Module 6: Computers and Coding

Module 6 explores computers and coding. The module stimulates critical thinking and problem solving skills in students as they progress through coding and computer science activities. The module uses a range of resources which are available online so students can extend their learning further at home if desired. Options for low technology venues and "unplugged" activities are provided for each session.

The Module 6 Risk Assessment highlights potential risks and their management strategies. Please read the Risk Assessment document before commencing any of the sessions.

Feedback forms have been provided for students, parents/guardians and coordinators to complete at the end of each session. Feedback assists with continued improvement of your club experience and the resources.

Module 6.1: Computer Talk

In this session students gain an understanding of how computers work (hardware, software) and the use of computing languages and programs to instruct computers how to complete certain tasks. The binary programming language is introduced along with key coding components: lines, loops, blocks and if-statements. The session concludes with a 'Program your Teacher / Human Robot' Challenge which is a computer-free coding activity.

Module 6.2: Block Coding

In this session students continue to explore computer science, programing and coding. Students are introduced to visual coding languages, and the concepts of drag and drop block coding using Blockly. Students practice coding using the key concepts introduced in session 6.1, and are introduced to human interface design (coding for human interaction) and coding for images. Options for both online and 'unplugged' activities are included.

Module 6.3: Algorithms and Apps

In this session students continue to build on their understanding of computer science, programing and coding. Students explore the concept of algorithms, as useful sets of rules and instructions for computers to aid in efficient completion of tasks, such as data sorting. If computers are available, students can explore creation of an App using MIT App Inventor. If computers are not available, students will explore algorithms through an interactive island connection challenge.

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