Green Effort with micro:bits

Programme: Workshop introducing micro:bits to solve Environmental issues

Level: Secondary Students

Theme / Challenge Statement: Using technology (micro:bits) to design and innovate ways to reduce global warming

Summary

This workshop will see us working with NLB, the Green Effort committee and Robotic Club of our school to conduct a workshop on Design Thinking and micro:bits so that students can design and create solutions to do our part to reduce global warming.

Prior Knowledge:	Students should already know: 1. The basics of Design Thinking methodology 2. How to conduct online research
Learning Objectives:	By the end of the lesson, students should be able to: 1. Collaborate and work in groups 2. Be aware of the cause and effects of global warming 3. Revisit and apply the Design Thinking Methodology 4. Know how to use the basic kit of micro:bits and Coding

Time	Teacher Activities	Purpose	Resources Needed
Introduction/Pre-activity			
Period / 30mins	Setting the context / talk about the environment where the challenge statement lies.	For students to understand the causes and effects of global warming	Video / Presentation Slides -Sharing by school's geography scholars
Lesson development/Main activities			
Day 1 – 3 hours	• Re-Introduction and recap to Design Thinking Methodology	• Students will be able to recap and understand the Design Thinking Methodology and brainstorm on some possible solutions to help minimise global warming	DT framework
Day 2 – 3 hours	• Basic coding & introduction to micro:bits	• To allow students understand the available features /	

		functionalities of the micro:bits	
Day 3 – 3 hours	Ideation / Brainstorming Creating Prototype	• Experienced micro:bits Robotics Club students will be mentoring groups/individuals for the works • Actual Fabricating of the micro:bits solution	Micro:bits kits
Day 4 – 3 hours			
Day 5 – 3 hours	Pitching and Prize-Presentation Ceremony	• Pitching and demonstration to a panel of judges for shortlisting and winner selection	
Closure and consolidation/Post-activity			
1 month	Exhibition @ Tampines NLB	Exhibition to educate the public more on Green Effort, micro:bits and coding as well as showcasing the micro:bits works from students.	

Please send this template, together with any additional resources, e.g. Powerpoint slides, worksheets and .hex file, to: digital_maker@imda.gov.sg.

Contributed by:

Name of School: Meridian Secondary School

Name of Teacher (Optional):

Date: 14th Oct 2018