

<My Microbit Project >

Subject: Design and Technology

Level: Sec 1 Express

Unit: 1

Topic: To experiment and apply their skills and knowledge of Microbit coding on a physical product/device.

Summary

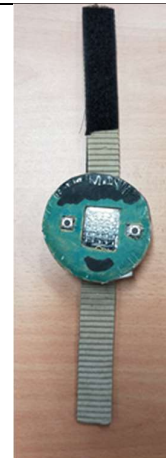
Students were provided a few sessions of training on Microbits during Student Development(SD) module in the afternoon besides curriculum time. More than teaching students how to do coding and we would also like to develop their interests in coding which will be useful for their future in the booming tech industry. Examples of Microbit project (created by a teacher) and also videos were shown to students to arouse their interests in finding out more about the fun way of coding Microbits.

<Please insert a photo here that is representative of the lesson idea. This photo will be used as the thumbnail of the lesson idea when it is posted on the Digital Maker website.>

Two Examples of Work done by a Teacher – to arouse their interests in finding out more about the fun way of coding Microbits.



To help teacher to random pick a student in the class to answer a question



Teacher can use this to count a number of times she shakes her arm to do exercising.

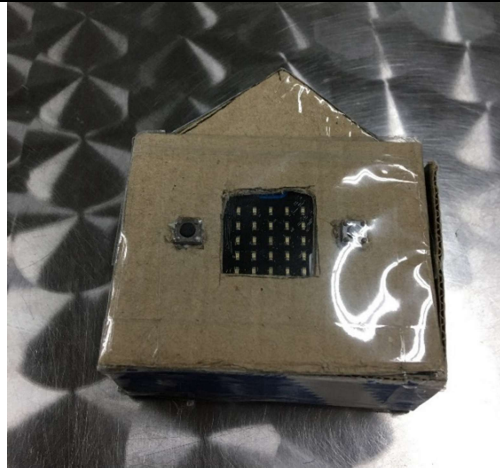
Examples of Work done by students



Student, **HUSSEIN HAIQAL BIN RIDUAN** created a game box as shown above.



Student, **TENGGU DINIE AMMARSHAH BIN TENGKU BAHARIZALSAH** created a game box as shown above.



Student, **MANDY TANG MIN YEE** created this gadget to be mounted onto her assembled toy car.




<p>Prior Knowledge:</p>	<p>Majority of students did not have prior knowledge of Microbits except a few whom they have had an experience in other coding programme.</p>
<p>Learning Objectives:</p>	<p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> 1. Gain sufficient knowledge on Microbits and move on to do self-learning on coding. 2. Handle their project work with a Microbit. 3. Build up presentation skills via their sharing of project work.

Lesson Plan

Time	Teacher Activities	Purpose	Resources Needed
Introduction/Pre-activity			
<p>Student Development(SD) Module – 4 Sessions. Each session is 2 hours</p>	<p>This SD Module consists of 4 lessons.</p> <p><u>Session 1</u></p> <ul style="list-style-type: none"> • Introduction to Micro:bit • Introduction to graphical coding/programming • Basic displays • Using of buttons for inputs <p><u>Sessions 2 and 3</u></p> <ul style="list-style-type: none"> • Use temperature sensor • Use of compass • Use of accelerometer • Simple use of external components e.g Buzzer. <p><u>Lesson 4</u></p> <ul style="list-style-type: none"> • Design solution / Application to D&T project 	<p>Introducing micro:bit, an educational and creative tool, to allow students to experiment coding and acquire computational thinking skills for problem solving as well as logical sequential thinking skills. Students will be applying the skills and knowledge in realizing a D&T project.</p>	<p>Worksheet attached. This worksheet will give students a useful information and space to capture their learning. Please see the attached.</p> <p>Attached Ppt slides to scaffold student learning of Microbit and its applications for sessions 2 and 3.</p> <p>Worksheet on the tasks that each student can choose to work as their project work.</p>
Lesson development/Main activities			
<p>During Curriculum</p> <ul style="list-style-type: none"> - About 4-5 periods of lesson. Each lesson is 35 mins. 	<p>Students built prototype to house their microbits which they had programmed during SD module or at home if they couldn't complete. The materials for prototype are card board or appropriate recycled materials for their project work.</p>		
Closure and consolidation/Post-activity			
			<p>Assessment Criteria - created</p>

Lesson Plan

	<p>Selected Students to present their work to the class and teachers. Please photos below:</p> 		<p>to assess their project work.</p>
	<p><i>(Optional post-class activity)</i></p>		

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:

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Name of Teacher (Optional): Soh GI

Date: 21 Jan 2018