St White's Primary School – Computing

Years 5 and 6	Topic: Programming	Summer B

What should I already know?

- I can use Scratch to write algorithms
- I can use algorithms to write code
- I can use sequence, repetition and selection in Scratch.

Computing

Computer scientists use computational thinking and creativity to understand and change the world

Technical vocabulary

variable	Changeable elements of a program
debug	Identify and remove errors
program flow	The order in which commands are run in a program

Programming

Programming is when we make a set of instructions for computers to follow. We use **algorithms** when we can plan, model, trial and debug in order to create accurate command sequences, that enable variables to be enacted in games.

Variable

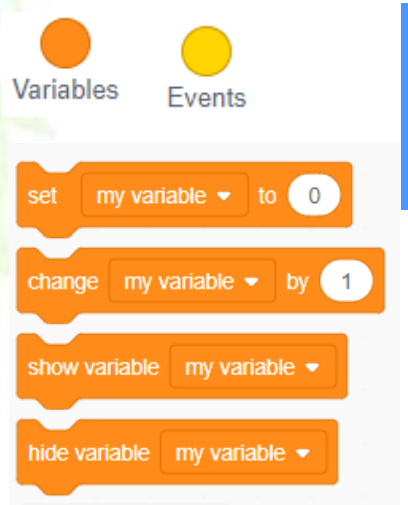
A **variable** is something that is changeable. A variable can be set and changed throughout the running of the program.

Variables can be numbers or letters. They can only hold one value at a time. When it is change, the value is replaced by a new value.

In computer programming, we use variables to store information that might change and can be used later in our program. E.g. in a game a variable could be the current score of the player: we could add 1 to the variable whenever the player gained a point.

Making variables in Scratch

- Select 'Variables' (dark orange circle) from the menu on the left. Either choose from the available variables or 'Make a variable'
- Select 'Events' (light orange circle) from the menu on the left. Choose what needs to happen for the variable to change. E.g. 'When this sprite is clicked' or 'when space key is pressed'.
- Select variables again from the menu on the left. Choose what will happen when the event happens, e.g. 'change score by 1' (to add a point) or 'change score by -1' to remove a point.



More complex variables

Variables should always have a value and an appropriate name.

Adding callouts: Select 'looks' from the menu on the left. Add it to the variable program. Edit the text to change the callout.

Adding motion: Many games require sprites to change position. This is achieved using the 'Motion' commands. Select 'Motion' from the menu on the left. Choose from the available motion commands.

Adding comments: Comments are a good way of showing that you understand what your code is doing. Right click on the block that you want to commend on and add in your comment.