



Year 6 Coding

COMPUTING KNOWLEDGE ORGANISER



ESSENTIAL VOCABULARY

Action	The way that objects change when programmed to do so. For example, move or change a property
Algorithm	A precise step by step set of instructions used to solve a problem or achieve an objective
Command	A single instruction in a computer program.
Co-ordinates	Numbers which determine the position of a point, shape or object in a particular space.
Decomposition	A method of breaking down a task into manageable components. This makes coding easier as the components can then be coded separately and then brought back together in the program.
Debug/Debugging	Fixing code that has errors so that the code will run the way it was designed to.
Event	An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key (when Key) or clicking or swiping the screen (when Clicked, when Swiped) or when objects interact (collision). In 2Code, the event commands are used to create blocks of code that are run when events happen.
Execute\Run	Clicking the Play button to make the computer respond to the code. Execute is the technical word for when you run the code. We say, 'the program (or code) executes.'
Flowchart	A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm as a diagram.
Function	A block or sequence of code that you can access when you need it, so you don't have to rewrite the code repeatedly. Instead, you simply call the function each time you want it.
Input	Information going into the computer. This could be the user moving or clicking the mouse, or the user entering characters on the keyboard. On tablets there are other forms such as finger swipes, touch gestures and tilting the device. In 2Code the commands prompt for input and get input are used to prompt the user to enter typed input and then use this input.
Launch Command	This command will open another Purple Mash file or an external website that you specify when it is called.
Object	Items in a program that can be given instructions to move or change in some way (action). In 2Code Gorilla, the object types are button number, input, text, shape turtle, character, object, vehicle, animal.
Output	Information that comes out of the computer e.g. sound. prompt, alert or print to screen.
Procedure	An independent code module that fulfils a task and is referenced within a larger body of code. In 2Code a procedure might be coded as a function.
Properties	These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.
Repeat	This command can be used to make a block of commands run a set number of times or forever.
Selection	Selection is a decision command. When selection is used, a program will choose which bit of code to run depending on a condition. In 2Code selection is accomplished using 'if' or 'if/else' statements.
Sequence	This is when a computer program runs commands in order.
Simulation	A model that represents a real or imaginary situation. Simulations can be used to explore options and to test predictions.
Tab	In 2Code, this is a way to organise a program into separate pages (tabs) of code.
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. Variables are used in programming to keep track of things that can change while a program is running.

KEY LEARNING

- To design a playable game with a timer and a score.
- To plan and use selection and variables.
- To understand how the launch command works.
- To use functions and understand why they are useful.
- To understand how functions are created and called.
- To use flowcharts to create and debug code.
- To create a simulation of a room in which devices can be controlled.
- To understand how user input can be used in a program.
- To understand how 2Code can be used to make a text-adventure game.

KEY RESOURCES USED



KEY IMAGES

Open design mode in 2Code. Switch to code mode in 2Code. A change variable block.

Example of combining variables and strings to print to the screen

print to screen 'MyName' + random word Verb + 'with the dog.'

Character Vehicle Collision

create function Square

repeat 4 times

Artist forward 5 steps

Artist turn 90 degrees

when clicked Button

call Square

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

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