

# F1 STEM Cross Curriculum (IS, CL) Project

A Survival Kit of a water filter column and measuring tool

# Problem Definition



## 備災三步曲 3 Steps for Disaster Preparedness

第一步：居安思危·了解風險及做好準備  
Step 1: Be vigilant, know the risks and get prepared

第二步：制定應急計劃  
Step 2: Make an emergency plan

第三步：預備逃生包  
Step 3: Get a survival kit



# Goal

- To teach HK citizens how to make a survival kit that can produce clean water if disasters come.



# Outcomes from this STEM project

(1) A **water filter column** that can be made from home.

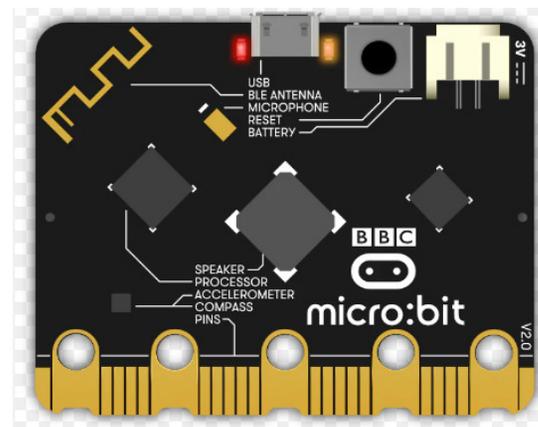


# Outcome from this STEM project

(2)

A Micro:bit **measuring tool** to check if the water is suitable for drinking.

(Micro:bit is a low cost device suitable to be put in the survival kit.)



# Outcome from this STEM project

(3)

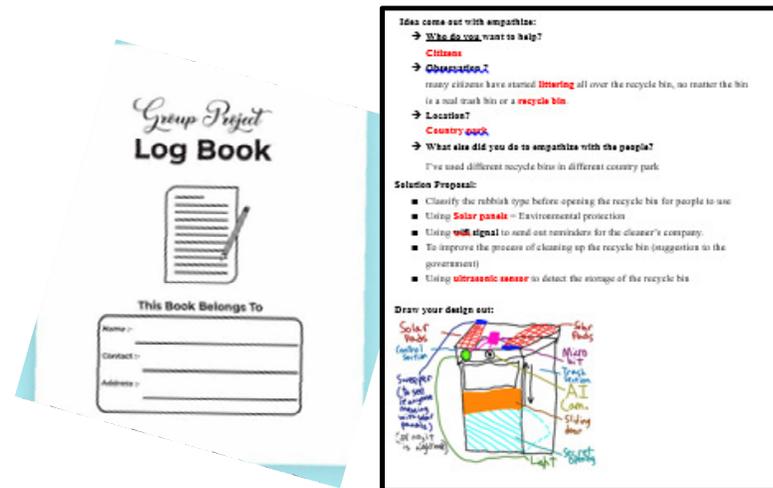
A **video** to teach HK citizens how to prepare the survival kit at home.  
(It could be in Cantonese as the target audiences are HK citizens)



# Outcome from this STEM project

(4)

A **project log book** to record the technical details of the project.



# Assessment (評估)

- Problem Solving Skills
- Values



- National Security
- Peer Evaluation

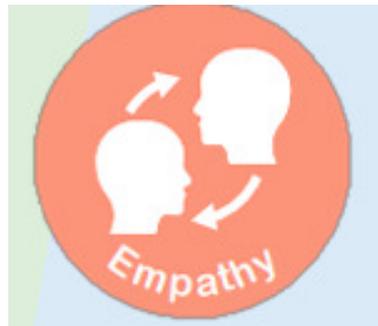


# Design Thinking (設計思維)

## “Empathise” with others (代入別人)?

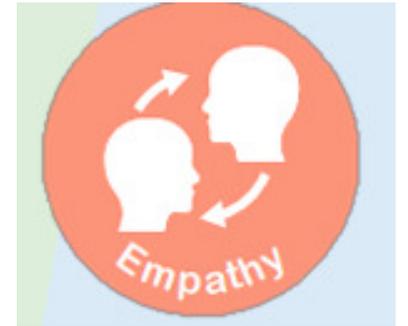
- **Empathise with others means:**

- think from the others' point of view. (想別人所想)
- discover others' difficulties. (發現別人的困難)
- treat their difficulties as your difficulties. (幫助別人解決困難)



# How to Empathise (代入)

- Observation (觀察)
- Role-playing (角色扮演) / Simulating (模擬) others' work
- Conducting an interview, talking to people
- Doing volunteer works to help others



# Video of Awarded project (得獎作品)



<https://youtu.be/e2xtRGHsAkc>