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| **Unit 7.3** | **Road Map** |
| In this unit you will investigate water on the land. The aims are as follows:**LG1**: Knowledge**LG2**: Application**LG3**: Skills | Assessment Grades |  |  |
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| **Themes** | **Learning Goals/Outcomes/Content** |  |  |  |
| What is a Micro:Bit and what can it do?What is an algorithm?How do I program a Micro:Bit?What is an input, process and output and how does this relate to a computer program?How do I transfer my code to a Micro:Bit? | **LG1:** Understand what a Micro:Bit is and various components of the device.**LG1:** Understand what an algorithm is.**LG1:** Know how to program a Micro:Bit.**LG2:** Apply knowledge of input, process and output to write a computer program**LG3**: Code, compile, flash and execute a computing program using a Micro:Bit.  |  |  |  |
| What is computational thinking?What is decomposition, abstraction and algorithmic thinking?What is a variable and what is its purpose in a computer program? | **LG1:** Know what computational thinking is and how it is used to solve complex problems.**LG1:** Understand what a variable is and how variables are used in a computer program. **LG2:** Apply knowledge of computational thinking to solve complex problems.**LG2:** Apply knowledge of variables and write a computer program which contains at least one variable.**LG3**: Code, compile, flash and execute a computing program which includes a variable using a Micro:Bit.  |  |  |  |
| What is a programming construct?What is sequencing?What is selection?What is iteration? | **LG1:** Know the three basic programming constructs used to control program flow: sequencing, selection and iteration.**LG2:** Apply knowledge of the three basic programming constructs and write computer programs which contain sequencing, selection and iteration.**LG3**: Code, compile, flash and execute computing programs which include sequencing, selection and iteration using a Micro:Bit. |  |  |  |
| How are coordinates used to develop a graphical program? | **LG1:** Understand the use of coordinates to develop graphical programs.**LG2:** Apply knowledge of coordinates to write a computer program.**LG3**: Code, compile, flash and execute a computing program which includes coordinates. |  |  |  |
| What is MicroPython? | **LG1**: Understand what MicroPython is and why it is used to write a computer program instead of using ‘blocks’ of code. **LG2:** Apply knowledge of MicroPython to write a computer program.**LG3**: Code (in MicroPython), compile, flash and execute a computing program. |  |  |  |
| **Assessment** |  |  |  |

**Links:**

**LG1:** To understand what an algorithm, computational thinking and the three basic programming constructs is essential in solving complex problems.

**LG2:** Application of knowledge learnt in this unit is important so that you are able to plan, develop and test computer programs successfully.

**LG3:** Being able to write computer programs using blocks will help you understand and develop skills in writing computer programs in text in the future.