Introduction & Movement

Monday, 27 June 2016

11:46 AM

# Summary

This session aims to introduce students to the mBot Robot at ESC. This robot is the tool used to engage students in lesson content and is aimed to follow a "Learn through Play" pedagogy.

Integration Friendly

EAL Friendly

High-Achiever Friendly

# Background Knowledge

There is no specific prior knowledge required for this lesson. However if students have used [Scratch](https://scratch.mit.edu/) before then they will be familiar with how blocks snap together. [Scratch Supporting Activities](onenote:#Scratch%20Supporting%20Activities&section-id={AFFAF6A3-707E-46CC-9B75-EC806F30448E}&page-id={79CD9CD4-3F95-4DC7-A542-77994FCA4ECB}&end&base-path=https://eduvic-my.sharepoint.com/personal/09048098_education_vic_gov_au/Documents/Staff%20Notebooks/ESC%20Tech) are also available to help build any foundational skills not considered.

# Fundamentals of this Lesson

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| --- | --- |
| Learning Intention | Success Criteria |
|  |  |
| Core Content | Activities / Assigned Questions |
| Introduction to the mBot  |  |  | | --- | --- | | C:\687A0E25\1978F47E-E0ED-41F8-8838-83CDA742F2B0_files\image001.png    C:\687A0E25\1978F47E-E0ED-41F8-8838-83CDA742F2B0_files\image002.png | Introduces students to the mBot Platform and how to connect successfully.  Also includes first two tasks:   * Controlling LEDs on Board * Moving mBot with Arrow Keys   <<mBot Introduction.pptx>> | | |  |  | | --- | --- | | C:\687A0E25\1978F47E-E0ED-41F8-8838-83CDA742F2B0_files\image003.png | Additional Core Tasks \*See Extension Tasks below. | | C:\687A0E25\1978F47E-E0ED-41F8-8838-83CDA742F2B0_files\image004.png | Integration Tasks It is expected that the majority of integration student participate in the mainstream task. *Learning Disability* This worksheet can be given to students to complete the task that have issues with memory recall.  <<introduction Keyboard Controls.pdf>> | | C:\687A0E25\1978F47E-E0ED-41F8-8838-83CDA742F2B0_files\image005.png | EAL Support Tasks*Vocab*  * ***Microcontroller*** Small Basic Computer * ***Electronics*** Electrical parts (Motors, wires, lights, etc.)  *Activity* No additional/alternate EAL Activity exists. | | C:\687A0E25\1978F47E-E0ED-41F8-8838-83CDA742F2B0_files\image006.png | Extension Tasks Students to create a Graphical User Interface (GUI) to control the robot.   * Students create different sprites * Apply relevant code to each sprite. * Add additional controls to GUI. i.e.   + Light colour controls   + Variable Speed of movement | |
| Helpful Teacher Resources | Staff Feedback |
| * + PowerPoint Presentation has all prepared notes as prompts or guides to assist you in presenting to students.   + Batteries can be replaced by students - but only with teacher approval. |  |

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# Victorian Curriculum Links