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| **Year 4 Autumn 2 – Coding** |
| **Key Images**  | **Key Learning** |
|  | * To use selection in coding with the ‘if/else’ command.
* To understand and use variables in 2Code.
* To use flowcharts for design of algorithms including selection.
* To use the ‘repeat until’ with variables to determine the repeat.
* To learn about and use computational thinking terms decomposition and abstraction.
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| **Key Vocabulary** | **Key Questions** |
| * Action
* Alert
* Algorithm
* Bug
* Code Design
* Command
* Control
* Debug/Debugging
* Design Mode
* Event
* Get Input
* If
* If/Else
* Input
* Output
* Object
* Repeat
* Selection
* Simulation
* Timer
* Variable
 | **Explain the stages of the design, code, test, debug coding process.**This is a process to go through as you create a program using coding* Design: Create a design which could be a flowchart, a labelled diagram or a storyboard. This helps to think through the algorithms required
* Code: code the algorithms usbng9in and adapting the design.
* Test and Debug: see if the program works and fix any errors.

**How can variables and if/else statements be useful when coding programs with selection?**The variable could be set either to 0 or 1 and this could be changed by user action or a timer. If/else statement outcomes could depend upon the value of the variable.**What do the terms decomposition and abstraction mean. Use examples to explain them.****Decomposition** is breaking a task into its component parts so that each part can be coded separately.If you were coding a game of chess, you could decompose into the moves of the different pieces and the setup of the playing space.**Abstraction** is removing unnecessary details to get the program functioning. In the example, the colour and size of the squares is not important to game play. |

Reference to