

Unit: 6.1 –Coding Knowledge Organiser

	Key Learning
Lesson 1: Y6-CS1 ; Y6-CS4; Y6-CS5	Designing and Making a more Complex Program
Lesson 2: Y6-CS1 ; Y6-CS4; Y6-CS5	
Lesson 3: Y6-CS1 ; Y6-CS3; Y6-CS5	Using Functions
Lesson 4: Y6-CS1 ; Y6-CS5	Flowcharts and Control Simulations
Lesson 5: Y6-CS1 ; Y6-CS5	User Input
Lesson 6: Y6-CS1 ; Y6-CS2; Y6-CS5	Using Text-based Adventures

Action - Commands used to move an object or change a property

e.g: Up, Down, Left, Right, Show, Hide, Stop

Alert - This is a type of output. It shows a pop-up of text on the screen.

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 Design – Design what a program will look like and what it will do.

Command - A single instruction in a computer program.

Control - These commands determine whether parts of the program will run, how often and sometimes, when.

Debug - 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.

Function - a block of code that you can access when you need it, so you don't have to rewrite the same block repeatedly. You **call** the function each time you want it.

Get Input - This puts the text that a user types into the computer's temporary memory to be used to control the program flow.

If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.

If/Else - A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.

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

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.

Repeat - This command can be used to make a block of commands run a set number of times or forever.

Selection - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.

Sequence – This is when a computer program runs commands in order. In 2Code this can also include "repeat" or a timer.

Simulation - A model that represents a real or imaginary situation.

Tabs - used to organise your code and make it easier to debug.

Timer - Use this command to run a block of commands after a timed delay or at regular intervals.

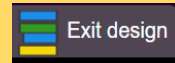
Variable – A named area in computer memory. A variable has a name and a value. The program can change this variable value.

Key Images

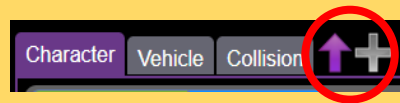
Open design mode in 2Code



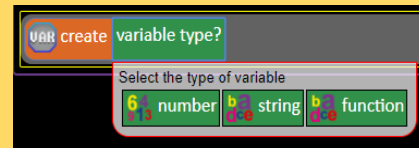
Switch to code mode in 2Code



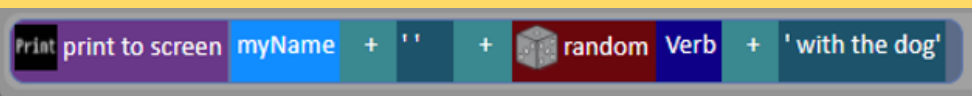
Add a new Tab to your code or move code blocks between tabs



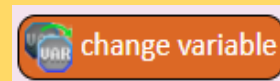
Creating a variable or function in 2Code Gorilla



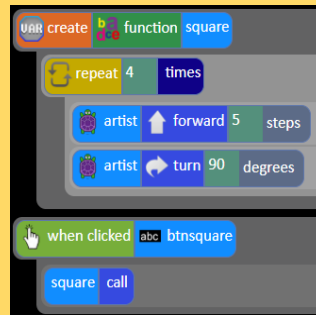
Example of combining variables and strings to print to the screen



A change variable block. Also used to call a function



A function called 'square' that is called by clicking on a button called btnSquare.



Key Questions

Give an example when you might have used function in 2Code.

In a turtle program you could have a button that will make the turtle draw a square each time you click it. In the text adventure, there were functions for each room that were called when the user navigated to the room.

In 2Code Gorilla, how can a program receive user input?

All systems require input devices, and output devices. 2Code Gorilla receives input: when the user clicks on an object; when the user presses keys or swipes the screen with the mouse; the 'Get Input' and 'Prompt for input' commands; and on a touchscreen, when the screen is touched or swiped. The output is often displayed on the screen and can involve objects or characters altering as a result of the system having processed the input.

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 using and adapting the design.
- Test and Debug: see if the program works and fix any errors.