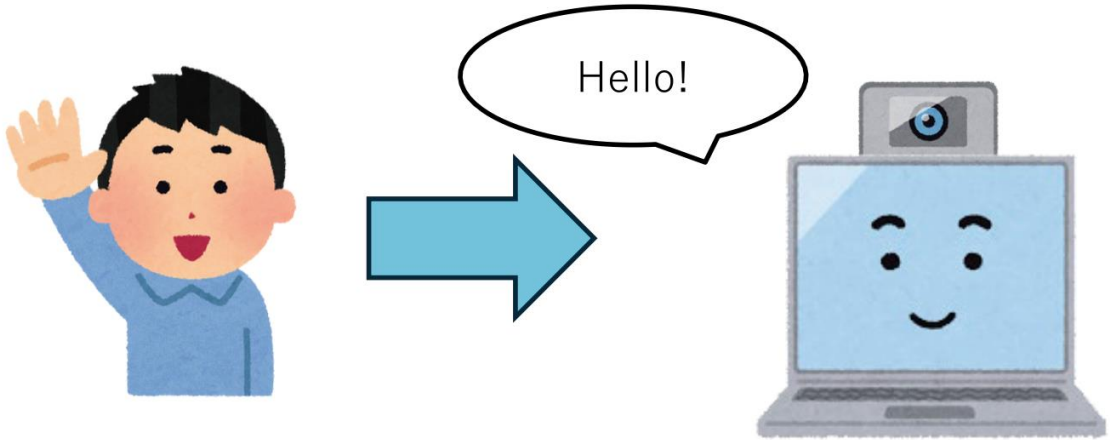
3

Technology: Machine learning (AI)

Teachable machine

Teachable Machine allows us to teach or train artificial intelligence to formulate rules or models .



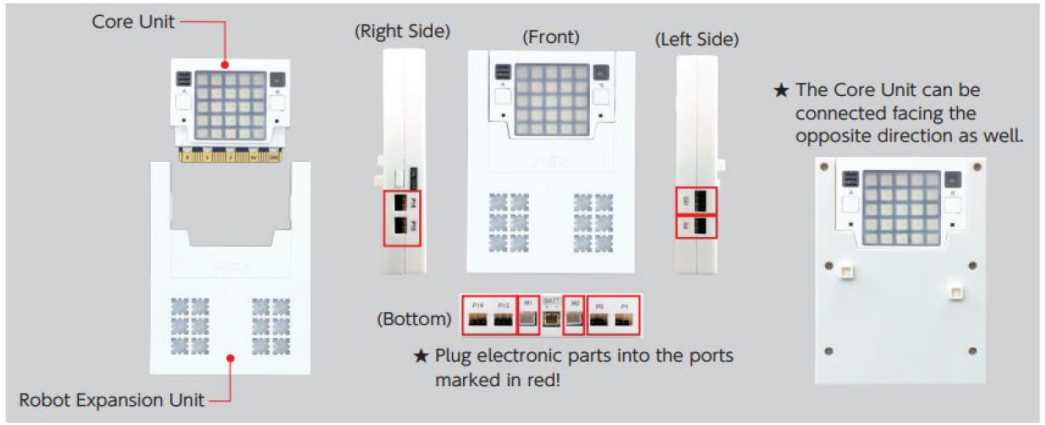


Hardware

Smart gate

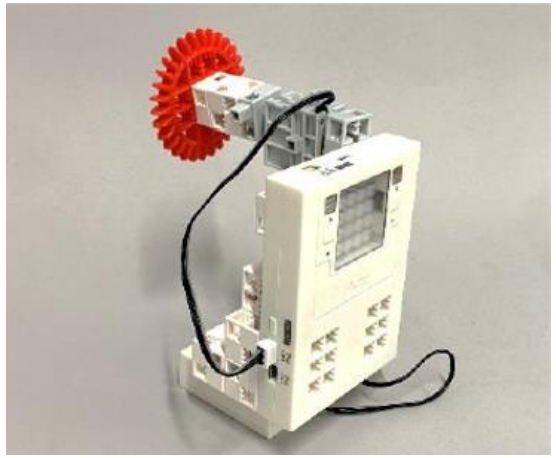
ArtecRobo 2.0

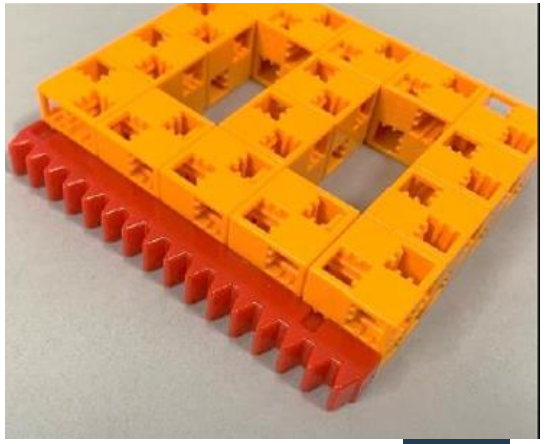
ArtecRobo 2.0 core unit which allows you to connect many different components to the expansion board



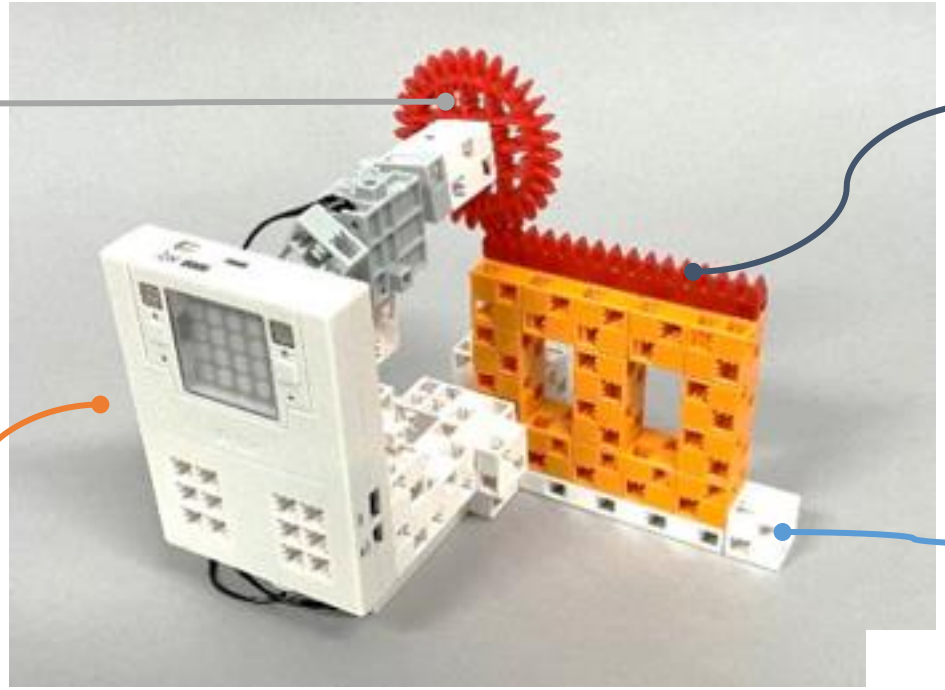
Servo motor

The servo motor can precisely control the rotation angle, and it can only rotate between 0 and 180 degrees.





Smart gate



Servo motor

The servo will perform **rotational movements**

Programme

Upload the programming of face detection

Smart gate

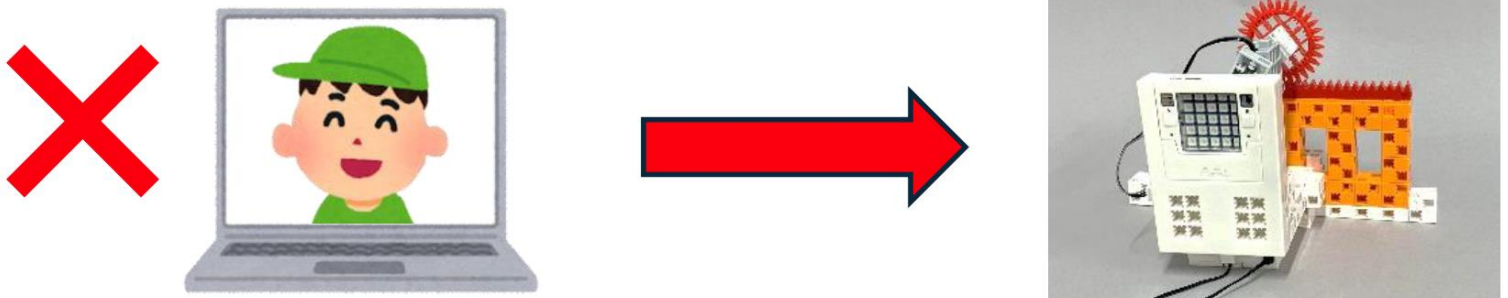
The door will close and open automatically

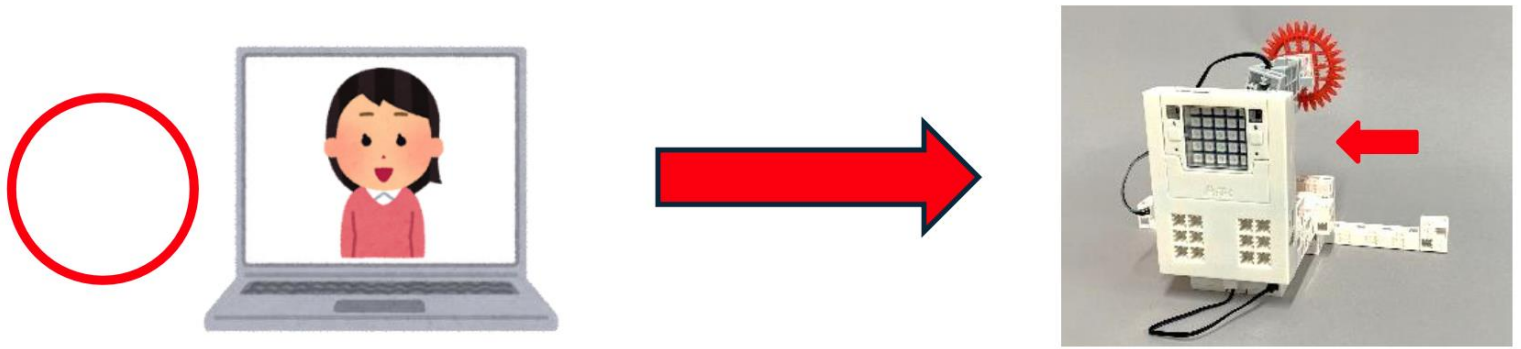
platform

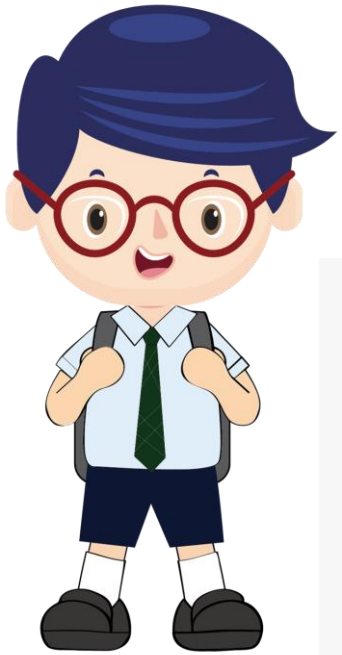
It maintains the smooth movement of the smart gate

Face recognition gate

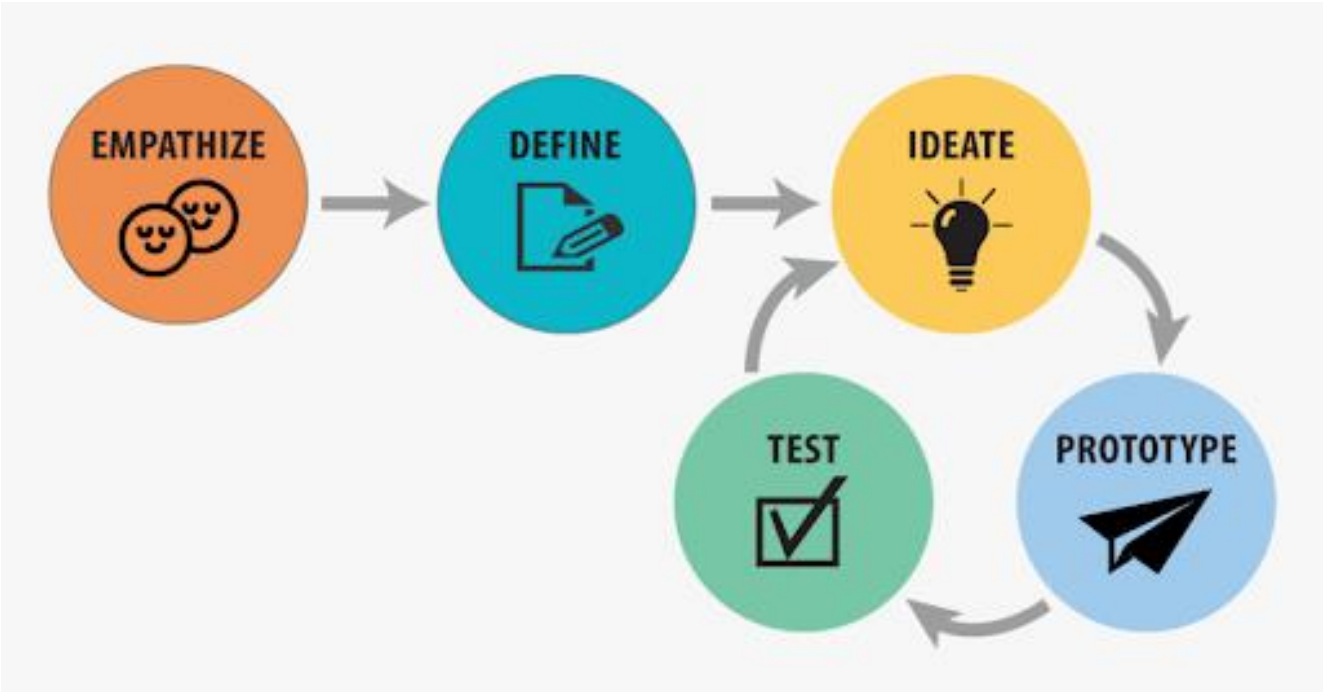
- The gate made in this lesson is as shown in the picture below. When the gate sees a stranger, it will not open the gate.
- On the contrary, when the owner is recognized, the gate is opened.

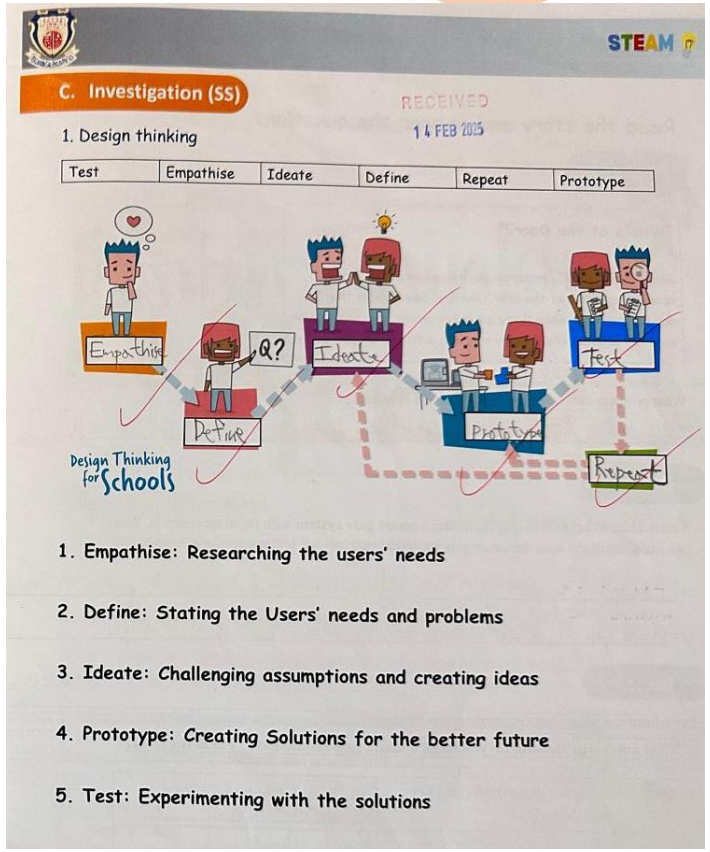






Design process: Design thinking





STEAM

C. Investigation (SS)

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1. Design thinking

Test	Empathise	Ideate	Define	Repeat	Prototype

Design Thinking for Schools

1. Empathise: Researching the users' needs
2. Define: Stating the Users' needs and problems
3. Ideate: Challenging assumptions and creating ideas
4. Prototype: Creating Solutions for the better future
5. Test: Experimenting with the solutions

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04

Cross-curricular Learning

跨學科學習:

STEAM x AI x Humanities

(人文科)

Practicing Values Education

實踐價值觀教育

STEAM :
Cross-curricular: Humanities

Starting from the 2024-25 academic year, our school will offer separate Science and Humanities subjects for P.1 to P.6.

Strands and Essential Learning Content for All Levels
(For details, please refer to the framework.)

Humanities
I. Health and Living
II. Environment and Living
III. Financial Management and Economy
IV. Community and Citizenship*
V. Our Country and Me*
VI. The World and Me

+

Science
1. Life and Environment
2. Matter, Energy and Changes
3. Earth and Space
4. Science, Technology, Engineering and Society*

STEAM :
Cross-curricular: Humanities

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P.6 Visit Visually Impaired People

Values Education

1. Workshop to learn the technique of leading the visually impaired people

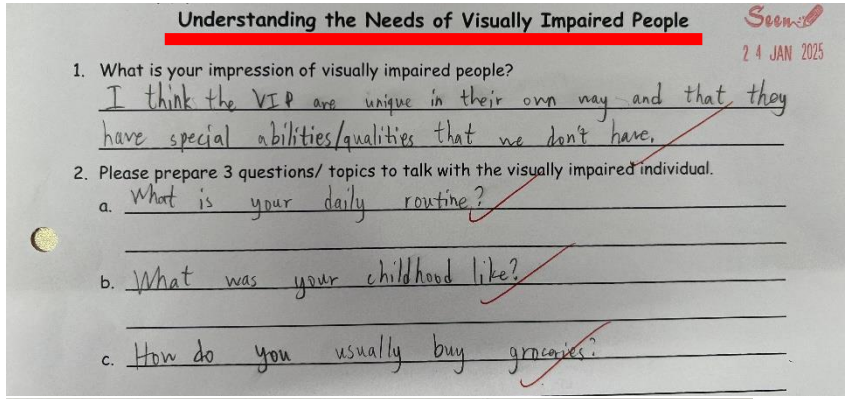
2. Do the preparation worksheet – to learn and understand more about the needs of the visually impaired people.

STEAM :
Cross-curricular: Humanities

LMC a School of Love and Care ♥

P.6 Visit Visually Impaired People

Values Education

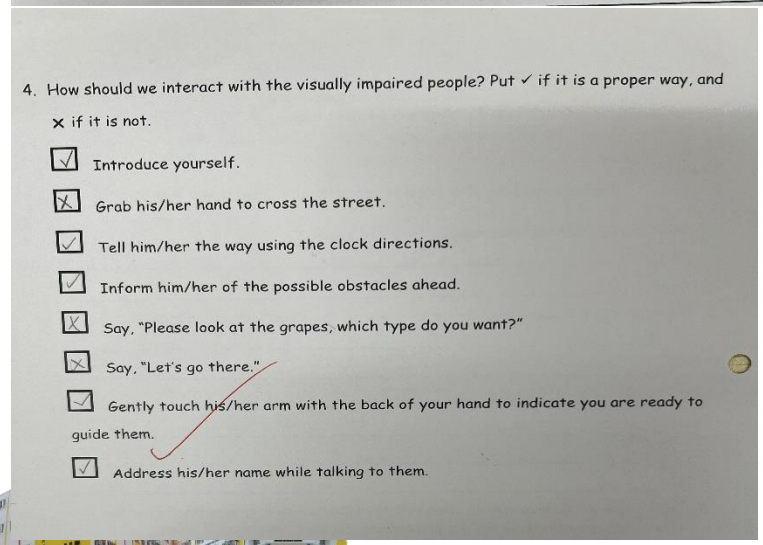


Understanding the Needs of Visually Impaired People

Seen

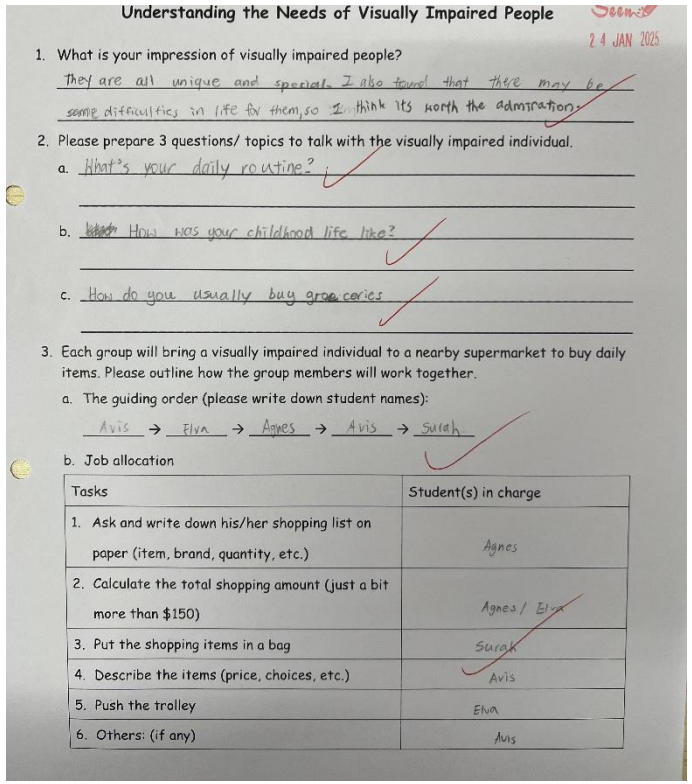
24 JAN 2025

1. What is your impression of visually impaired people?
I think the VIP are unique in their own way and that they have special abilities/qualities that we don't have.
2. Please prepare 3 questions/ topics to talk with the visually impaired individual.
a. What is your daily routine?
b. What was your childhood like?
c. How do you usually buy groceries?



4. How should we interact with the visually impaired people? Put ✓ if it is a proper way, and × if it is not.

- [✓] Introduce yourself.
- [×] Grab his/her hand to cross the street.
- [✓] Tell him/her the way using the clock directions.
- [✓] Inform him/her of the possible obstacles ahead.
- [×] Say, "Please look at the grapes, which type do you want?"
- [×] Say, "Let's go there."
- [✓] Gently touch his/her arm with the back of your hand to indicate you are ready to guide them.
- [✓] Address his/her name while talking to them.



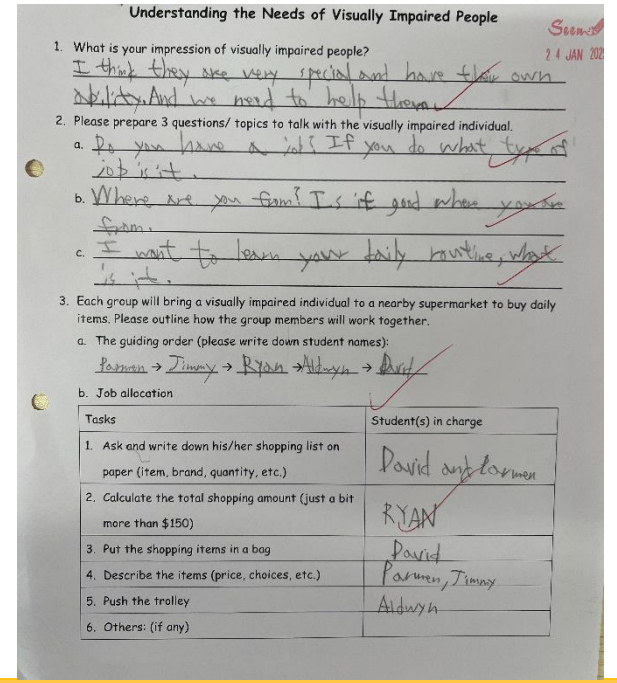
Understanding the Needs of Visually Impaired People

Seen

24 JAN 2025

1. What is your impression of visually impaired people?
They are all unique and special. I also found that there may be some difficulties in life for them, so I think its worth the admiration.
2. Please prepare 3 questions/ topics to talk with the visually impaired individual.
a. What's your daily routine?
b. How was your childhood life like?
c. How do you usually buy groceries
3. Each group will bring a visually impaired individual to a nearby supermarket to buy daily items. Please outline how the group members will work together.
a. The guiding order (please write down student names):
Avis → Elva → Agnes → Avis → Surah
b. Job allocation

Tasks	Student(s) in charge
1. Ask and write down his/her shopping list on paper (item, brand, quantity, etc.)	Agnes
2. Calculate the total shopping amount (just a bit more than $150)	Agnes / Elva
3. Put the shopping items in a bag	Surah
4. Describe the items (price, choices, etc.)	Avis
5. Push the trolley	Elva
6. Others: (if any)	Avis



Understanding the Needs of Visually Impaired People

Seen

24 JAN 2025

1. What is your impression of visually impaired people?
I think they are very special and have their own ability. And we need to help them.
2. Please prepare 3 questions/ topics to talk with the visually impaired individual.
a. Do you have a job? If you do what type of job is it.
b. Where are you from? Is it good when you are from.
c. I want to learn your daily routine, what is it.
3. Each group will bring a visually impaired individual to a nearby supermarket to buy daily items. Please outline how the group members will work together.
a. The guiding order (please write down student names):
Carmen → Jimmy → Ryan → Aldwyn → David
b. Job allocation

Tasks	Student(s) in charge
1. Ask and write down his/her shopping list on paper (item, brand, quantity, etc.)	David and Carmen
2. Calculate the total shopping amount (just a bit more than $150)	RYAN
3. Put the shopping items in a bag	David
4. Describe the items (price, choices, etc.)	Carmen, Jimmy
5. Push the trolley	Aldwyn
6. Others: (if any)	

2. Do the preparation worksheet – to learn and understand more about the needs of the visually impaired people.

STEAM :
Cross-curricular: Humanities

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P.6 Visit Visually Impaired People

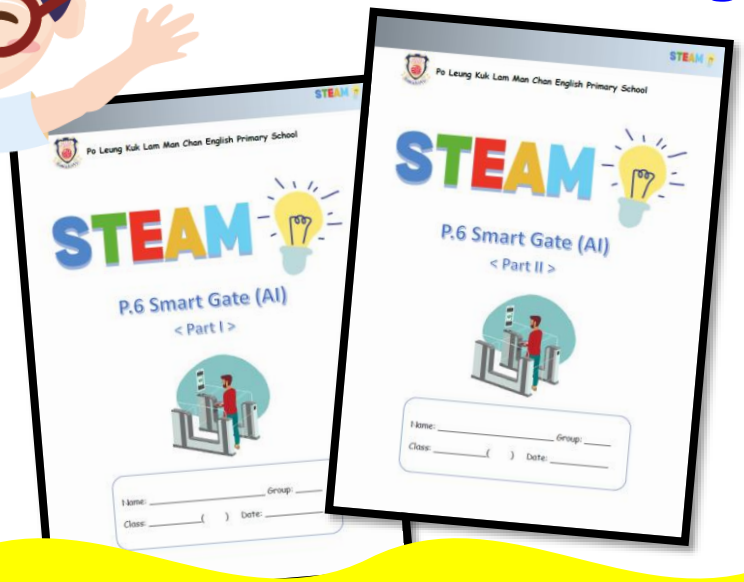
3. Meet with the VIP – interact with them

4. Understand the need of the VIP by interviewing them

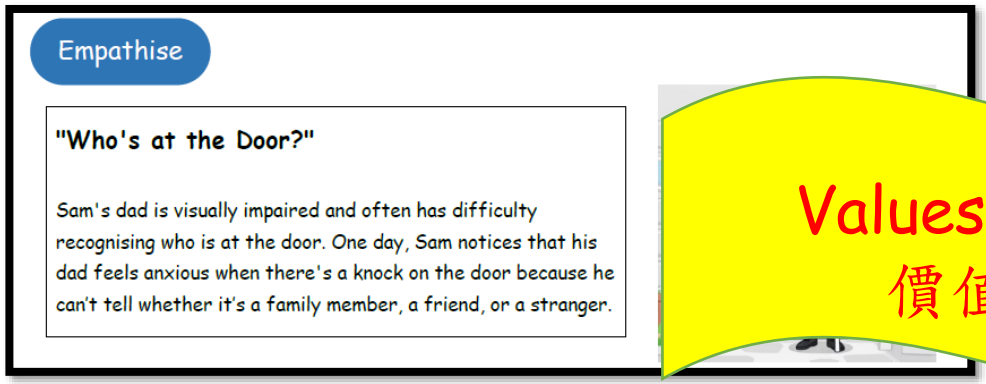
Values Education

5. Do reflection and sharing

Context: After meeting with and understanding **the needs of visually impaired individuals**, students empathize with the challenges they face in their daily lives.



Designed the smart gate to help the VIP to solve the problem



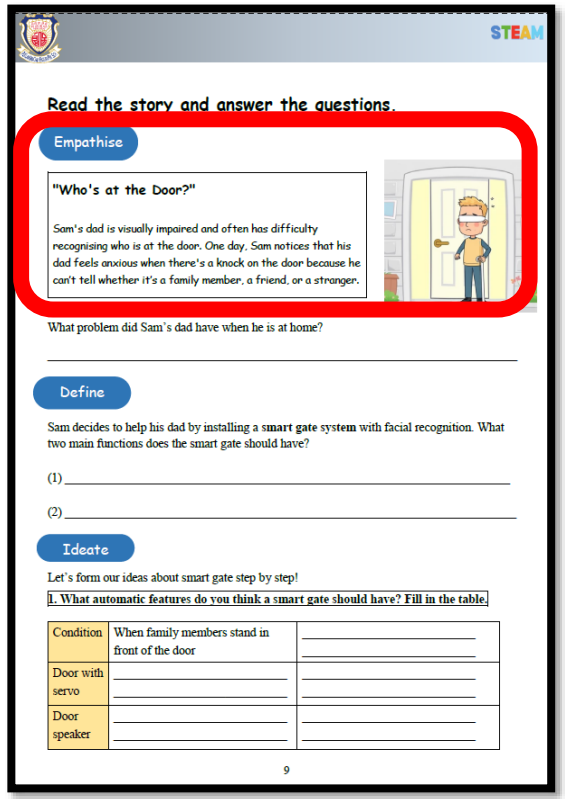
Values Education
價值觀教育

Values learnt through this cross-curricular STEAM project x Service Learning

- Empathy 同理心
- Respect for Others 尊重他人
- Perseverance 堅毅

STEAM : Science x AI

LMC a School of Love and Care ♥



STEAM

Read the story and answer the questions.

Empathise

"Who's at the Door?"

Sam's dad is visually impaired and often has difficulty recognising who is at the door. One day, Sam notices that his dad feels anxious when there's a knock on the door because he can't tell whether it's a family member, a friend, or a stranger.

What problem did Sam's dad have when he is at home?

Define

Sam decides to help his dad by installing a **smart gate system** with facial recognition. What two main functions does the smart gate should have?

(1) _____

(2) _____

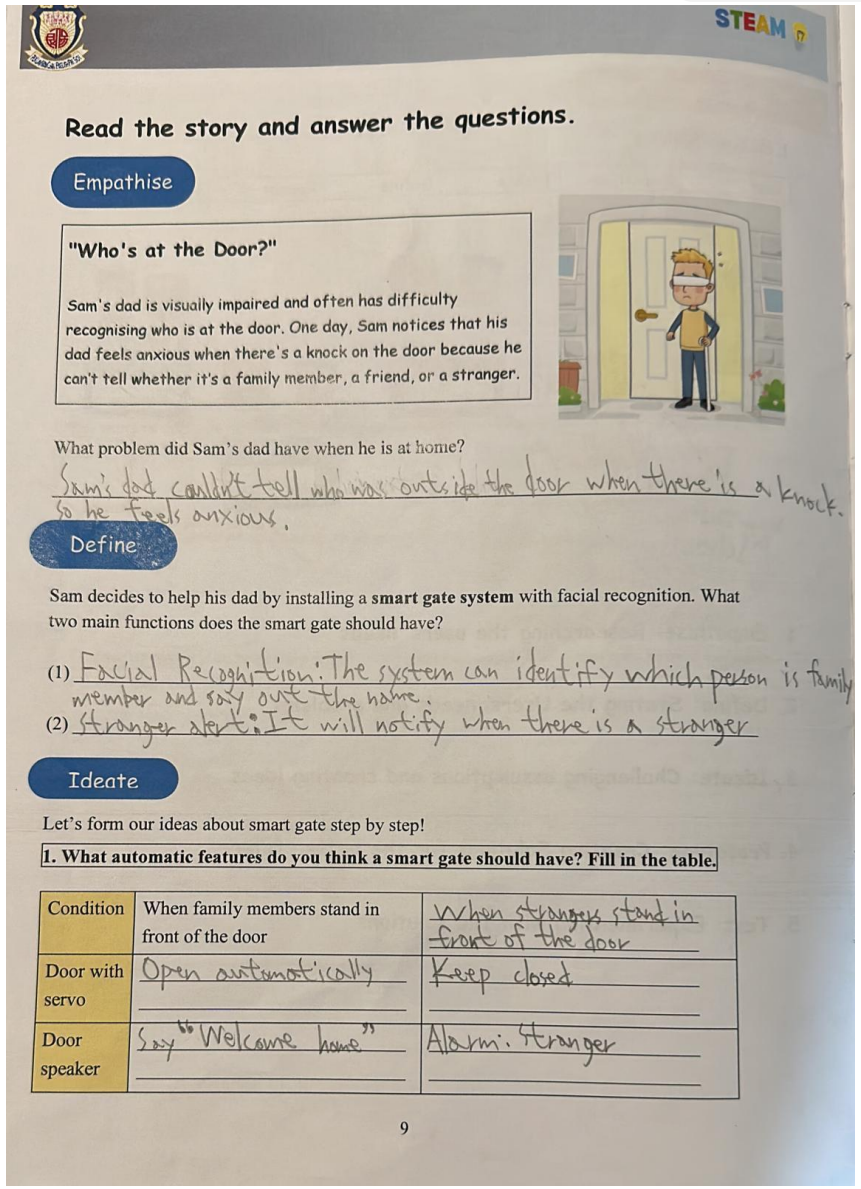
Ideate

Let's form our ideas about smart gate step by step!

1. What automatic features do you think a smart gate should have? Fill in the table.

Condition	When family members stand in front of the door	_____
Door with servo	_____	_____
Door speaker	_____	_____

9



STEAM

Read the story and answer the questions.

Empathise

"Who's at the Door?"

Sam's dad is visually impaired and often has difficulty recognising who is at the door. One day, Sam notices that his dad feels anxious when there's a knock on the door because he can't tell whether it's a family member, a friend, or a stranger.

What problem did Sam's dad have when he is at home?

Sam's dad can't tell who was outside the door when there is a knock. So he feels anxious.

Define

Sam decides to help his dad by installing a **smart gate system** with facial recognition. What two main functions does the smart gate should have?

(1) Facial Recognition: The system can identify which person is family member and say out the name.

(2) Stranger alert: It will notify when there is a stranger

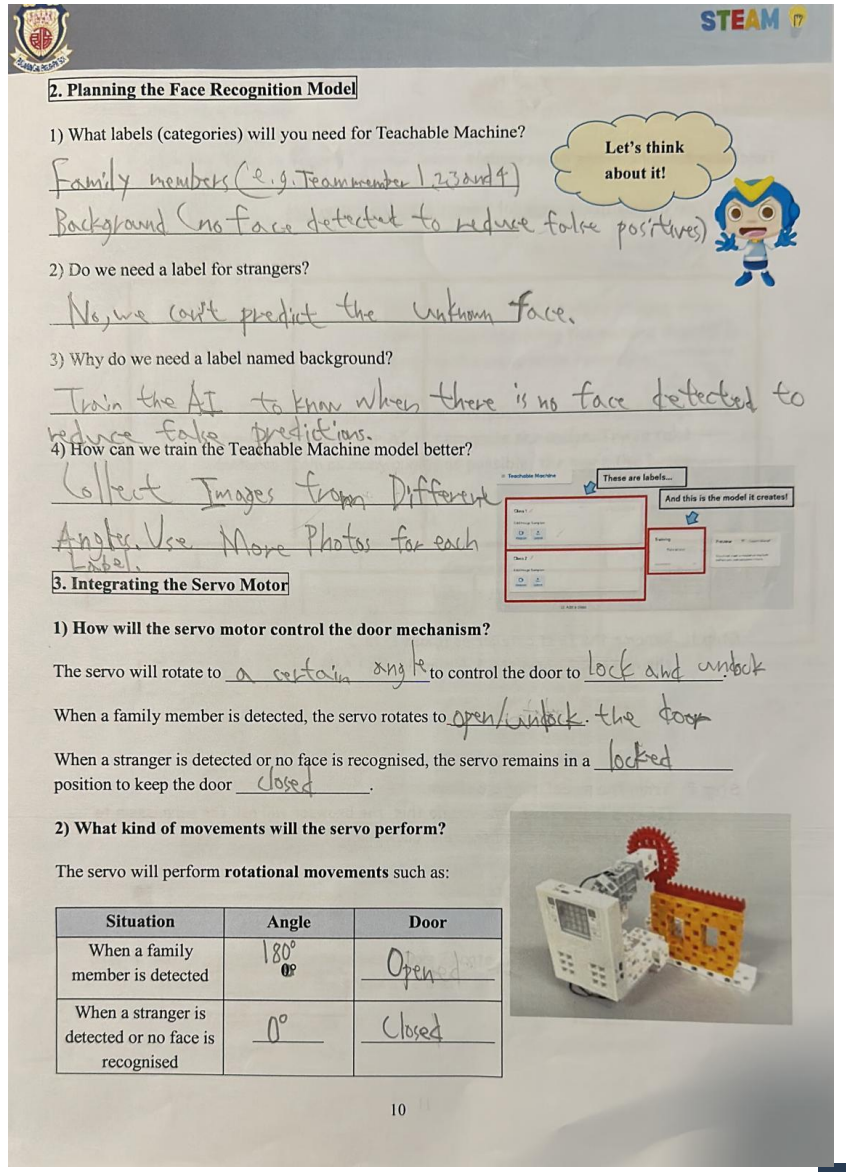
Ideate

Let's form our ideas about smart gate step by step!

1. What automatic features do you think a smart gate should have? Fill in the table.

Condition	When family members stand in front of the door	When strangers stand in front of the door
Door with servo	Open automatically	Keep closed
Door speaker	Say "Welcome home"	Alarm: Stranger

9



STEAM

2. Planning the Face Recognition Model

1) What labels (categories) will you need for Teachable Machine?

Let's think about it!

Family members (e.g. Teammember 1, 2, 3 and 4)

Background (no face detected to reduce false positives)

2) Do we need a label for strangers?

No, we can't predict the unknown face.

3) Why do we need a label named background?

Train the AI to know when there is no face detected to reduce false predictions.

4) How can we train the Teachable Machine model better?

Collect Images from Different Angles. Use More Photos for each Label.

3. Integrating the Servo Motor

1) How will the servo motor control the door mechanism?

The servo will rotate to a certain angle to control the door to lock and unlock

When a family member is detected, the servo rotates to open/unlock the door

When a stranger is detected or no face is recognised, the servo remains in a locked position to keep the door closed.

2) What kind of movements will the servo perform?

The servo will perform **rotational movements** such as:

Situation	Angle	Door
When a family member is detected	180°	Open
When a stranger is detected or no face is recognised	0°	Closed

10

Po Leung Kuk Lam Man Chan English Primary School

STEAM : Science x AI

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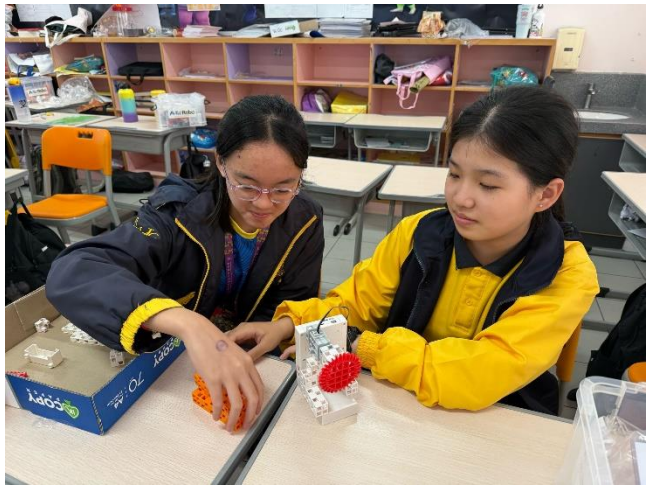
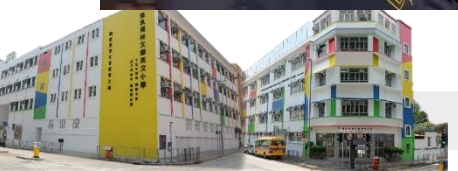




I. Testing & Evaluation

Testing

Testing person	The door	Speaker	Testing result
Name:	(open/close)		(pass/fail)
Name:	(open/close)		(pass/fail)
Name:	(open/close)		(pass/fail)
Name:	(open/close)		(pass/fail)
Name:	(open/close)		(pass/fail)

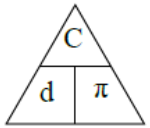
Evaluation:

1. (a) Did you face any problems in these steps during the project?
If yes, put a ✓ in the box ☐.
☐ Building the models ☐ Measuring and testing
☐ Coding ☐ Communicating and working with groupmates
☐ Design
☐ Others: _____

(b) How did the group solve the problem(s)?
_____
_____

2. What did you learn from this project? What was the most interesting thing you learned while making the smart gate?
_____
_____

F. Gear and circumference (MATHS)

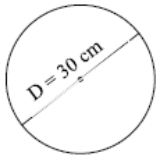


A. Circumference of circle

Find the circumference of each circle below. (The black dots are the centres of the circles.

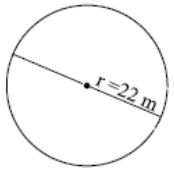
Take π = 3.14

1.



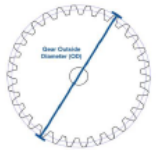
The circumference is _____ cm.
Half of the circumference is _____ cm.

2.



The circumference is _____ m.
Half of the circumference is _____ m.

B. Circumference of the gear



Calculating the outer diameter (OD) of the gear is important to ensure that the gear will mesh properly with its mate. Many gear-making processes rely on the operator accurately touching-off on the part.

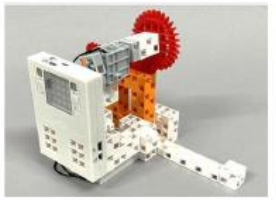
C. Relationship between gear and gear rack

Gear racks are utilized to convert rotating movement into linear motion. A gear rack has straight teeth cut into one surface of a square or round section of rod and operates with a pinion, which is a small cylindrical gear meshing with the gear rack. Generally, gear rack and pinion are collectively called "rack and pinion". There are many ways to use gears such as toys and lateral slide gates.

D. Applications

Door closed

Door open



How long does the gear move?
Measure the length of the outer diameter of the gear.
OD =_____cm

When the door is opened,

Location of plug	Distance of the gear move
1. At the end	
2. In the middle	

What is the relationship between the distance that the gear moves and the length of the door ?

_____

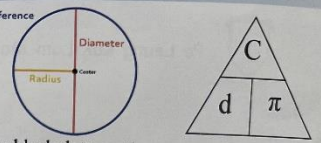
E. Confidence Level

Confidence level (CL) is a statistical measure of the percentage of test results that can be expected to be within a specified range.

Confidence level (CL)	Percent chance of meeting expectations	Percent chance of being wrong
95 %	95%	5%
90 %		
50 %		

STEAM

F. Gear and circumference (MATHS)

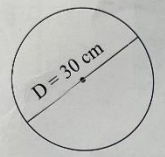


A. Circumference of circle

Find the circumference of each circle below. (The black dots are the centres of the circles.

Take $\pi = 3.14$

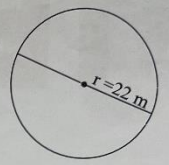
1.



The circumference is 94.2 cm.

Half of the circumference is 47.1 cm.

2.



The circumference is 138.16 m.

Half of the circumference is 69.09 m.

B. Circumference of the gear

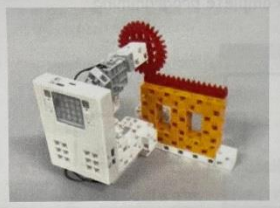
Calculating the outer diameter (OD) of the gear is important to ensure that the gear will mesh properly with its mate. Many gear-making processes rely on the operator accurately touching-off on the part.

C. Relationship between gear and gear rack

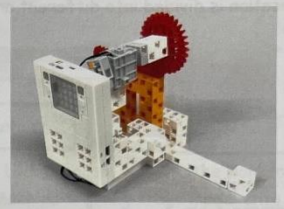
Gear racks are utilized to convert rotating movement into linear motion. A gear rack has straight teeth cut into one surface of a square or round section of rod and operates with a pinion, which is a small cylindrical gear meshing with the gear rack. Generally, gear rack and pinion are collectively called "rack and pinion". There are many ways to use gears such as toys and lateral slide gates.

D. Applications

Door closed



Door open



How long does the gear move?

Measure the length of the outer diameter of the gear.

OD = 6.2 cm

When the door is opened,

Location of plug	Distance of the gear move
1. At the end	9.3
2. In the middle	4.65

What is the relationship between the distance that the gear moves and the length of the door ?

The length of the door = to the length of the circumference.

E. Confidence Level

Confidence level (CL) is a statistical measure of the percentage of test results that can be expected to be within a specified range.

Confidence level (CL)	Percent chance of meeting expectations	Percent chance of being wrong
95 %	95%	5%
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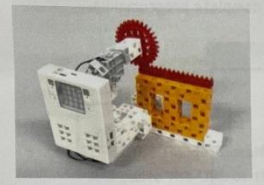
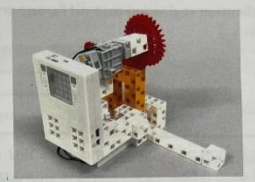
STEAM

D. Applications

Door closed



Door open



How long does the gear move?

Measure the length of the outer diameter of the gear.

OD = 6.2 cm

When the door is opened,

Location of plug	Distance of the gear move
1. At the end	9.7 cm
2. In the middle	7.8 cm

What is the relationship between the distance that the gear moves and the length of the door ?

When the gear spins, the door moves to another state.

E. Confidence Level

Confidence level (CL) is a statistical measure of the percentage of test results that can be expected to be within a specified range.

Confidence level (CL)	Percent chance of meeting expectations	Percent chance of being wrong
95 %	95%	5%
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STEAM: Design (VA)

Students learnt to design the dream garden or entryway with the smart gate

H. Design (VA)

You are going to design your dream garden or entryway with the smart gate. Prepare your own materials. **You cannot use glue to install the smart gate on the frame.**

or

Garden

Entryway

I am going to prepare the following recycled or eco-friendly materials:

_____

STEAM

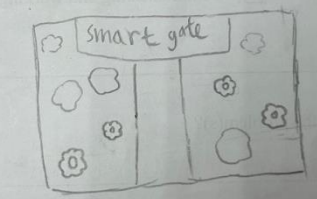
H. Design (VA)

You are going to design your dream garden or entryway with the smart gate. Prepare your own materials. **You cannot use glue to install the smart gate on the frame.**

Garden

or

Entryway



grass
flower
pathway to door

I am going to prepare the following recycled or eco-friendly materials:

Card board, paper, plastic

STEAM

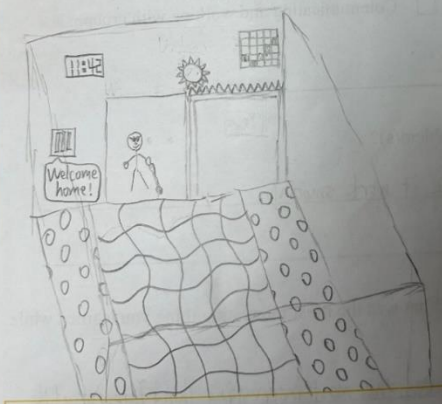
H. Design (VA)

You are going to design your dream garden or entryway with the smart gate. Prepare your own materials. **You cannot use glue to install the smart gate on the frame.**

Garden

or

Entryway



I am going to prepare the following recycled or eco-friendly materials:

colour paper and glue.

STEAM

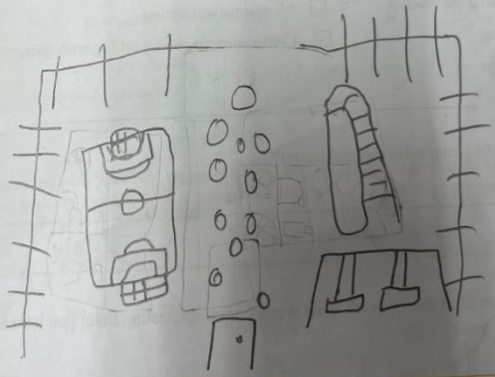
H. Design (VA)

You are going to design your dream garden or entryway with the smart gate. Prepare your own materials. **You cannot use glue to install the smart gate on the frame.**

Garden

or

Entryway



I am going to prepare the following recycled or eco-friendly materials:

Cardboard

8

The process of designing the Garden or Entryway.

STEAM : Arts (VA)

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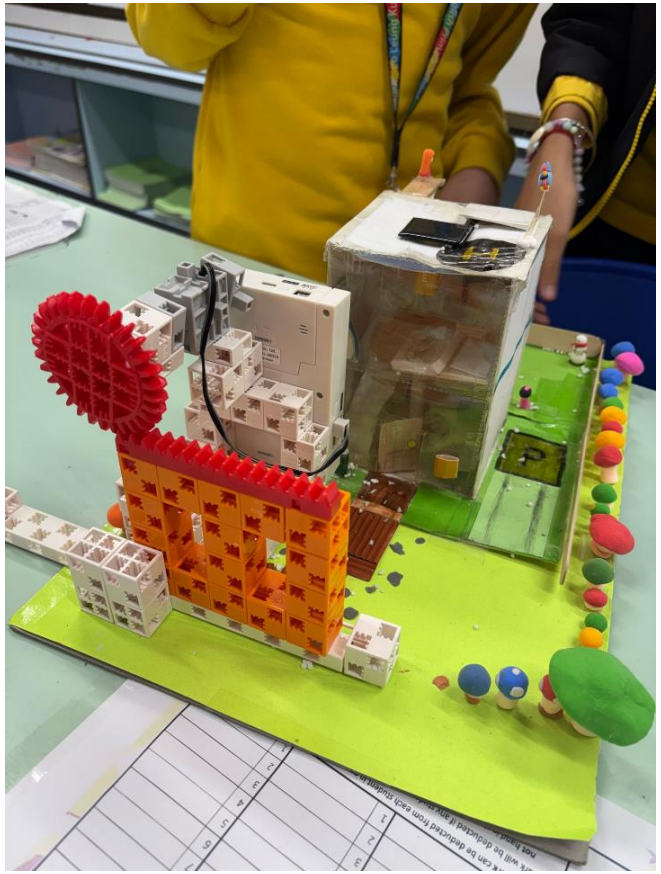
The process of making the Garden or Entryway.

STEAM : Learning Outcomes

The finished product for the garden or entryway, equipped with the smart gate.



STEAM : Learning Outcomes

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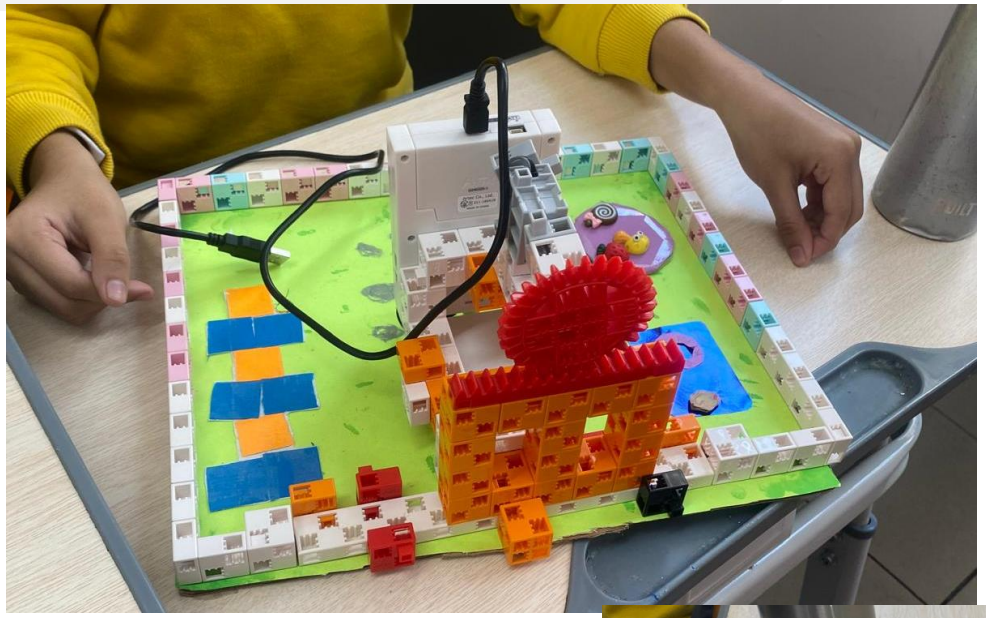

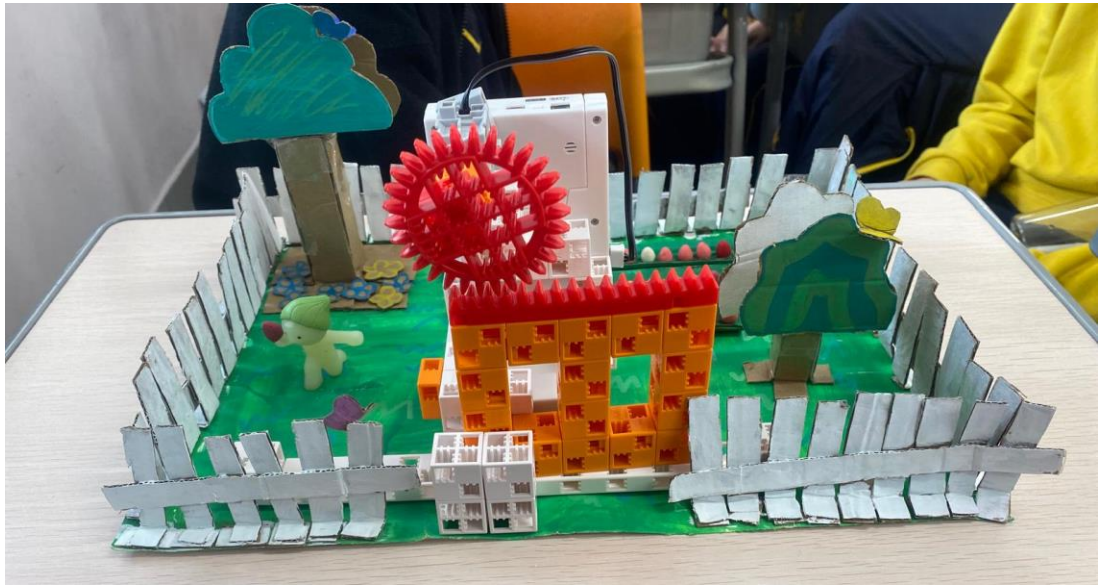

STEAM : Learning Outcomes

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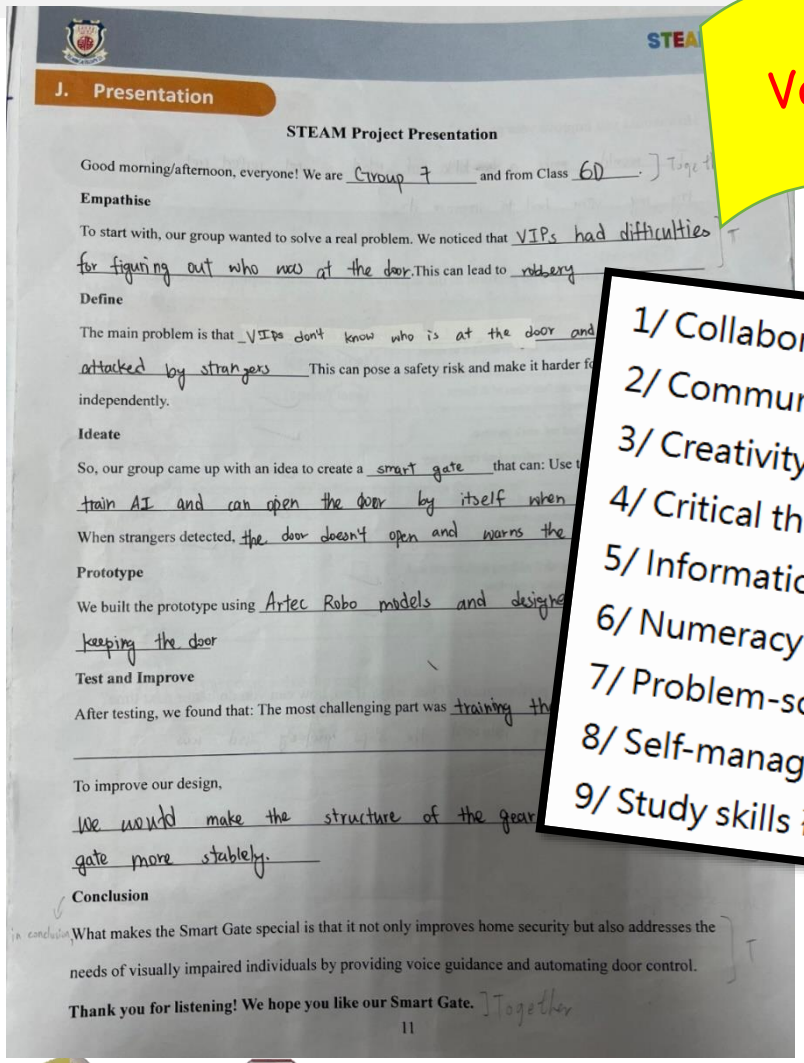
Values Education
價值觀教育

Collaboration skills 協作能力



J. Presentation

STEAM Project Presentation

Good morning/afternoon, everyone! We are Group 7 and from Class 6D.

Empathise

To start with, our group wanted to solve a real problem. We noticed that VIPs had difficulties for figuring out who was at the door. This can lead to robbery

Define

The main problem is that VIPs don't know who is at the door and attacked by strangers This can pose a safety risk and make it harder f independently.

Ideate

So, our group came up with an idea to create a smart gate that can: Use t train AI and can open the door by itself when When strangers detected, the door doesn't open and warns the

Prototype

We built the prototype using Artec Robo models and designe keeping the door

Test and Improve

After testing, we found that: The most challenging part was traini th

To improve our design,

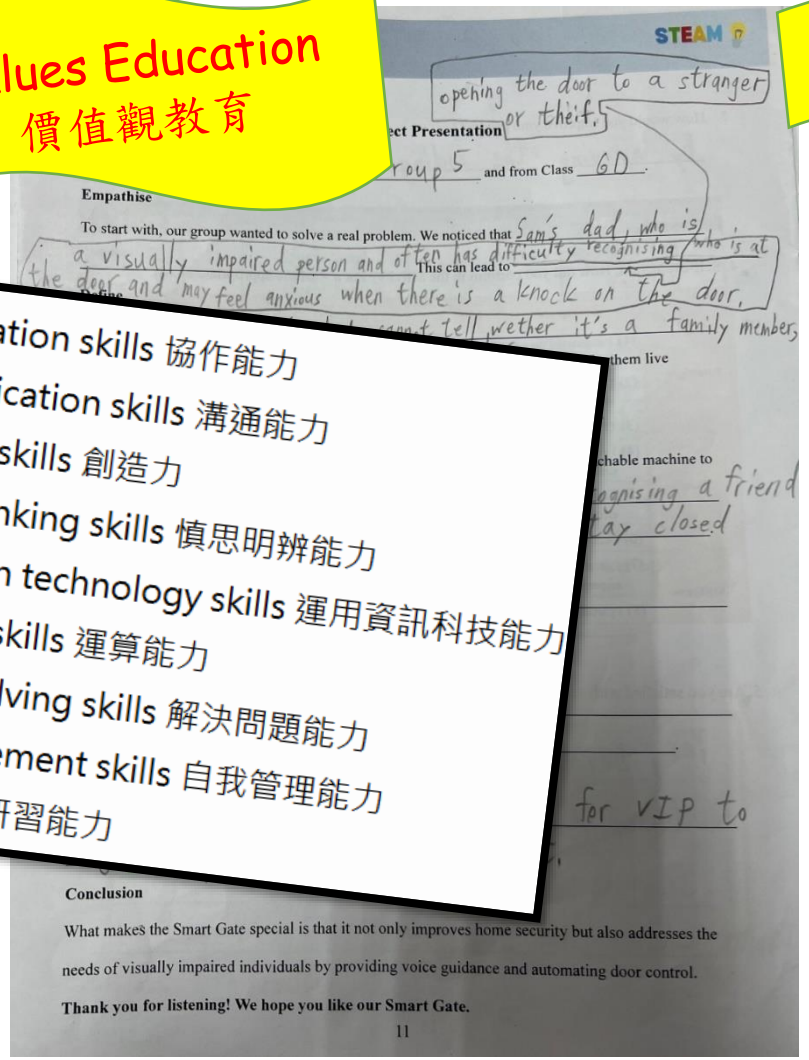
we would make the structure of the gear gate more stablely.

Conclusion

What makes the Smart Gate special is that it not only improves home security but also addresses the needs of visually impaired individuals by providing voice guidance and automating door control.

Thank you for listening! We hope you like our Smart Gate.

11



J. Presentation

STEAM Project Presentation

Good morning/afternoon, everyone! We are Group 5 and from Class 6D.

Empathise

To start with, our group wanted to solve a real problem. We noticed that Sam's dad, who is a visually impaired person and often has difficulty recognising who is at the door and may feel anxious when there is a knock on the door, This can lead to

Define

Ideate

Prototype

Test and Improve

To improve our design,

Conclusion

What makes the Smart Gate special is that it not only improves home security but also addresses the needs of visually impaired individuals by providing voice guidance and automating door control.

Thank you for listening! We hope you like our Smart Gate.

11

opening the door to a stranger or thief.

them live

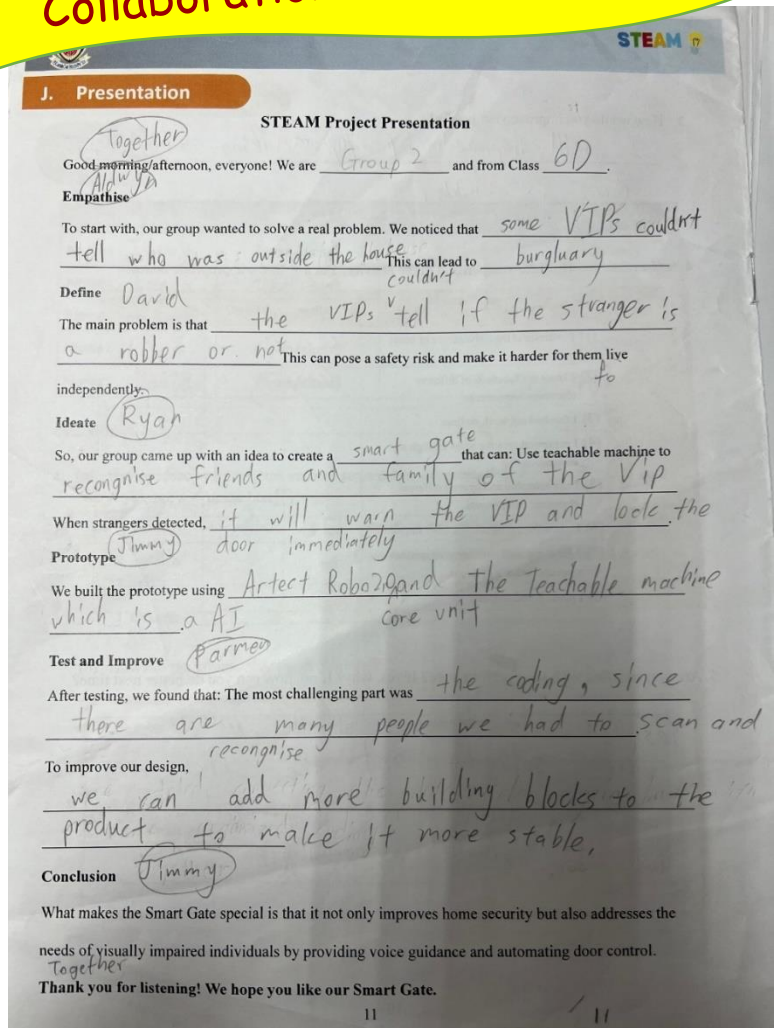
chable machine to

recognising a friend

ay closed

for VIP to

1/ Collaboration skills 協作能力
2/ Communication skills 溝通能力
3/ Creativity skills 創造力
4/ Critical thinking skills 慎思明辨能力
5/ Information technology skills 運用資訊科技能力
6/ Numeracy skills 運算能力
7/ Problem-solving skills 解決問題能力
8/ Self-management skills 自我管理能力
9/ Study skills 研習能力



J. Presentation

STEAM Project Presentation

Good morning/afternoon, everyone! We are Group 2 and from Class 6D.

Empathise

To start with, our group wanted to solve a real problem. We noticed that some VIPs couldn't tell who was outside the house This can lead to burgluary

Define David

The main problem is that the VIPs tell if the stranger is a robber or not This can pose a safety risk and make it harder for them live independently.

Ideate Ryan

So, our group came up with an idea to create a smart gate that can: Use teachable machine to recongnise friends and family of the VIP

When strangers detected, it will warn the VIP and locle the door immediately

Prototype Jimmy

We built the prototype using Artect Robo and the Teachable machine which is a AI core unit

Test and Improve Parmeo

After testing, we found that: The most challenging part was the coding, since there are many people we had to recongnise scan and

To improve our design,

we can add more building blocks to the product to make it more stable.

Conclusion Jimmy

What makes the Smart Gate special is that it not only improves home security but also addresses the needs of visually impaired individuals by providing voice guidance and automating door control.

Thank you for listening! We hope you like our Smart Gate.

11

STEAM : Learning Outcomes

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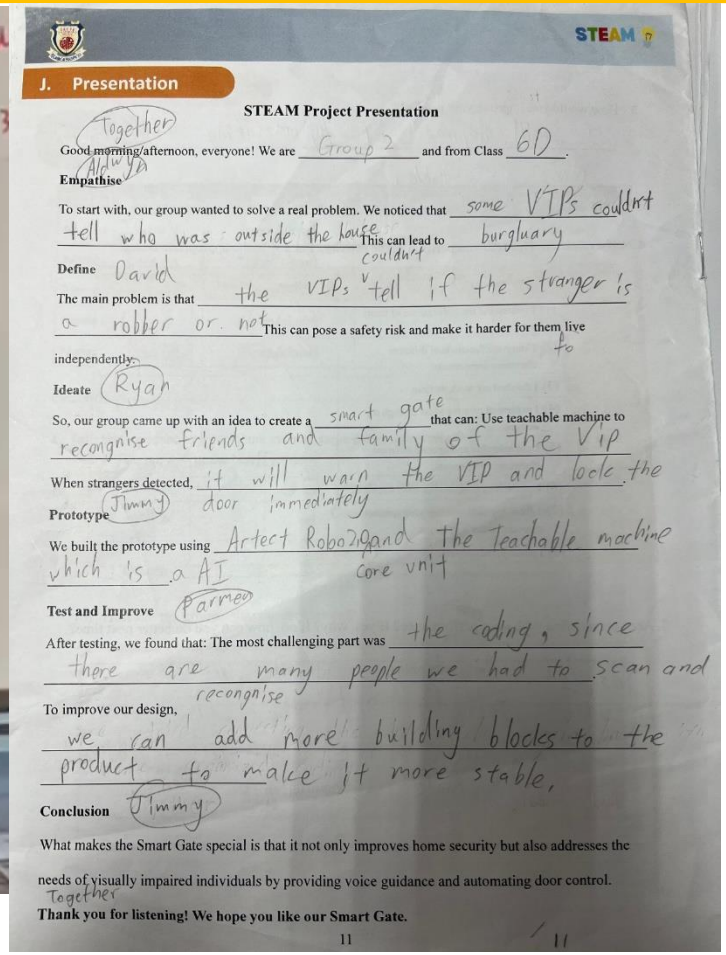
Presentation sharing!



STEAM

J. Presentation

STEAM Project Presentation

Good morning/afternoon, everyone! We are Group 2 and from Class 6D.

Empathise (Together, Always)

To start with, our group wanted to solve a real problem. We noticed that some VIPs couldn't tell who was outside the house. This can lead to burglary

Define David

The main problem is that the VIPs couldn't tell if the stranger is a robber or not. This can pose a safety risk and make it harder for them live independently.

Ideate Ryan

So, our group came up with an idea to create a smart gate that can: Use teachable machine to recognise friends and family of the VIP

When strangers detected, it will warn the VIP and lock the door immediately

Prototype Jimmy

We built the prototype using Artect Robo2 and the Teachable machine which is a AI core unit

Test and Improve Parmeo

After testing, we found that: The most challenging part was the coding, since there are many people we had to scan and recognise

To improve our design, we can add more building blocks to the product to make it more stable.

Conclusion Jimmy

What makes the Smart Gate special is that it not only improves home security but also addresses the needs of visually impaired individuals by providing voice guidance and automating door control.

Thank you for listening! We hope you like our Smart Gate. Together

11

PLK LMC a School of Love and Care

05

School STEAM Education

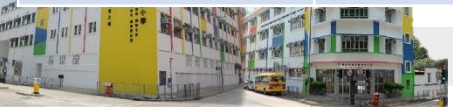
學校STEAM教育

STEAM x National Security x Values Education

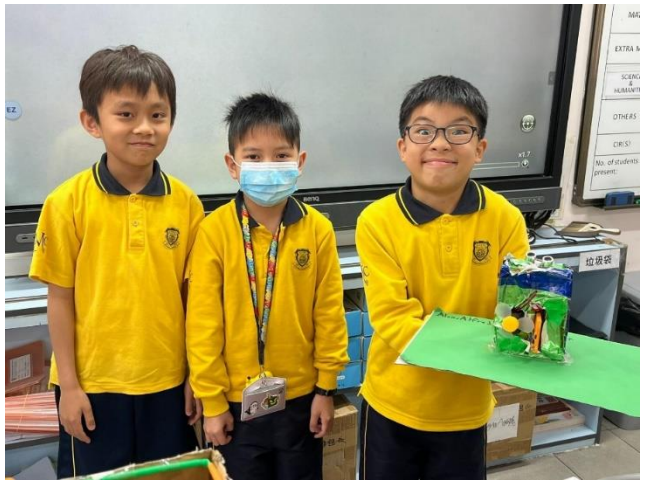
Levels	Theme	Topic	S	T	E	A	M	National Security	12 Values
P.1 	**Home Robot**	4.1.2 Clean and Tidy Home	Effects of electricity; conversion of energy	Technological products for cleaning the home	Making the home robot	Robot Design	Measuring length and distance	Science and Technology Security	Filial Piety Responsibility
P.2 	**Four Inventions**	4.2.3 The four Great Inventions	Investigate different materials used for stamps	Use carving design to create stamp.	Plan, prototype, and test stamp designs.	Stamp Design	Investigate patterns and symmetry in design	Science and Technology Security; Cultural Security	National Identity
P.3 	**Thermal Bag**	3.1.2 Properties of Heat	Heat transfer, rates of heat transfer of different materials	Structure of a water bottle. Everyday objects for keeping things warm	Make use of everyday materials for Production. Identify the product standards of a water bottle bag.	Thermal Bag design	Tools and methods for measuring temperature	Science and Technology Security; Food security	Benevolence Filial Piety

STEAM x National Security x Values Education

Levels	Theme	Topic	S	T	E	A	M	National Security	12 Values
P.4 	**Smart Fan**	4.2 Natural resources	Applications of sensors; Formation of wind	Structure of fan blades; Coding	Making a frame with eco-friendly materials; Connecting electronic components	Be creative and apply art skills	Estimating rotation speed; Measuring distance	Science Technology Security; Resource Security	Perseverance
P.5 	**Smart Airer**	2.2.3 Closed circuit	Applications of sensors; Condition for drying clothes	Automated systems ; Coding	Making a frame with eco-friendly materials; Connecting electronic components	Be creative and apply art skills	The concept of degrees ; Using the protractor	Science Technology Security; Resource Security	Perseverance
P.6 	**Smart Gate (AI)**	2.2.5 Technology and innovation	Applications of AI: Face recognition	Automated systems; Coding	Build up models with Lego blocks; Connecting electronic components	Be creative and apply art skills	Application of circumference; Gear and door	Science Technology Security; Artificial Intelligence Security; Social security	Empathy, Respect for Others, Perseverance, Law-abidingness, responsibility

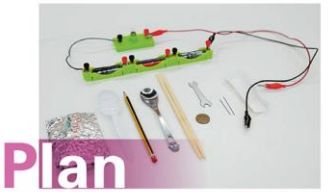


P.4 STEAM projects

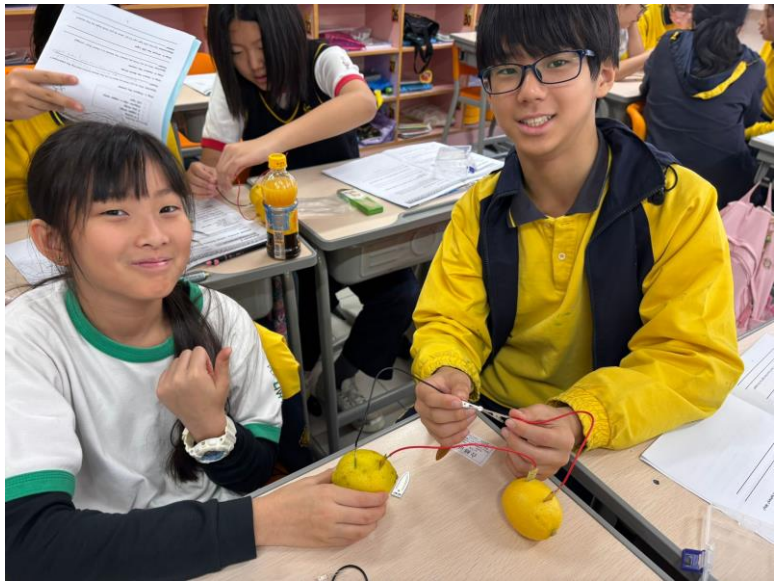


P.5 STEAM projects

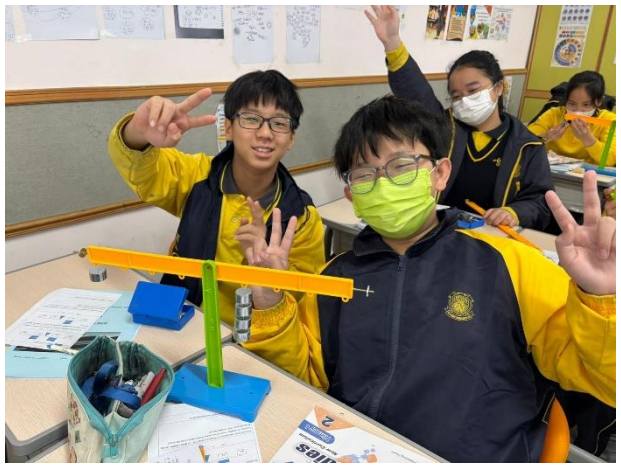
Our School Science experiments

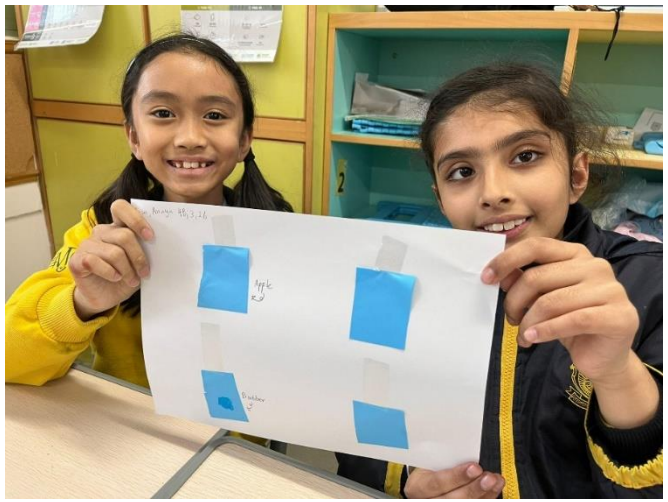


Our School Science experiments

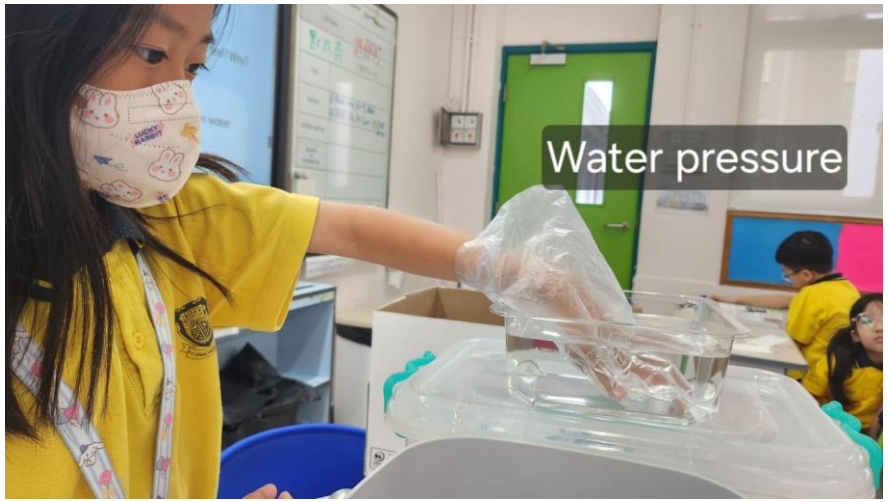


Our School Science experiments

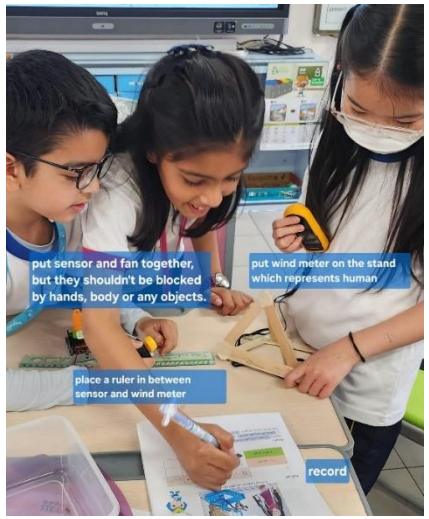




Our School Science experiments



Our School Science experiments



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06

Competitions & Activities

發展學生潛能，建立學生舞台

The 4th ATS - Technology Robot Programming Competition
第四屆香工盃 - 航天科技機械人編程競賽

LMC STEAM Competitions

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Sharing on 5th April 2025 - 香工盃比賽

Other STEAM Competitions

LMC STEAM Competitions

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Other Robotics Competitions

LMC STEAM Competitions

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STEM Activities 蛟龍號 科學講座

LMC STEAM Competitions

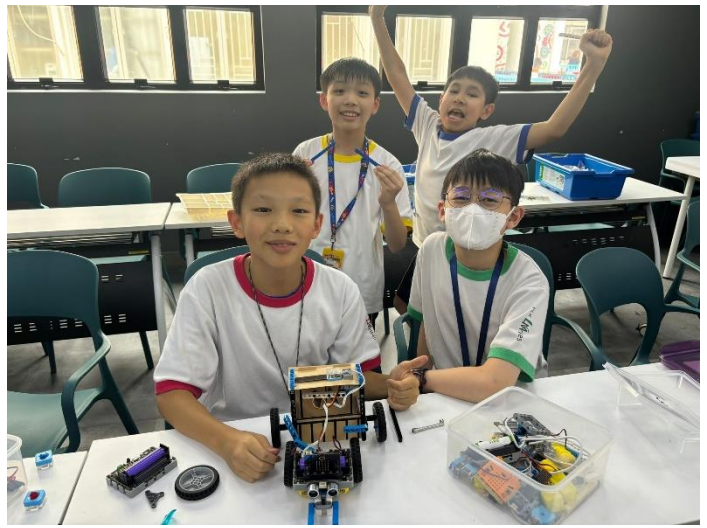
LMC a School of Love and Care

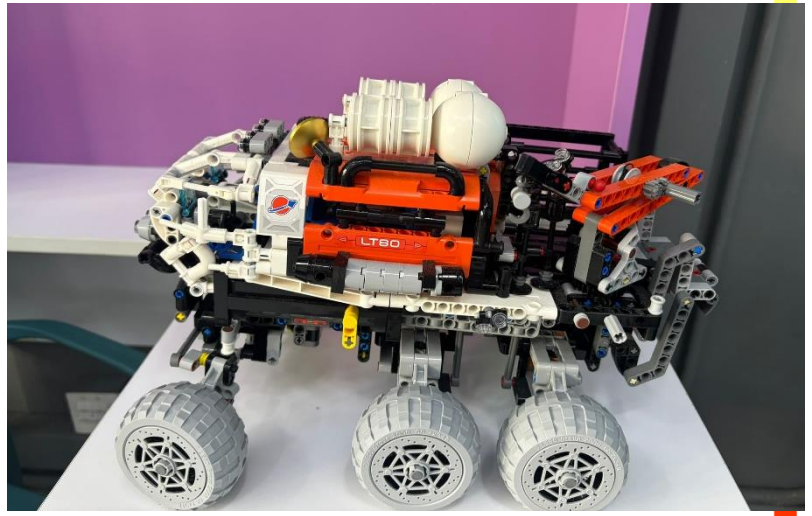
HKUST STEAM Workshop

LMC STEAM Competitions

LMC a School of Love and Care

STEM Activities Inno Gala sharing





07 Conclusion

我們將持續優化本校的STEAM教育，推動教學創新，充分利用各種資源，培養學生的創意思維和共通能力。我們希望學生能主動探究問題、解決難題，並發展團隊合作能力，以便為未來的挑戰做好準備。同時，我們也將致力於促進教師的專業成長。

We will continue to optimize our school's STEAM education, promote teaching innovation, and make full use of various resources to cultivate students' creative thinking and essential skills. We aim for students to actively explore problems, solve challenges, and develop teamwork abilities to prepare for future challenges. At the same time, we are committed to fostering the professional growth of our teachers.

School Website

YouTube

LMC WeChat

小红书

Hope you enjoy the sharing today