Coding for Climate Action Mapping (Secondary)

Overview and mapping – Programme of study (computing)

Lesson	Learning objectives	Programme of study for computing statements
1	Code a digital display for an Early Warning System using the micro:bit Know what data can be collected to help predict when a natural hazard might happen Explore a range of input and output components of the micro:bit Consider how to make a physical system more sustainable	3.3, 3.5
2	Know the relationship between water and natural hazards Know how technology can support the detection of coastal flooding Know the role of variables in programming, and how a variable is declared and assigned a value Log data using the micro:bit accelerator, interpret the data, and create tolerances Implement selection (if) statements to provide pathways through a program	3.3, 3.5, 3.6, 3.7
3	Improve the functionality of a solution using selection statements Know how to improve the efficiency of code using if…elseif selection statements Create variables to use as counters for comparison Understand the role of tolerances in data processing	3.3, 3.5, 3.6, 3.7, 3.8
4	Understand that Early Warning Systems need to transmit data Know the benefits and drawbacks of sending data via radio and Bluetooth Code a micro:bit to transmit data using radio channels Know the benefits of collaborative coding through pair programming	3.3, 3.4, 3.8, 3.9
5	Understand the importance of considering accessibility when developing computing solutions Be able to modify a solution by implementing accessibility solutions Design an Early Warning System for a local community issue or global climate issue Identify and extract key input, processing, and output requirements for a solution	3.1, 3.3, 3.5, 3.8
6	Know how an engineering design process can develop and refine a solution Know the difference between behavioural and transparent testing Develop a testing table to test outputs and processing for efficiency	3.1, 3.3, 3.8

	Use abstraction to prepare a presentation to highlight a need and a solution	

Overview and mapping – Teach Computing Curriculum Year 7 programming unit

Label	Teach Computing Curriculum statement	Covered in Coding for Climate Action
PS	Use an IDE to write and execute a Python program	Lesson 3 (editing code in Python IDE)
PS	Locate and correct common syntax errors	Lesson 1, Lesson 3
PS	Walk through a sequence and sketch the state and output	Lesson 5
PS	Use variables as counters	Lesson 3
PS	Use Boolean variables as flags	Lesson 2, Lesson 3
CS	Arrange program statements in a sequence	Lesson 1, Lesson 2
CS	Use selection to control the flow of program execution	Lesson 2, Lesson 3, Lesson 4, Lesson 5, Lesson 6
CS	Combine iteration and selection	Lesson 2, Lesson 3, Lesson 4, Lesson 5, Lesson 6
DTAS	Use Input and output	Lesson 1
DTAS	Use operators and data types	Lesson 4
DTAS	Use if else and relational operators	Lesson 3, Lesson 4
DTAS	Use If elif else statements	Lesson 4
DTAS	Use while loops	Lesson 4, Lesson 5
DTAS	Use the logical operators AND and NOT	Not covered

PS	Use functions and parameters)	Lesson 4 *Not covered*

PS = Programming Skills

CS = Control Structures

DTAS = Data Types and Structures