



Subject Computing Theme Coding

Term

2

**What should I already know?**

- what an algorithm is.
- how to design algorithms and then code them.
- how to compare different object types.
- how to use the repeat command.
- how use the timer command.
- what debugging is and to debug programs.

**What should I know by the end of the unit?**

- How to design algorithms using flowcharts.
- How to design an algorithm that represents a physical system and code this representation.
- How to use selection in coding with the 'if' command.
- How to understand and use variables in 2Code.
- To have a deeper understanding of the different between timers and repeat commands.

**Computational Skills and Enquiry**

- To use 2Chart to represent a sequential program design.
- To use the design to write the code for the program.
- To design and write a program that simulates a physical system.
- To combine a timer in a program with selection
- To use a variable to create a timer.
- To create a program with an object that repeats actions indefinitely.
- To use a timer to make characters repeat actions.
- To explore the use of the repeat comment and how this differs from the timer.
- To debug simple programs.

**Key Vocabulary**

action	Types of commands, which are run on an object. They could be used to move an object or change a property.
algorithm	A precise step by step set of instructions used to solve a problem or achieve an objective.
bug	A problem in a computer program that stops it working the way it was designed.
code block	A problem in a computer program that stops it working the way it was designed.
code design	Design what your program will look like and what it will do.
command	Design what your program will look like and what it will do.
control	These commands determine whether parts of the program will run, how often and sometimes, when.
debug/debugging	Looking for any problems in the code, fixing and testing them.
design mode	Used to create the look of a 2Code computer program when it is run.
event	Something that causes a block of code to be run.
if	A conditional command. This tests a statement. If the condition is true, then...
input	Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.
output	Information that comes out of the computer e.g. sound.
object	An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.
properties	All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties.
repeat	This command can be used to make a block of commands run a set number of times or forever.
computer simulation	A program that models a real-life situation.
selection	This is a conditional/ decision command. When selection is used, a program will choose a different
timer	Use this command to run a block of commands after a timed delay or at regular intervals.
variable	A named area in computer memory. A variable has a name and a value. The program can change this variable value.