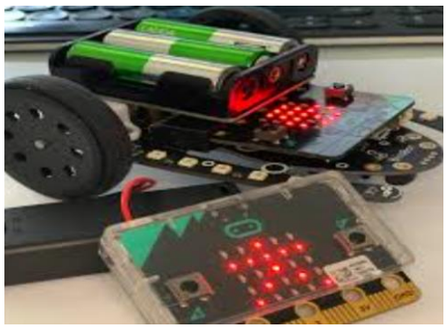
IMDA and MOE
Code for Fun Workshop
FREE 10 HRS WORKSHOP & KITS

LEARN COMPUTATIONAL & DESIGN THINKING

.

APPLY TECHNOLOGY, AI AND STEM TO SOLVE REAL WORLD PROBLEMS



Discover how Machine Learning and Artificial Intelligence can be used with microcontrollers, sensors, and actuators to create prototypes, addressing your school's project themes

In the 2025 CFF Enrichment Programme, schools can choose to tap on the CFF to provide fully subsidised training support to run the 10 hours CFF for up to 2 cohorts!

For our CFF Baseline workshop, students will learn the basics of microcontrollers, how to code and use different sensors and actuators to create useful prototypes to solve real world problems aligned with various ALP themes.

For our CFF AI workshop, students will learn more about Artificial Intelligence, Large Language Models, Ethical Use of AI, Machine Learning, AI Vision and Generative AI. Students will be coached on how to harness Generative AI to create either digital projects such as websites, chatbots or physical prototypes with Smart Cars with AI Camera to solve real world problems more effectively.

With 3- 4 hours of project time allocated out of the total 10 hours workshop for both Baseline and AI workshops, the CFF can now better support your school's existing programmes such as STEM ALP or Math/ Science/ICT Project Work. Schools will also have more flexibility to customize the CFF to align with learning objectives they want to achieve, whilst providing their students with an opportunity to develop key computational and design thinking skills.

In addition to receiving new hardware including new **micro:bits, core accessory kits and project kits** based on your school's preferred theme, schools will also receive more support and can opt for hardware management services to help with managing their new and existing inventory of hardware.

Give us a call or drop us an email to find out more or sign up for the 2025 CFF now with Zenitant at this link: https://form.gov.sg/67c15c315dd4738afdee3e81

Learn more about Artificial Intelligence and create AI prototypes!

Compatible with all Windows, Chrome or Apple PLD devices!

Learn to create with Block or Python Programming with web based Uiflow or Makecode!

All hardware and training fully sponsored. No ITQ required. Just fill up a simple form to apply!

Organised by:

ZENITANT HOLDINGS
Hub For Education

Microsoft in Education Global Training Partner
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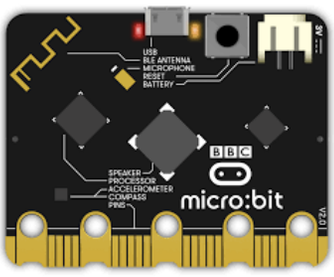
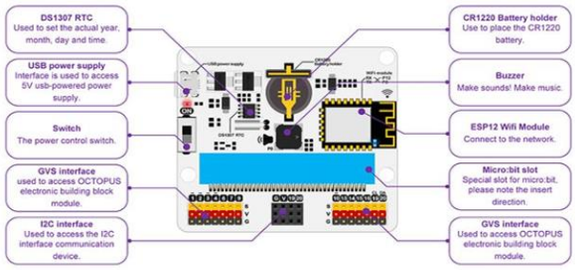
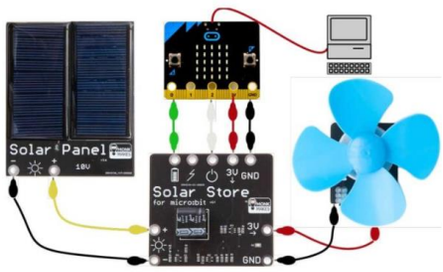
Code For Fun Baseline Module Overview



Microcontroller



Core Accessory Kit



Project Kit

Hour	Topic	Description
1	Computational thinking	Introduction to computational thinking and programming with the microcontroller and programming platform on a standalone basis
2	Coding and controlling Outputs/Actuators in Core Accessory Kit	Learning to code Basic Outputs (eg. LEDs and Servo) in the Core Accessory Kit.
3	Coding and controlling Inputs/Sensors in Core Accessory Kit	Learning to code Basic Inputs/Sensors (eg, PIR and Light Sensors) with different Outputs in Core Accessory Kit.
4	Coding and using Actuators and Sensors in Project Kits	Learning to code sensors and actuators (eg. Moisture sensor, Solar Panel and Water) in the Project Kit to create thematic projects.
5	Machine Learning and AI Camera	Learning what is Machine Learning and how to use AI Camera for Pattern, Object and Facial Recognition
6	Integrating AI camera with Sensors and Actuators to create AI Prototypes	Learning how to integrate AI Camera with different Actuators and Sensors in Core Accessory and Project Kits to create AI prototypes.
7	Design thinking	Learn/ recap design thinking before empathising, defining problem statement and ideating on problem statement posed.
8-10	Capstone Project	Students will work in groups to create a prototype, using what they have learnt, to solve problem statement posed

Code For Fun AI Module Overview

Hour	Topic	Description
1	Understanding AI and Its Biases	Learning different AI capabilities (e.g., image recognition, natural language processing, autonomous vehicles), how AI learns and AI Bias
2	Societal Implications and Ethical Concerns of AI, Training Data and AI Performance	Learning how Google Teachable Machine allows users to train their own AI models using images, sounds, or poses
3	Introduction to Generative AI	Learning text, image and code creation with GAI
4	Introduction to Large Language Models and Chatbots	Learning to create a simple large language model with own inputs and documents
5	Understanding Training Data and Model/Chatbot Performance	Learning to code, create and train your own chatbot
6	Ethical Concerns of GAI	Learning to discern information generated by AI tools and recap on integrating software/hardware with AI tools
7-10	Hands On with GAI	Application of GAI tools to enhance the design thinking process and assist in writing code to develop either a digital or physical prototype for a real-world problem related to the chosen project theme