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Micro:bit Madness (2-3)

Hello! This document includes a brief outline of our Micro:bit Madness workshop, as well as relevant BC ADST curriculum connections. In this workshop, students will program an online mini-computer called a Micro:bit and complete a variety of challenges to use this technology to communicate with their fellow classmates.

BC Curriculum Ties (In addition to satisfying multiple core competencies)	BC ADST Links 2-3:
	
	Skills can be developed through play & Technologies are tools that extend human capabilities.
	• *Applied Design:*
	  ○ *Ideating – Identify needs and opportunities for designing, through exploration & Generate ideas from their experiences and interests*
	  ○ *Making – Making a product using known procedures/tutorials and modeling of others & trial and error*
	  ○ *Sharing – Decide on how and with whom to share their product and demonstrating their project*
	• *Applied Skills:*
	  ○ *Use materials, tools and technologies in a safe manner in both physical and digital environments*
	• *Applied Technologies:*
	  ⊄ *Explore the use of simple, available tools and technologies*
	
	BC Mathematics Link
	
	The likelihood of possible outcomes can be examined, compared and interpreted.
	• *Understanding and solving:*

	○ Develop and use multiple strategies to engage in problem solving & Develop, demonstrate, and apply mathematical understanding through play, inquiry and problem solving
Grade Levels	K-3
Time	1~1.5 Hours
Goals of the Workshop	1. Understand that robots are machines that follow instructions to complete a task. 2. Instructions for robots need to be specific. 3. Be able to give instructions for simple everyday tasks that they know how to complete. 4. Understand that robots use sensors to understand their environment.

Activity Descriptions

Mystery Drawing

Objective: For students to learn the importance of precise instructions by drawing objects based on descriptions.
Participants will:

- Attempt to draw based on unclear instructions.
- Try to guess what they are trying to draw
- Learn the importance of precise instructions

Emotion Detector

Objective: For students to program a virtual computer called a micro:bit to display emotions based on a button press
Participants will:

- Learn the order in which computers read code and understand how forever loops work

- Code the micro:bit to respond differently based on inputs such as pressing a button or shaking the device
- Code the micro:bit virtual computer to display strings and icons
- Create their own drawing to be displayed by the microbit
- Create music by making melodies at various tempos

We can't wait to connect with your school & expose your students to the STEM field with our exciting, hands-on STEM activities!