

Advanced Course (D): Practical Cases Analysis: Three-tier Implementation Model of Gifted Education - Level 2 Pull-out Programme (Secondary) (Re-run)

CFSS Prospectus



CFSS Website



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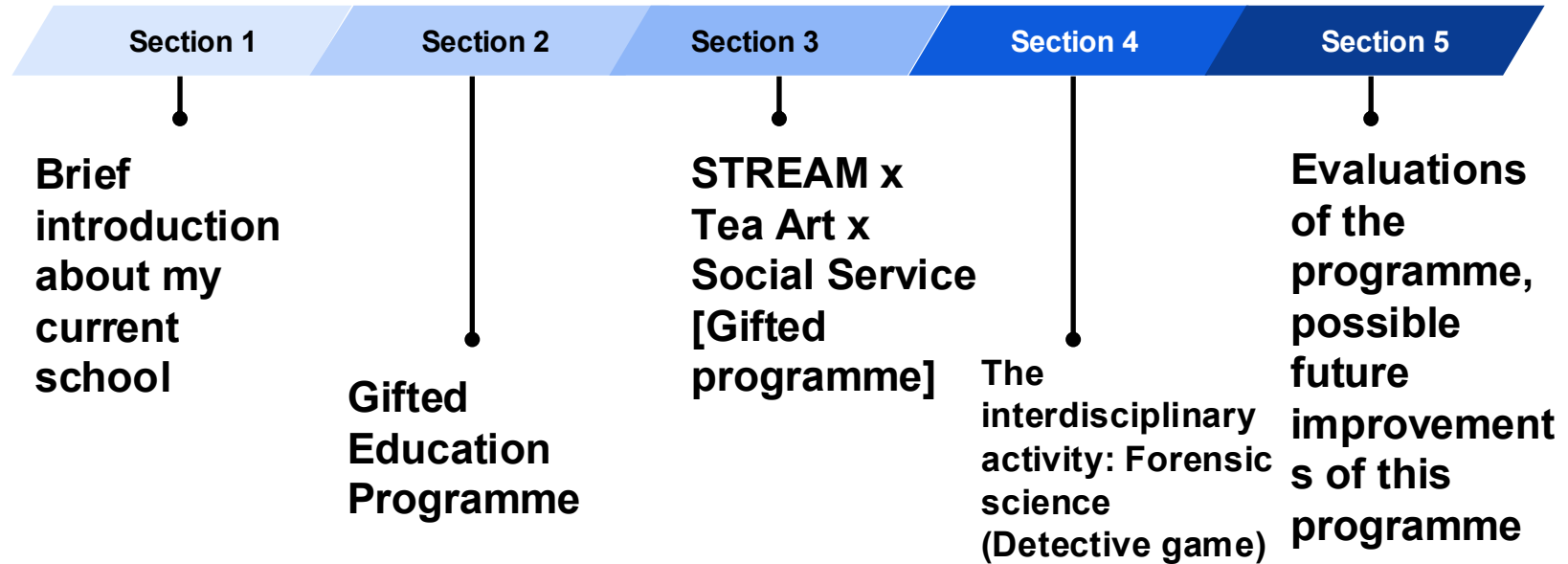
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香港STEAM教育學會常務理事

國家級初級茶藝師 (香港最年輕獲得該名銜)

國家級初級評茶師

Overview of this presentation



Our school vision

- Help students establish **positive values** and strive for excellence; foster the right attitudes in learning and social education, develop professional abilities, and pursue **lifelong learning**.
- Cultivate a sense of responsibility and commitment, become an **ideal citizen of the future society with cultivation and open-mindedness**, and co-create the future. 。



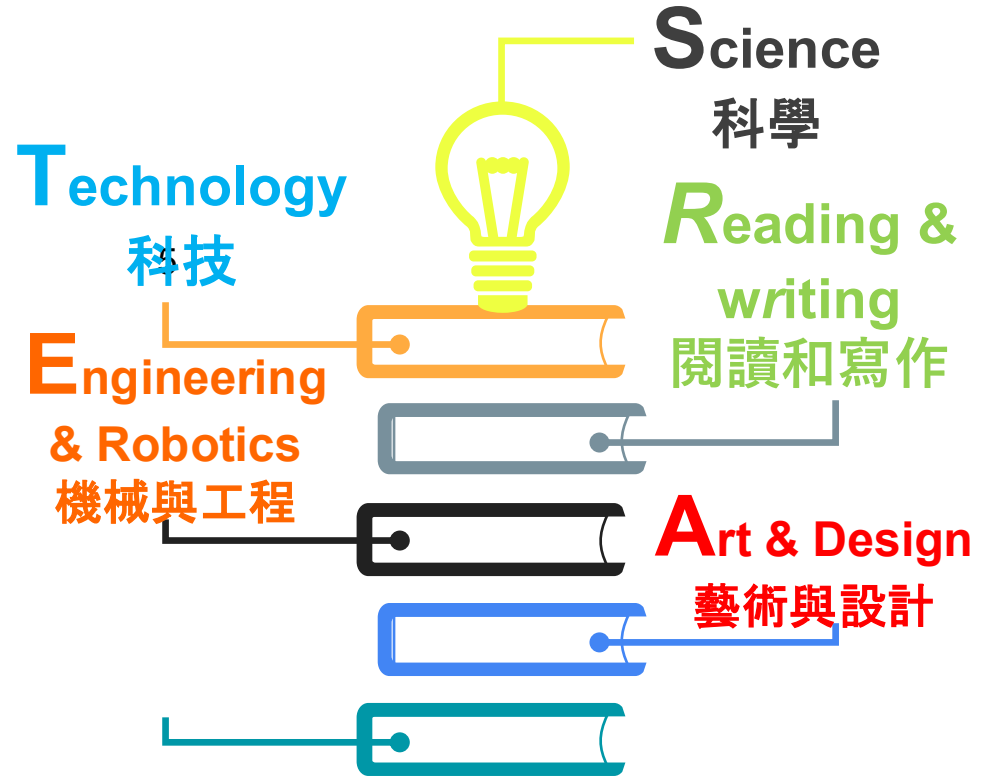
Our school vision

- Whole person development
- Self-directed learning
- Life-long learning



STREAM and Gifted Education

- Whole person development
- Self-directed learning
- Life-long learning



Gifted Education Programme in our school

Tier 1:

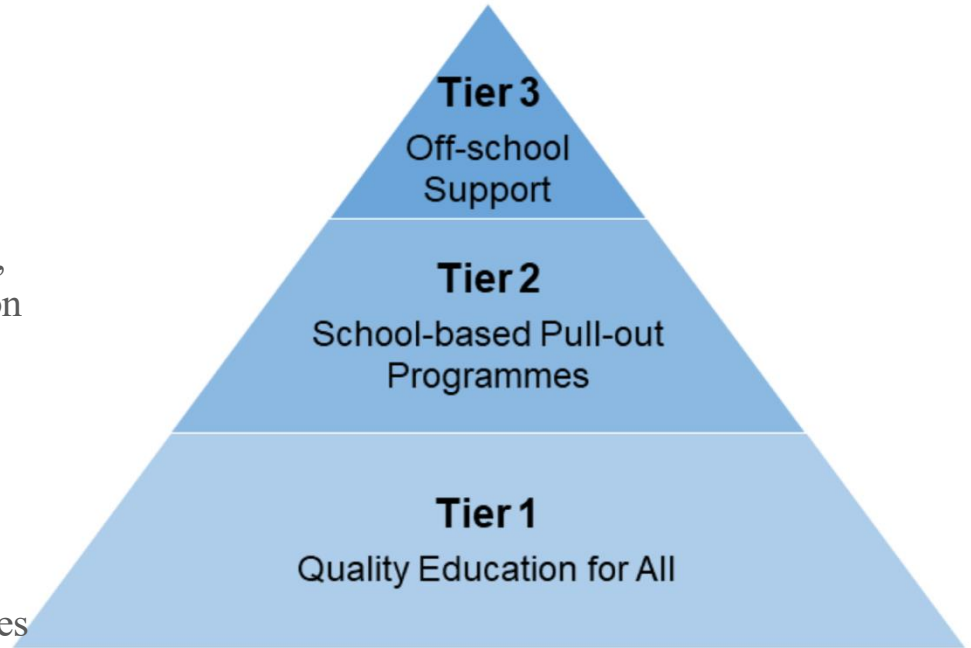
- Quality education (Enrichment Course)
- [Generic skills]

Tier 2:

- Conducted by our experienced teachers, topics include: Leadership, Creativity, Mathematics, Biliterate and Trilingual Ability (for S.1 to S.3), Information Technology, Scientific Investigation (environmental studies, renewable energy, medicine herbs, astronomy, etc, STREAM activities.

Tier 3:

- multi-disciplinary talents are nominated to take part gifted education programmes organised by universities, relevant organizations and industries

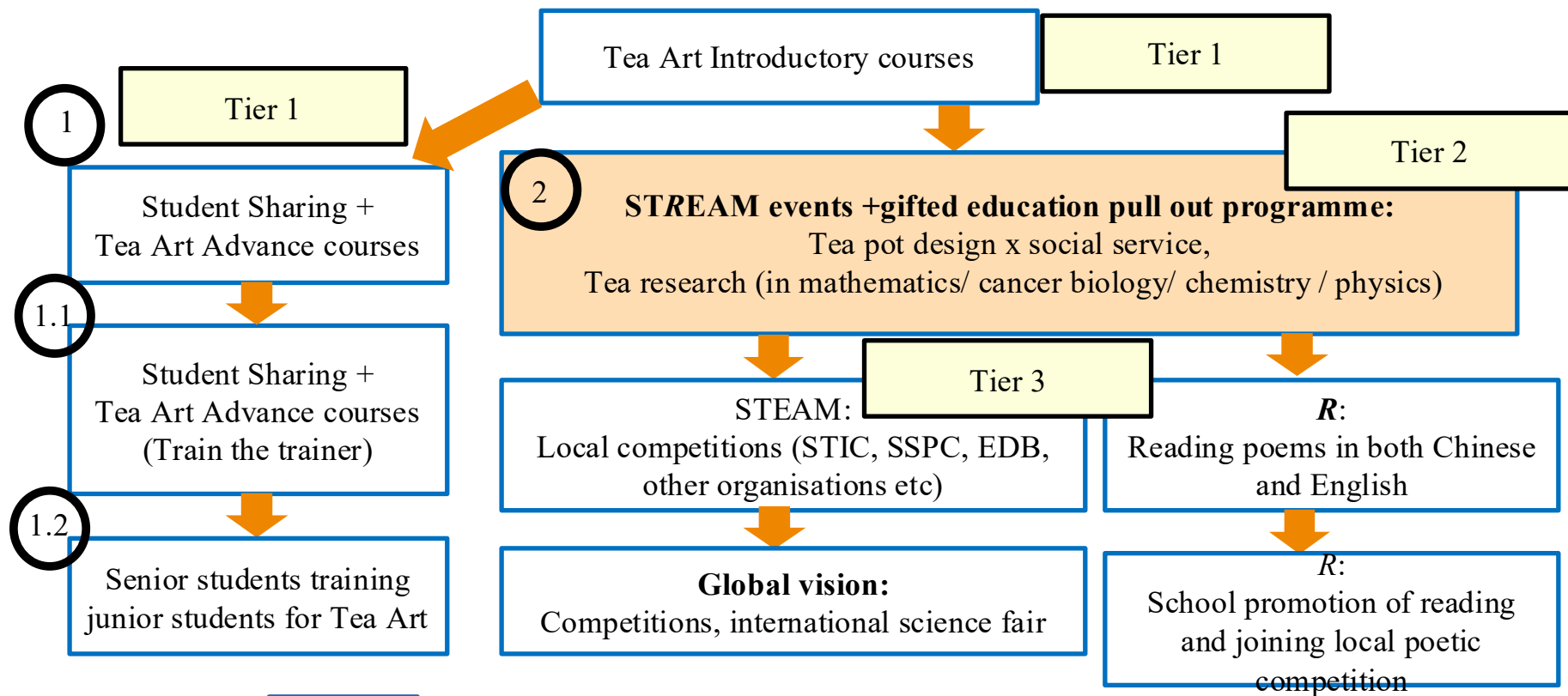


Gifted Education Programme in our school

Tier 2:

- Awards for the Exceptionally Gifted Student in Multiple Intelligence are offered to students talented at certain areas.
 - competitions abroad.
 - sports, music, dancing, arts, academics, STREAM

STREAM x Tea Art x Social Service [Gifted programme]



STREAM x Tea Art x Social Service [Gifted programme]

Activity (1) – Tea Art Course

Number of lessons:

3 (1 badge of students, 3 badges were conducted)

Time:

Afterschool (2 hours)

Major Contents:

1. To learn the basic procedures of tea ceremony
2. To understand the functions of different brew tea apparatus

STREAM x Tea Art x Social Service [Gifted programme]

Activities aim and objectives

Aim:

To encourage students to learn know more about the **Chinese Culture**.

■ Objectives:

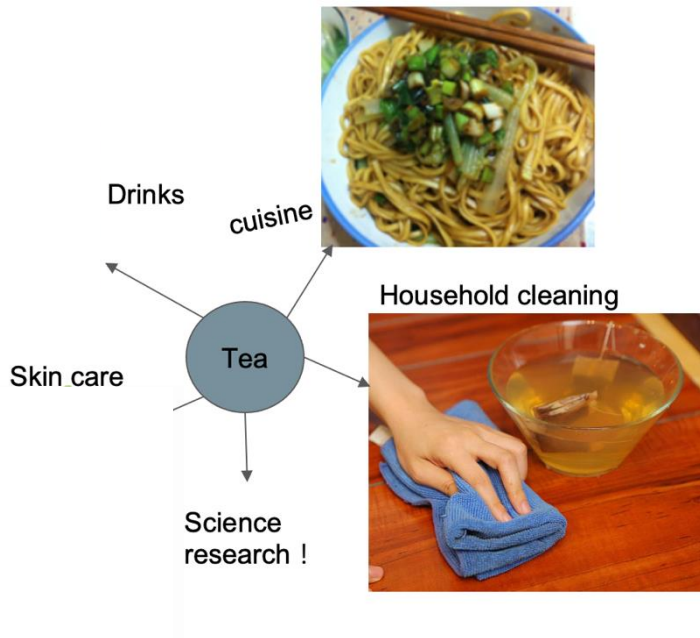
1. To encourage students to know about the science side of the Chinese Culture
2. To pull out the gifted education for more **generic skills** such as problem solving and **social service**
3. To facilitate more reflections from the students to improvement



STREAM x Tea Art x Social Service [Gifted programme]

Activity (1) – Tea Art Course

Tea and You - 茶與你



STREAM x Tea Art x Social Service [Gifted programme]

Activity (1) – Tea Art Course

Understanding tea culture and history 茶的歷史和茶藝文化

These are
actually part of
the Chinese
culture!!

Japanese Tea Art

- Tang and Song Dynasty (唐宋朝代)



Korean Tea Art

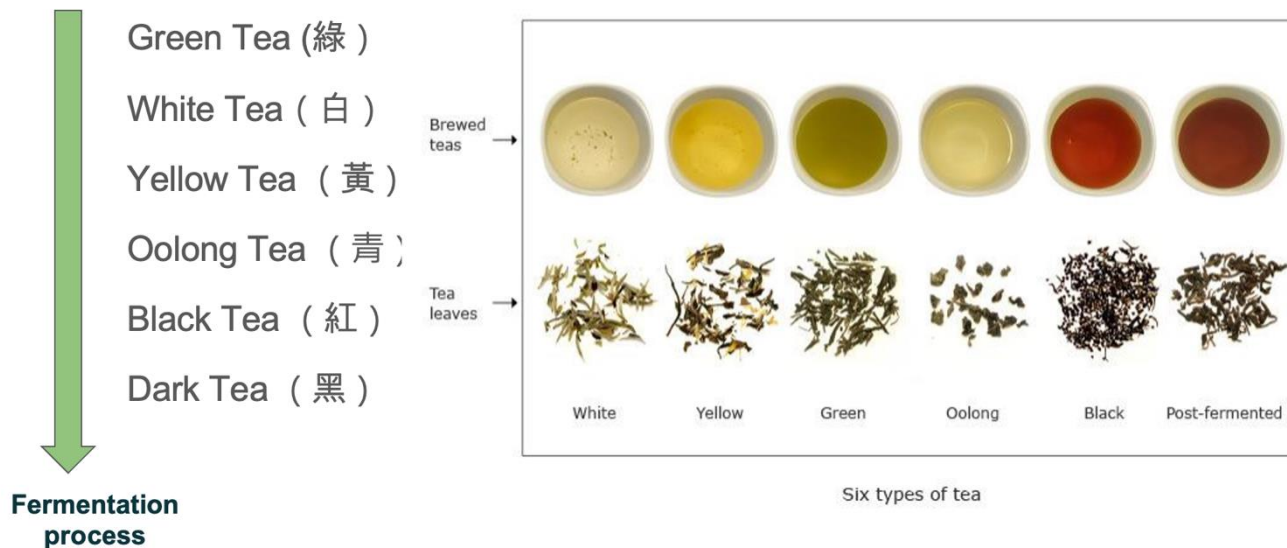
- Tang Dynasty (唐代三國演義時代)



STREAM x Tea Art x Social Service [Gifted programme]

Activity (1) – Tea Art Course

Types of tea and respective tea and water ratio 茶的種類和茶水比

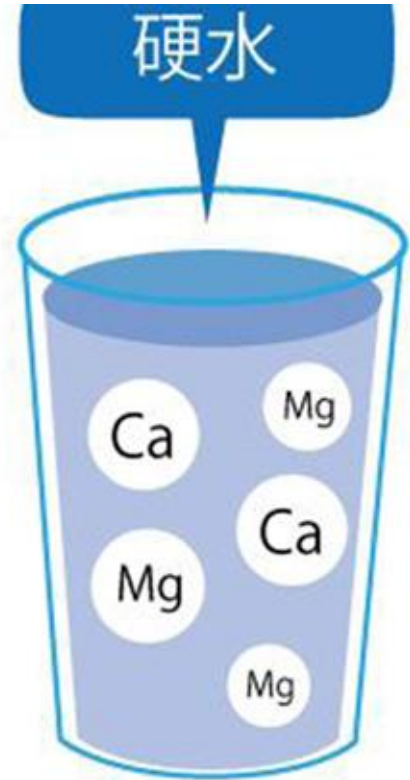
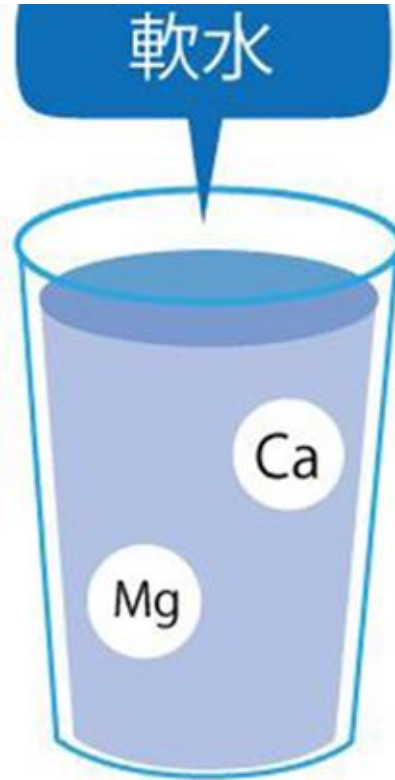


STREAM x Tea Art x Social Service [Gifted programme]

Activity (1) – Tea Art Course

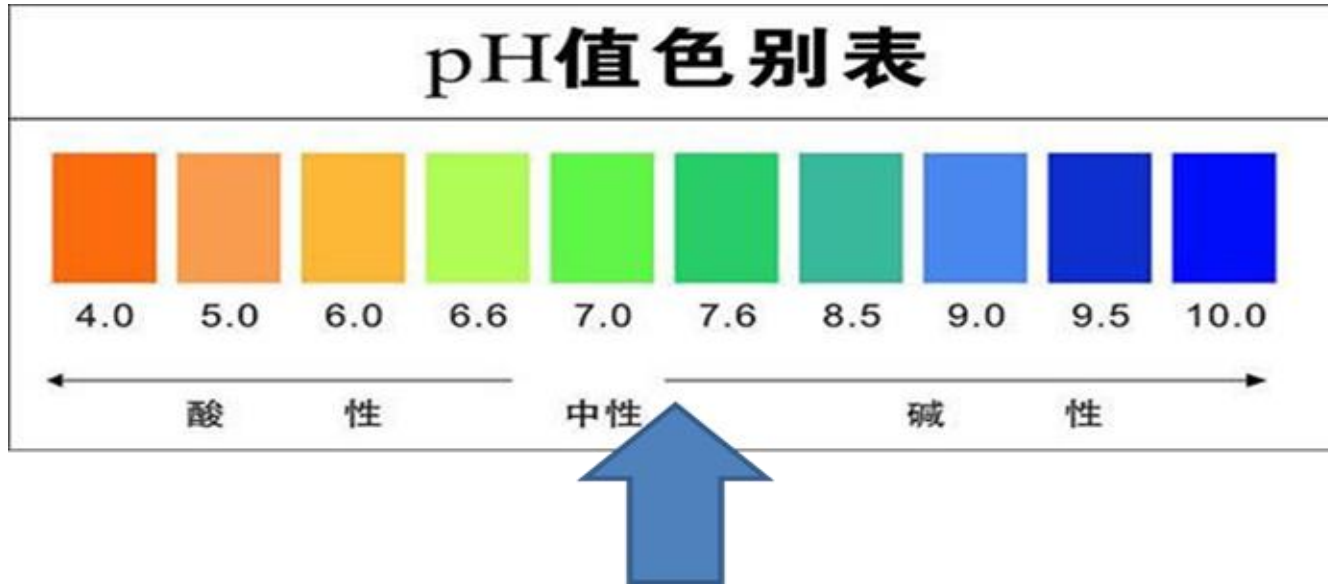
軟水：礦物質少於8 mg/ml

硬水：礦物質大於8 mg/ml



STREAM x Tea Art x Social Service [Gifted programme]

Activity (1) – Tea Art Course



Activity (1) – Tea Art Course

- Fun learning!
- Use of different senses

STREAM x Tea Art x Social Service [Gifted programme]

Activity (1.1) – Tea Art Course – Student Sharing

Number of lessons:

2

Time:

Afterschool (2 hours)

Major Contents (for teacher):

1. To identify the students with talents and passion in tea arts
2. To identify their potential misunderstanding in tea arts and creative ideas

STREAM x Tea Art x Social Service [Gifted programme]

Activity (1.2) – Tea Art Course –
Senior students training junior students
for Tea Art

Number of session:

1

Time:

lunchtime

Major Contents (for teacher):

1. To identify the students with talents and passion in tea arts
2. To identify their potential misunderstanding in tea arts and creative ideas

STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events +gifted education pull out programme:

Number of lessons/ meetings:

10 (official)

Time:

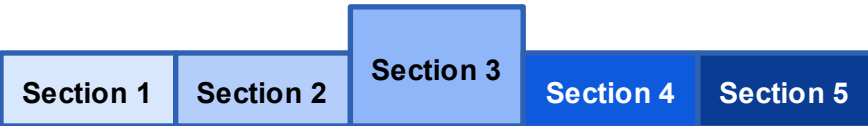
Afterschool (2 hours)

Major Contents :

1. To identify the students with talents and passion in tea arts
2. To identify their potential misunderstanding in tea arts and creative ideas

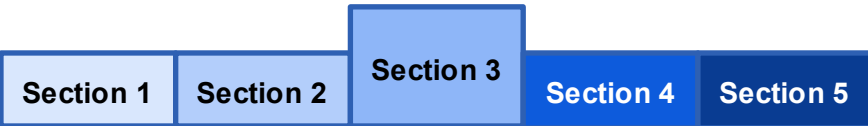
STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events + gifted education pull out programme:



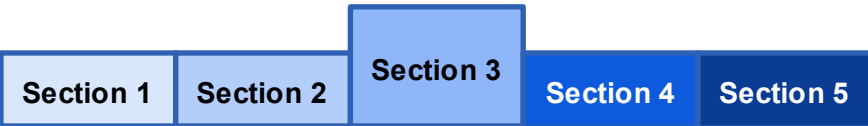
STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events +gifted education pull out programme:



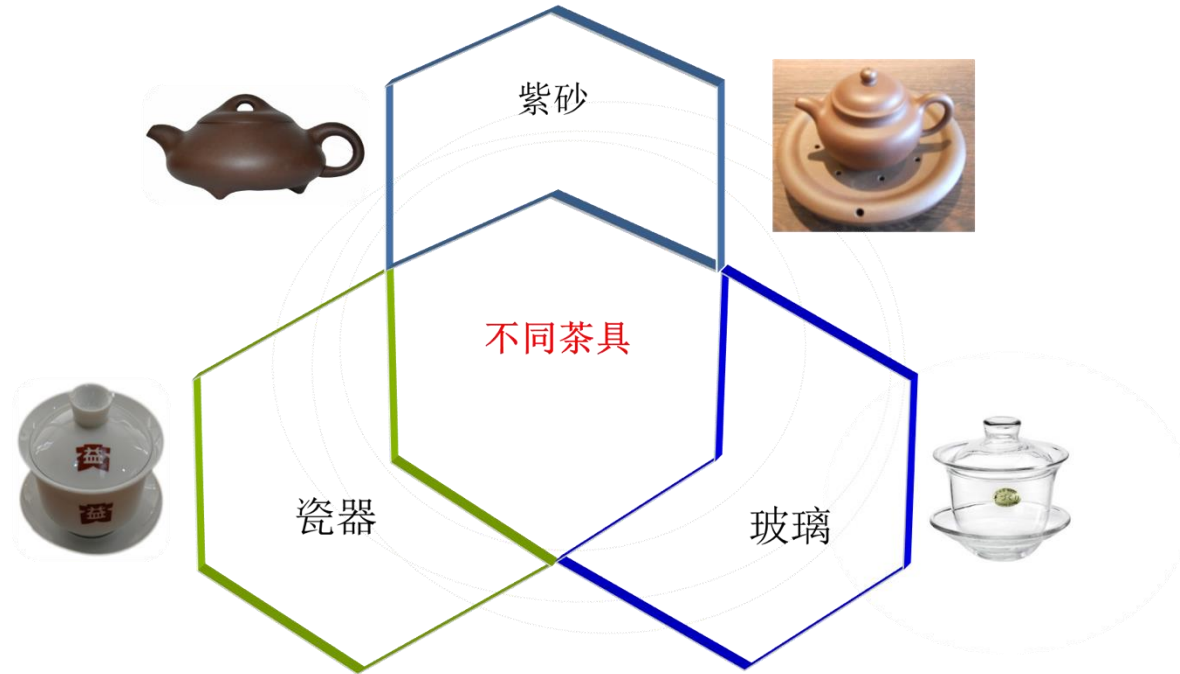
STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events +gifted education pull out programme:



STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events + gifted education pull out programme:



STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events + gifted education pull out programme:



Green/White/
Yellow/Black Tea,
Reprocessed Tea
綠/白/黃/紅茶
花茶
1:50



Puer Tea
普洱茶
1:20



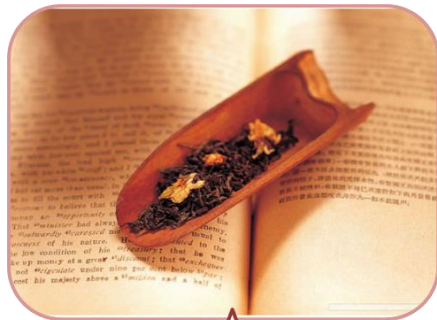
Oolong Tea
烏龍茶
1:15

STREAM x Tea Art x Social Service [Gifted programme]

Activity (2) – STREAM events + gifted education pull out programme:



Green/White/
Yellow/Black Tea,
Reprocessed Tea
綠/白/黃/紅茶
花茶
3grams+150ml



Puer Tea
普洱茶
5grams+100ml
8grams+160ml



Oolong Tea
烏龍茶
7grams+100ml

STREAM x Tea Art x Social Service [Gifted programme]

Design and make a prototype of new tea pot for the elderly!

Skills : science, mathematics, arts,
may need to read a lot of references,
engineering



Feedbacks from the students

S.2D (25)

茶道的課程為期三堂。在第一堂，茶藝老師為我們講解茶道的基本資料，介紹茶道的工具以及它們的用法，例如蓋碗、公道杯、茶藝六君子，並教我們如何泡茶和品嚐古樹紅茶，我個人認為它的氣味很香，而且喝完會有一種香甜的味道停留在口腔中。第二堂則介紹了茶的品種、味道以及出產地，並嘗試使用茶刀來撬取茶餅，品嚐生茶。生茶味道較苦，喝多會有茶醉。第三堂則是品嚐生鐵觀音茶。這個課程教會了我不少有關茶道的知識，例如生茶以及熟茶的分別。在課程中我可以放鬆自己，細品每一杯茶，沉浸在茶道的樂趣，令我清除煩惱壓力，亦從中感悟到應勇敢面對壓力。亦驚喜覺得茶藝和科學原理可以這樣有趣！

S.3C (30)

我認為茶道可以令我細心品嚐茶的味道、品質和茶水比。最初老師播放了一些古典音樂，讓我們放鬆心情，然後拿茶葉開始泡茶，最後便可以品嚐自己泡的茶。泡茶講求心平氣和，心境不寧靜，泡的茶也不會好喝。學習茶道，令我學會放鬆自己的心情，放下煩惱和愁緒，跟老師一起喝茶聊天也很開心。

S.3E (16)

參加完這個活動後，我對茶藝有更深的認識。整個活動中，導師不但教導我們如何去泡茶，加深了我對茶藝與科學的興趣，還教導我們放鬆自己的方法，整個工作坊十分充實。尤其是在考試前，壓力較大，參加這個工作坊可以放鬆自己，暫時拋低對學業的煩惱，好好享受茶。我希望學校將來可以多舉辦這類活動，讓同學放鬆一下。

S.3E (25)

在參加工作坊之前，我並不知道任何有關茶道的知識。初時我還擔心我不會回答老師的問題而感到尷尬，但一切都沒想像中差。老師為我們營造了一個非常放鬆的環境，讓我們能舒服寧靜地品茶，所以我挺喜歡這個科學工作坊。

Introducing Forensic Science



- **Interdisciplinary learning:** Incorporate various subjects like biology, chemistry, physics and engineering and psychology which can be applied in real life.
- **Critical thinking:** Encourages analysis and problem solving as students examine the evidence and draw conclusions.
- **Hands-on experience:** Involves interactive experiments so students can enhance their interest in learning in groups and retention of knowledge.
- **Ethical discussion:** Opens conversations about ethics, legal issues and the role of science in society.

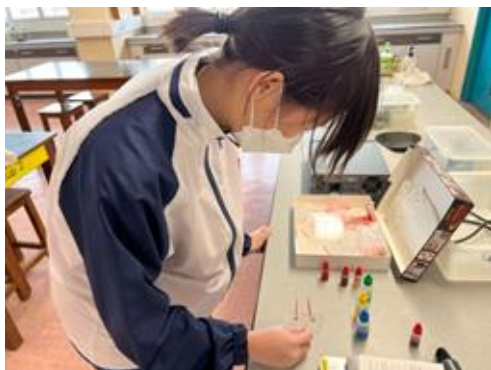
Why forensic science?

Motivating students to work on the plots

- “organiser”: science club committee
- **S**: deductions and analysis
- **T**: experiments
- **R**: script writing and letters
- **E**: work together with maths
- **A**: arts and design of crime scene
- **M**: mathematics and coding

Briefing sessions for the junior form students

Activities



- The student committee from the science club designed the plot and the crime scene under the teacher's supervision.
- They tested all the games before the start of the forensic detective games.
- Both the organizers (students) and participants had a lot of fun. :)
- The investigation revolves around the death of "Apple" at our school, involving:
 - Searching for fingerprints
 - Examining unfinished 4D frame items
 - Identifying potential toxic drugs left on the laboratory table
- To spark creativity in this activity:
 - Students must construct a story of the crime based on:
 - Information from five suspects (acted by students)
 - The crime scenes
 - Games designed to decode the mystery in the crime scenes

(Rahmim et al., 2009; Lee et al., 2013)

Interrogation time

**Some tasks might need to be done for getting more
“tips”**

Consolidating the ideas

Collecting evidence

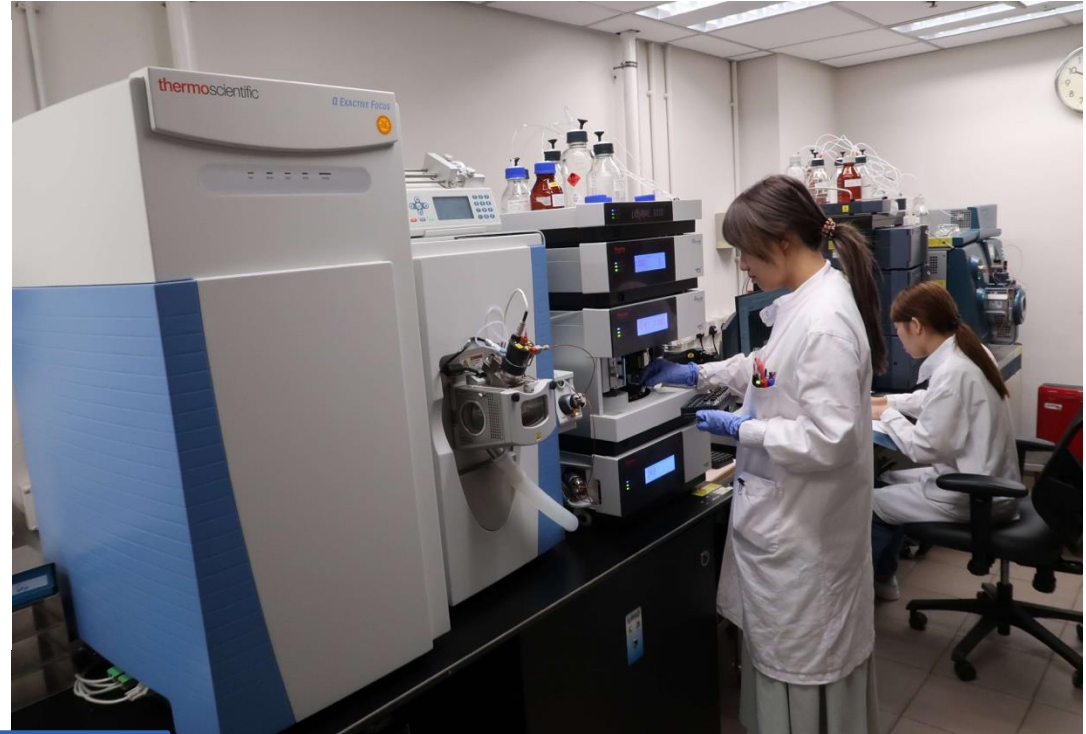
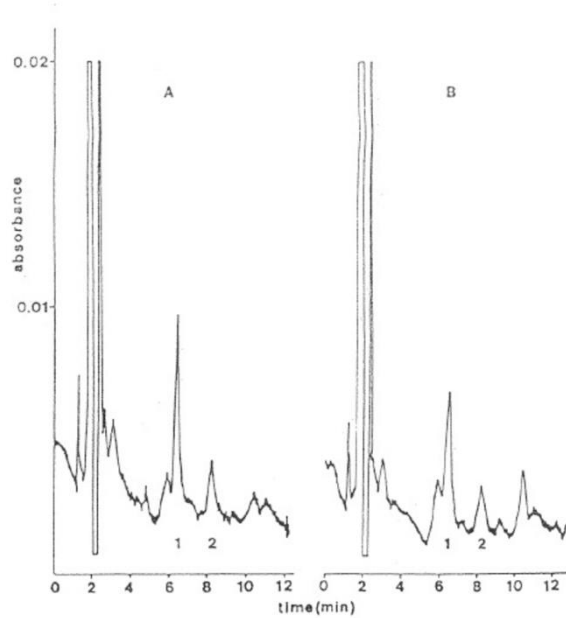


"Every body leaves
traces: micro-evidence
speaks." — Patricia
Wiltshire

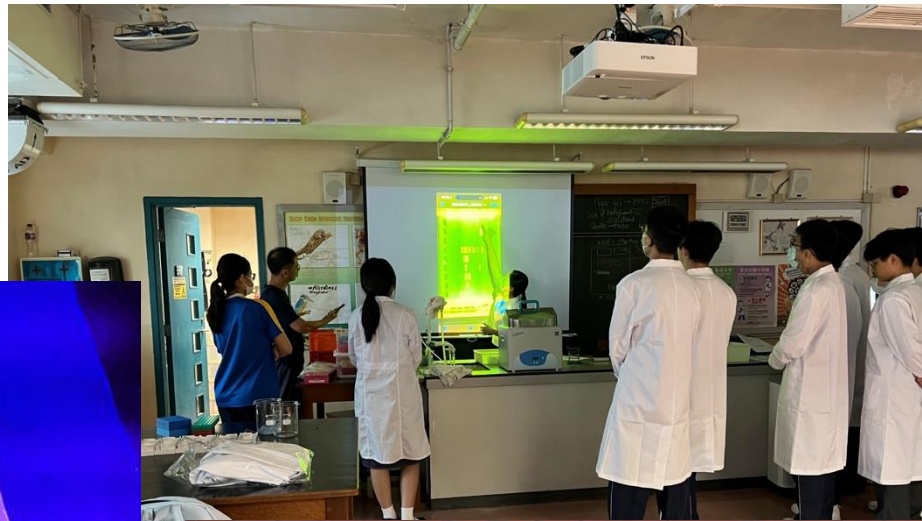
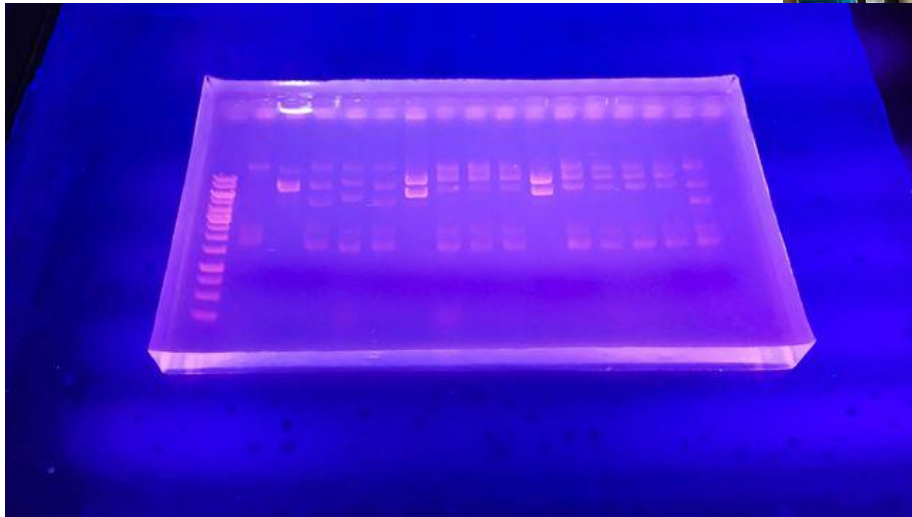
Tools that students need to bring for solving the cases



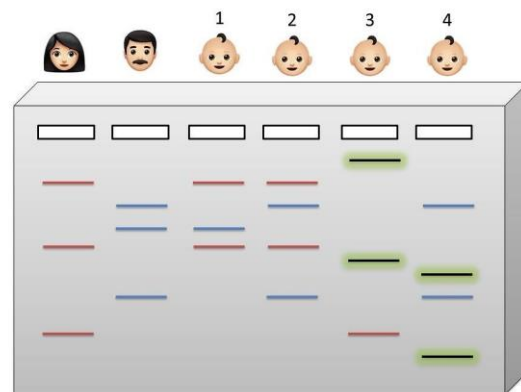
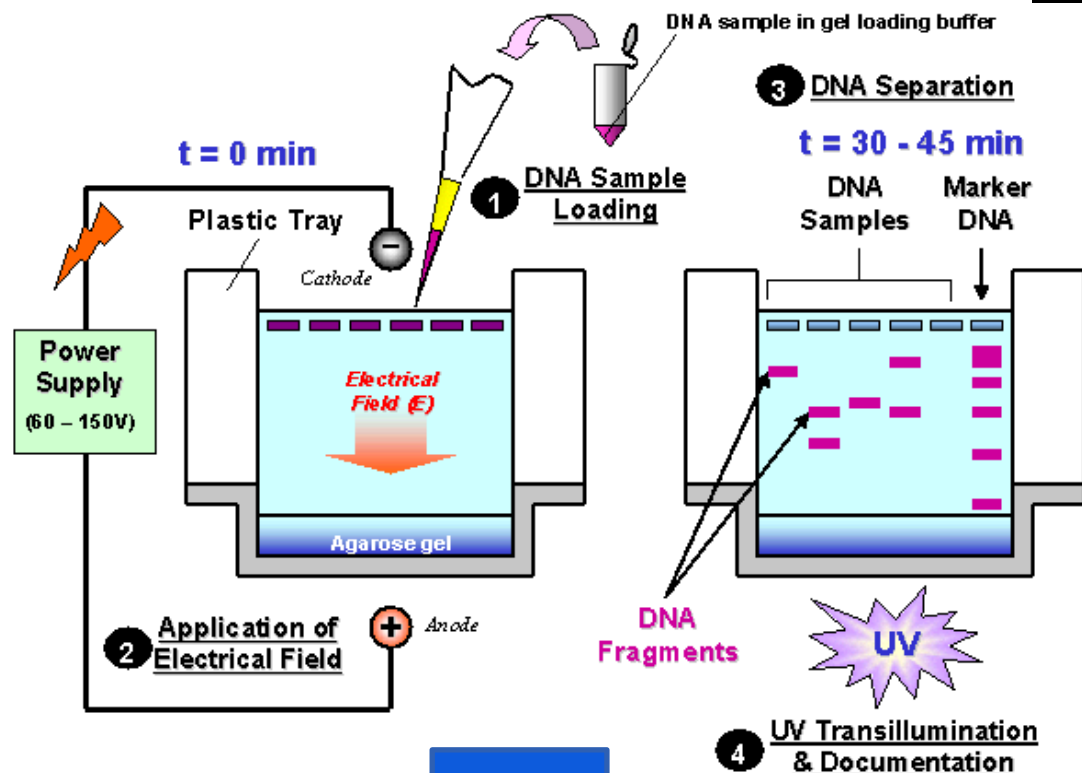
Chemistry – Toxicology (HPLC)



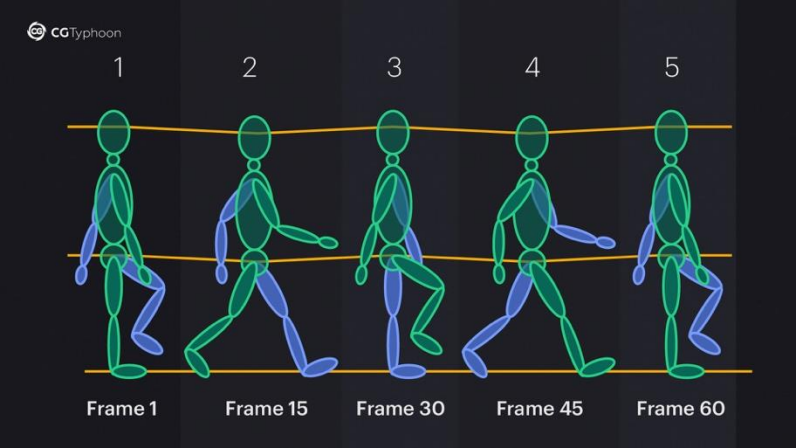
Biology- DNA electrophoresis



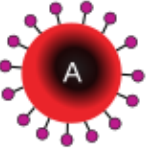

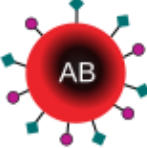
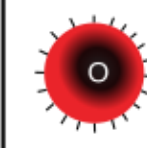






Results analysis



Biology-shoes size and how human walk



Blood tests

	Group A	Group B	Group AB	Group O
Red blood cell type				
Antibodies in plasma	 Anti-B	 Anti-A	None	 Anti-A and Anti-B
Antigens in red blood cell	 A antigen	 B antigen	 A and B antigens	None

Recipient	Blood donor			
	O	A	B	AB
O	✓	✗	✗	✗
A	✓	✓	✗	✗
B	✓	✗	✓	✗
AB	✓	✓	✓	✓

Mathematics – coding and decoding

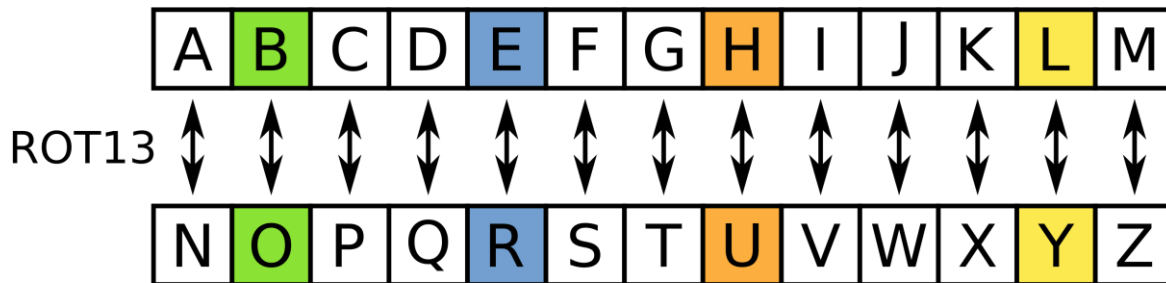
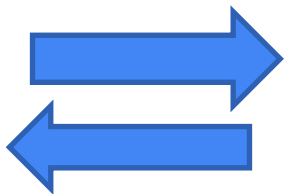
International Morse Code

A ·—	N —·	1 ————
B —···	O ———	2 ————
C —·—·	P —···	3 —··—
D —··	Q —··—	4 —··—
E ·	R ·—·	5 —··—
F ····	S ···	6 —··—
G —··	T —	7 —··—
H ····	U —·	8 —··—
I ··	V ···—	9 —··—
J —··—	W —··	0 —··—
K —··	X —··—	· —··—
L —···	Y —··—	, —··—
M ——	Z —··—	? —··—

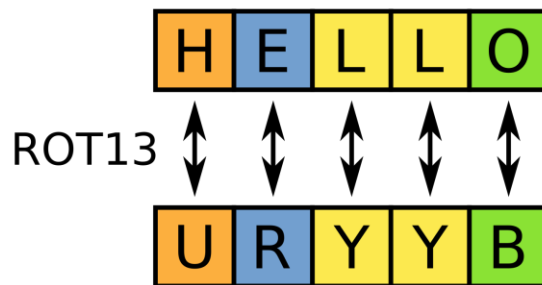
A —·	B —···	C —·—·	D —··	E ·	F ····	G —··
H ····	I ··	J —··—	K —··	L —··—	M —·	N —·
O —··	P —··—	Q —··—	R —··	S ···	T —	U ···
V ····	W —··	X —··—	Y —··—	Z —··—		

Mathematics – coding and decoding

- simple substitution cipher



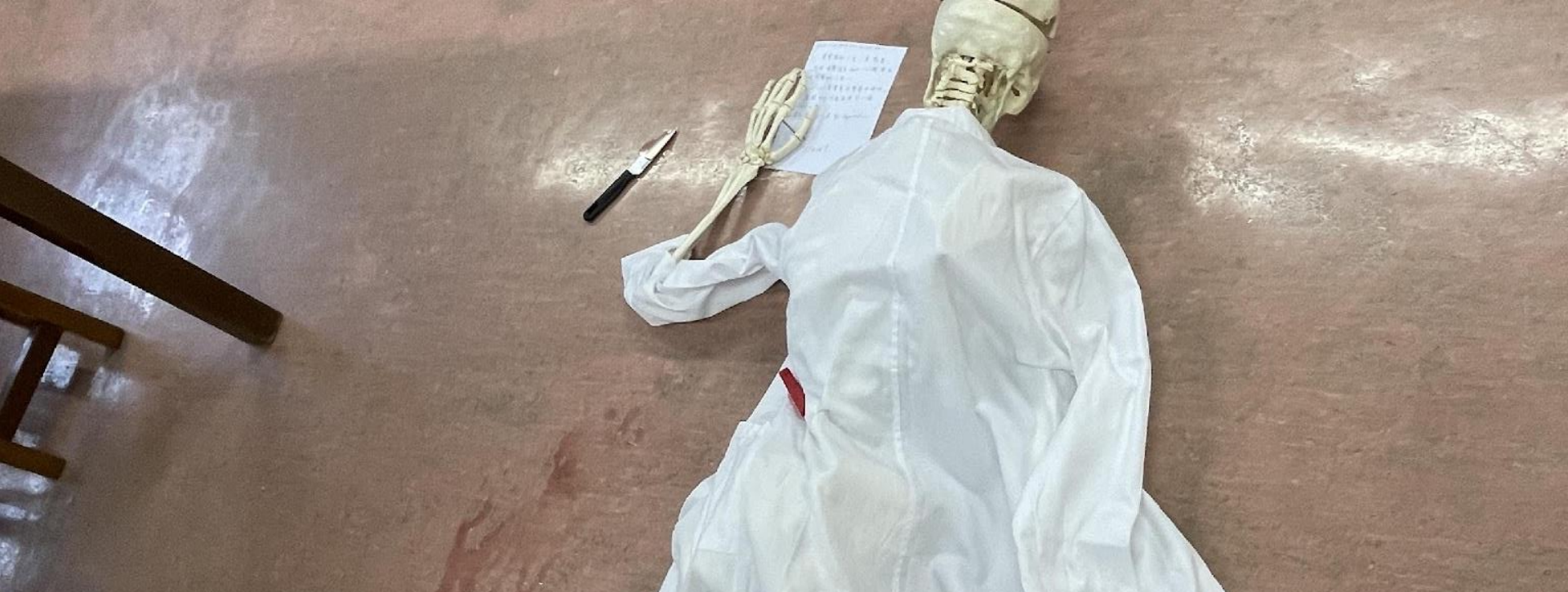
Vedantu
Learn LIVE Online



Mathematics - pigpen cipher

MARKS THE SPOT

A	B	C	J	K	L
D	E	F	M	N	O
G	H	I	P	Q	R
<div>T S U V</div>			<div>W X Y Z</div>		



Story Plots



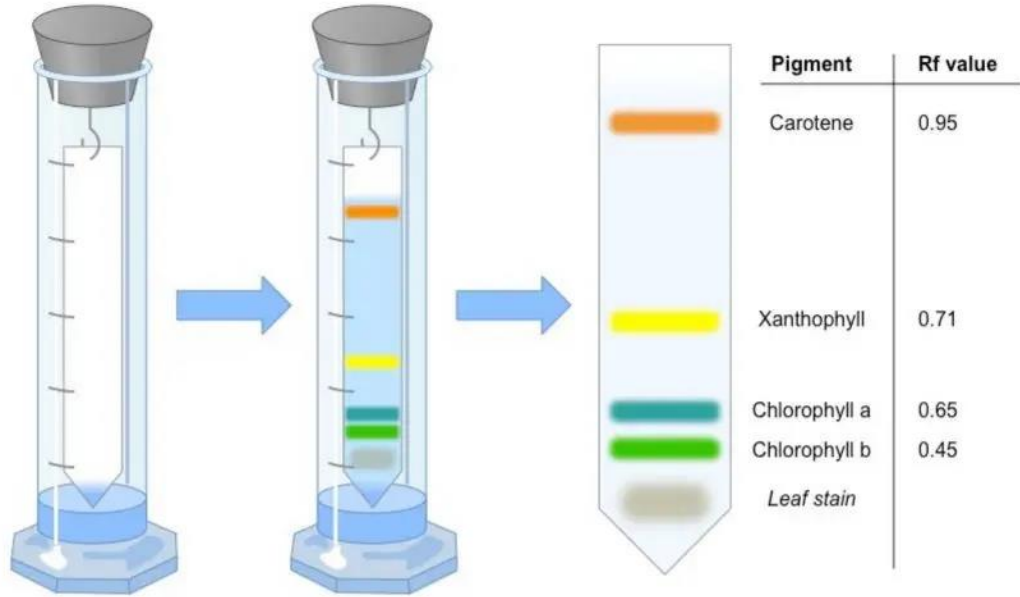
Fundamental Principles and values to be learnt from Forensic Science



Evidence keeping and role play



Scientific measurements (Chemistry)



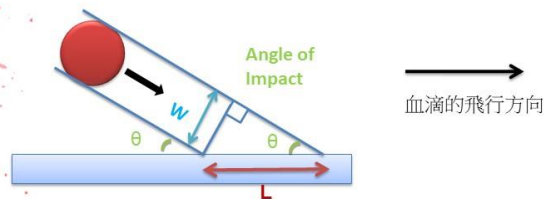
Science methods (Physics)



噴濺角度(入射角)之計算

$$\sin \theta = W / L$$

$$\theta = \text{Arc sin } W / L$$



Science methods (Physics)



Section 1

Section 2

Section 3

Section 4

Section 5

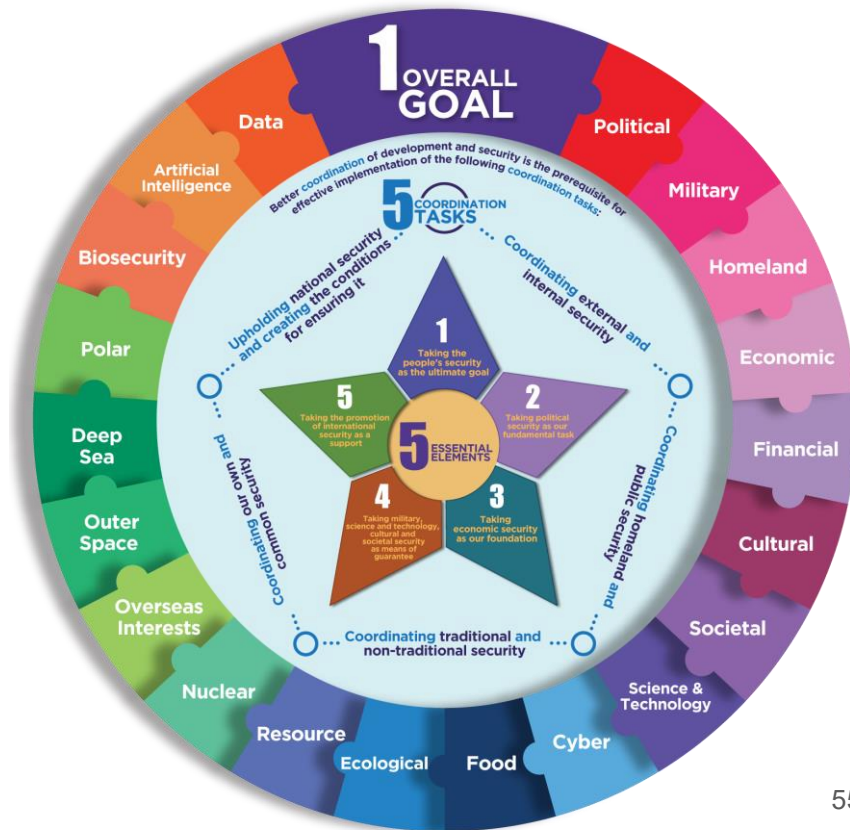
Psychology



Debriefing and value-added session

Key values to be brought to the workshop

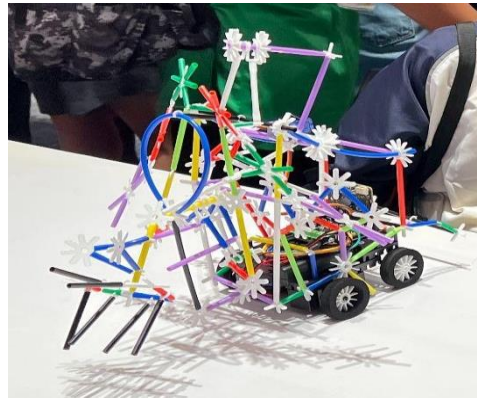
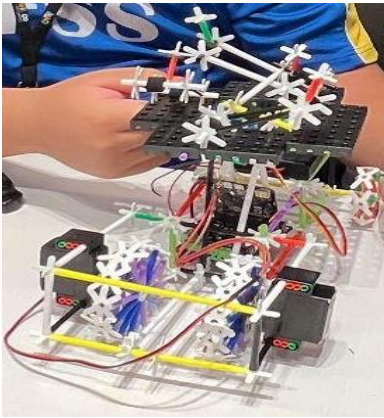
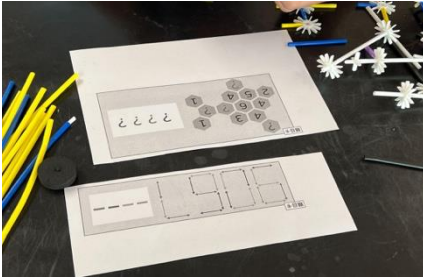
- Life
- Not to harm anyone and not to commit any crime



Evaluation and possible improvements of STEAM x Tea

- Developing programme for both parents and students, with parents

Evaluation and possible improvements of Detective game



- difficulties and struggles as a supervisor
- script writing
- scheduling
- moral values to be brought

Thank you!Questions?