

Final Outcome: I can create coding for a real-life situation that includes a range of variables. I can also decompose it and consider the level of abstraction.

Component 6: To understand decomposition and abstraction in computer science.

What we will know after this sequence:

- What decomposition and abstraction are in computer science.
- How to take a real-life situation, decompose it, and think about the level of abstraction.
- How to design a decomposed feature of a real-life situation.



Vocabulary:

Decomposition, abstraction, computer science, real-life situation, feature

How will this feed into my next learning:

I will use my knowledge of coding to explore it in further depth next year, as well as looking at games and products that contain coding.

SEN: Additional modelling if needed to demonstrate the process used.

Component 4: To make a timer.

What we will know after this sequence:

- How to make timers and counting machines using variables to print a new number to the screen every second



Vocabulary:

Timer, counting machine, screen, variable, second, new, change,

How will this feed into my next learning:

I will use my knowledge of timers and counting machines to explore how to make a control simulation in 2code.

SEND: Additional modelling if needed to demonstrate the process used.

Component 5: To investigate control by creating a simulation.

What we will know after this sequence:

- How to create an algorithm modelling the sequence of a simple event
- How to manipulate graphics in the design view to achieve a desired look
- How to use an algorithm when making a simulation of an event on the computer



Vocabulary:

Simulation, investigate, 2Code, program, algorithm, graphics, manipulate, event,

How will this feed into my next learning:

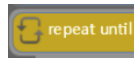
I will use my knowledge of making a control simulation to explore what is meant by decomposition and abstraction in computer science.

SEND: Additional modelling if needed to demonstrate the process used.

Component 3: To create a program with a character that repeats actions.

What we will know after this sequence:

- How to create a program with a character that repeats actions.
- How to use the repeat until command to make characters repeat actions
- How to program a character to respond to user keyboard input



Vocabulary:

Repeat, until, input, keyboard, command, program,

How will this feed into my next learning:

I will use my knowledge of repeat commands in coding to explore how to use a timer/counting machine using variables.

SEND: Additional modelling if needed to demonstrate the processes used.

Component 2: To use if/else statements and variables in a program.

What we will know after this sequence:

- How to introduce if/else statements and use it in a program.
- How to create a variable.
- How to explore a flowchart design for a program with an if/else statement.
- How to create a program which responds to if/else command, using the value of the variable.



Vocabulary: If/else, command, flowchart, variable, respond, interpret

How will this feed into my next learning:

I will use my knowledge of if/else statements in coding to then explore repeat actions in an algorithm.

SEND: Additional modelling if needed to demonstrate the processes used.

Component 1: To review the design, code, test, debug process

We should know: What coding is and basic coding vocabulary

What we will know after this sequence:

- How to review coding vocabulary.
- How to use a sketch or storyboard to represent a program design and algorithm.
- How to use the design to create program.



Vocabulary: Design, code, test, debug, process, algorithm, coding, program

How will this feed into my next learning:

I will use my knowledge of coding and debugging to explore 'if/else' statements.

SEND: Pre-teach vocabulary using multi-sensory format. Support using modelling to demonstrate the processes used.