

TSUEN WAN PUBLIC HO CHUEN YIU MEMORIAL COLLEGE

STEAM CURRICULUM PLAN (2024-2025)

Curriculum aims

STEAM is an acronym that refers collectively to the academic disciplines of Science, Technology, Engineering, Arts and Mathematics. In response to the changing needs in our society and the rapid economic, scientific and technological developments in the 21st century, it is essential to promote STEAM education and hence equip our students with the capability to meet the changes and challenges in society and around the world.

Major objectives to achieve include:

- 1) developing a solid knowledge base among students,
- 2) enhancing their interests in Science, Technology, Arts and Mathematics,
- 3) strengthening students' ability to integrate and apply knowledge and skills
- 4) nurturing creativity, collaboration and problem-solving skills of students,
- 5) strengthening the partnerships with community stakeholders, and
- 6) developing talents/experts in STEAM-related areas to foster the development of Hong Kong and mainland China.

Subject Panel Head: Ms. Leung Hoi Yan Wendy (leunghyw@twphcymc.edu.hk)

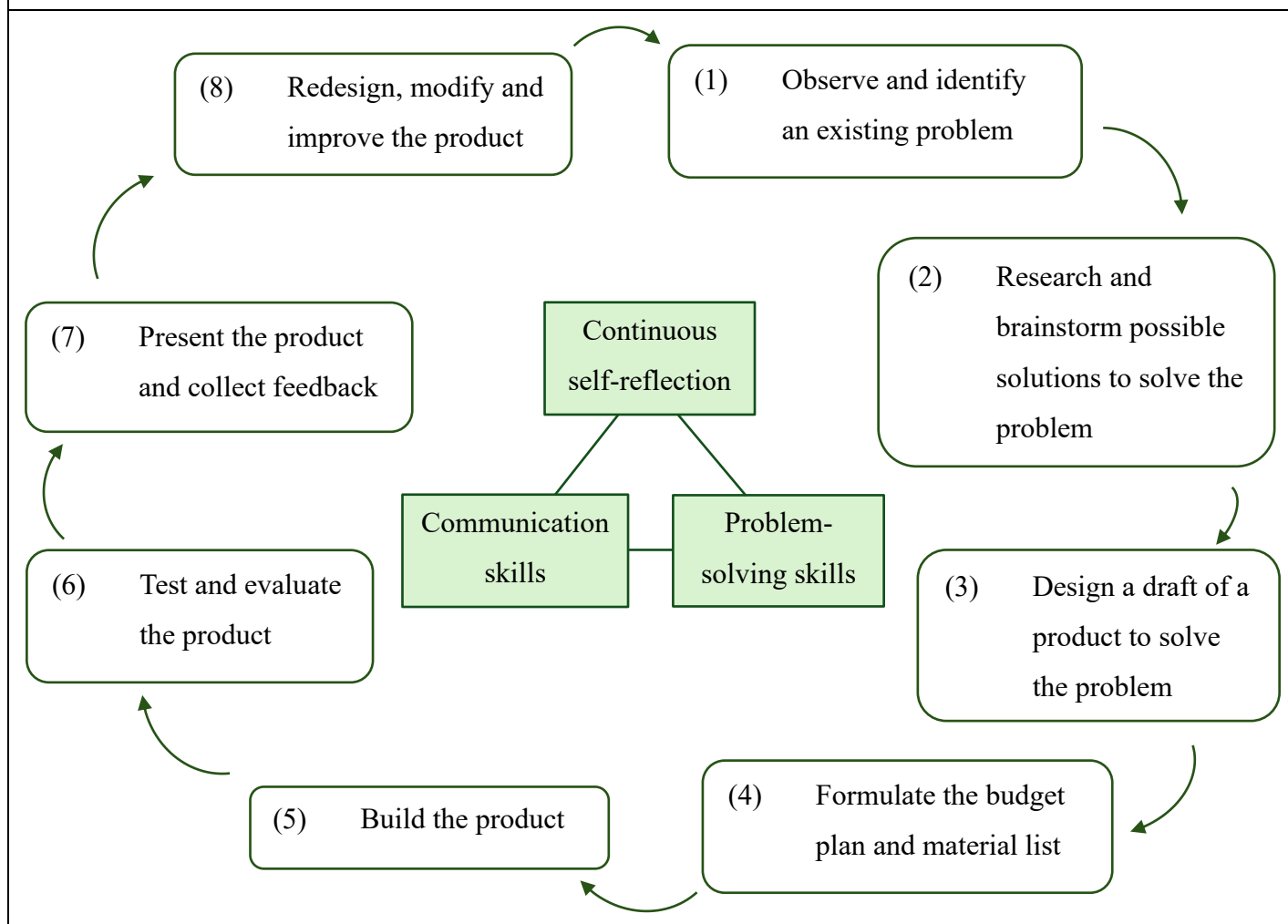
Subject teachers: Ms. Ng Tsz Tung, Mr. Wong Chi To

STEAM elements	Content
Science	Making invention, material science, conservation and pollution problems
Technology	Multimedia editing, webpage design, robot coding
Engineering	3D printing and product making
Arts	3D design, product design, webpage design
Mathematics	Budgeting

F1 and F2 Curriculum – Group-based Annual Invention Project

Objectives	To design and make a scientific invention that can help a target group of people solve specific problems in their daily life
Key Tasks of the project	<ol style="list-style-type: none"> 1) Design draft 2) Budget plan and material list 3) The invention product 4) Group presentation 5) A poster describing the invention 6) A video presenting the product 7) A website presenting the product 8) An exhibition booth selling the product

Design thinking elements of the project



Programme Plan for F1 STEAM lesson

Topic	
1.	Design
2.	Materials, tools and budget
3.	Poster making
4.	Video making
5.	Poster presentation
<hr/>	
6.	Design a webpage
7.	Make a webpage
8.	Make a webpage
9.	NFC and presentation
10.	Project presentation
11.	Exhibition
12.	Evaluation

Programme Plan for F2 STEAM lesson

Topic	
1.	Design and project proposal
2.	Materials, tools and budget (3D Printing)
3.	AI Robot coding
4.	AI Robot chatbox
5.	Poster and video presentation
<hr/>	
6.	AI Robot coding
7.	AI Robot coding
8.	AI Robot coding
9.	Project presentation
10.	Exhibition
11.	Evaluation

HCY STEAM F1 INVENTION PRODUCTS



Coin sorting machine



Solar fan



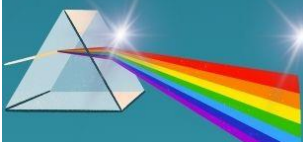
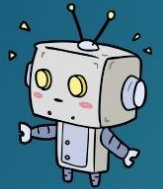
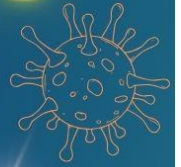
Remote-controlled food truck



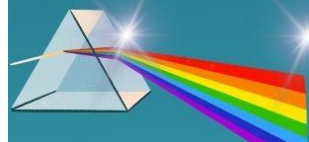
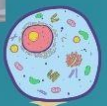
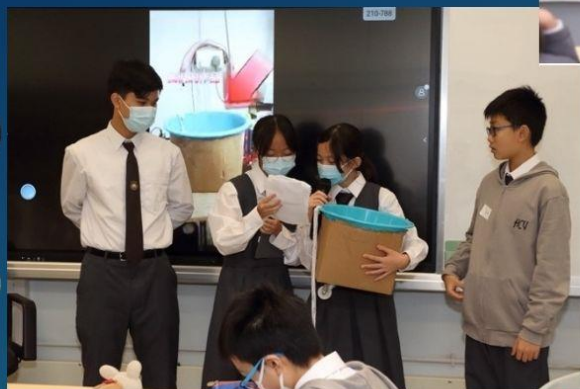
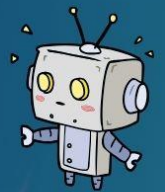
Hair Washing Machine



Mechanical vacuum cleaner



HCY STEAM F1 PRESENTATION



HCY STEAM Posters

TWPHCYMC

STEAM PROJECT GROUP 6

Susan (14)
Julian (15)
Kris (24)
Paul (25)

01 **Water dumbbells**

Our dumbbell two water bottles dumbbell. In order to protect the environment, we use plastic water bottle, rice, soil and small rocks.

02 **Creative Ideas**

Our dumbbell used to water bottle. We use plastic water bottle, uncooked, soil and small rocks. This time we use two ideas, one is to make disabled people can also use it. Another idea is to add the water bottle in the dumbbell so that the people can easily drink water.

03 **Function**

Our product can exercise our arms. It not just only exercise our arms, it also can exercise another such as our muscle. If your arms easily to be tied, then let's try our product everyone can easily to handle.

Tsuen Wan Public Ho Chuen Yiu Memorial College

portable hair washing machine!!

Functions:
1. massage your head
2. wash your hair
3. dry your hair

It is only \$150!!!

Faster than you wash by yourself!
It can help you to wash your hair comfortably

You can use a plastic bottle to replace this bottle

Group 11
Cheung Yu Ting (3)
Chan Sai Ching (3)
Chan King Ching (4)
Chau Yat Fat (1)

MULTIFUNCTIONAL RULER

EIGHT DIFFERENT TOOLS IN ONE RULER

Folding Ruler
French Curves
Circle Template Ruler
Trapezoid Ruler
Magnifier
Protractor
Set Square
Soft Ruler

\$25

TSUEN WAN PUBLIC HO CHUEN YIU MEMORIAL COLLEGE

1A group 5

Coin Sorting Machine
Kate (10), Charlotte (11)
Minnie (12), Cinky (13)
Iassc (23)

PHOTO

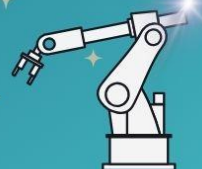
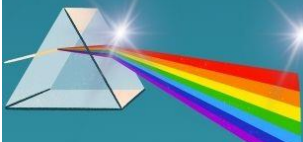
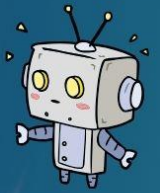
ABOUT OUR PRODUCT

This product is convenient for sorting out coins other than that, this product is small and easy to tidy up. This coin machine offers a range of benefits, including accuracy, speed and efficiency.

The material used for this product is cardboard, and it can be recycled. We chose this material because we want to protect the environment.

This coin machine is a device which is used to sort out many different types of coins which is perfect for an aged people and it is very satisfying to watch the coins sorting by itself.

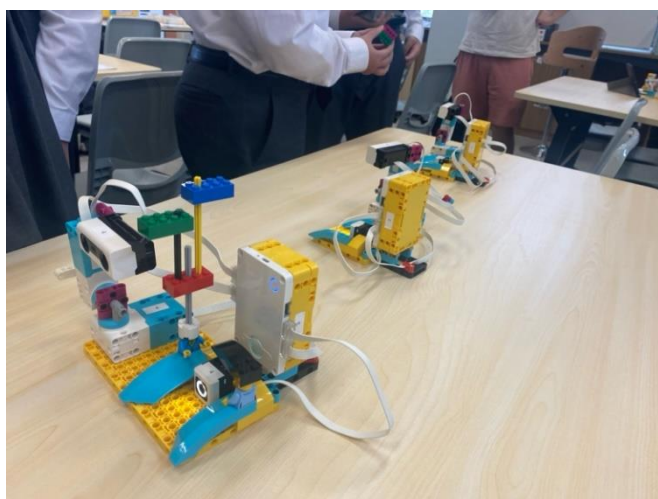
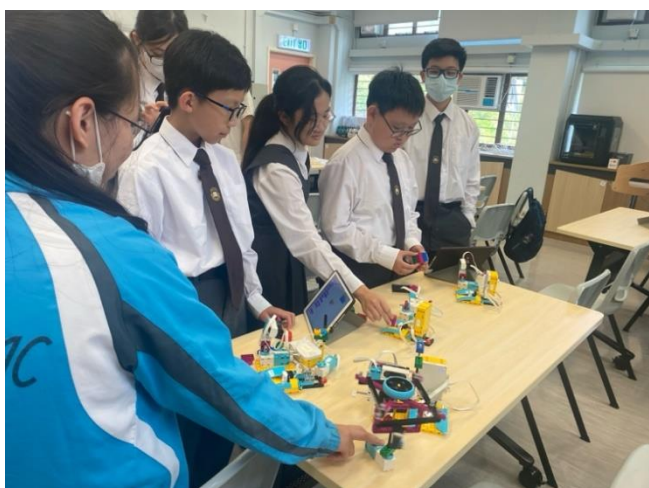
HCY STEAM F1 EXHIBITION BOOTH



AI Robot Coding



LEGO Spike Robot Coding



3D Printing

