Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 1 **Word Processing (MS Word)**	• A word processing tool can be used to create a range of documents. • Images can be added to a document. • Images can be edited in Word using Word Wrap. • The look of text within a document can be changed. • Tables can be used to present information within a document. • A template can be used to create a document. • Page layout can be improved by using headings and columns. • A database can be used to search for information. • A micro:bit is a tiny computer which needs instructions in code to make it work. • A micro:bit can produce outputs. • A micro:bit can receive inputs.	• Open and save documents from/to specific folders. • Select specific words to format. • Type sentences and then format them accordingly. • Format a document so it is easy to read. • Search for images online. • Download images to a document. • Correctly reference the owner of the images. • Edit an image using the image handles and a variety of other tools. • Use the style options to change the appearance of an image. • Apply a style to the document. • Add in headings and subheadings to a document. • Use a range of bullet points including numbered lists. • Insert a table.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 1 **Word Processing (MS Word)**		• Use a range of tools to present information in a table more clearly. • Add in columns and rows to a table. • Distribute rows and columns in a table. • Look at the range of templates in the program and create a document using a template. • Use the spelling and grammar check. • Look at the layout features of a newspaper. Insert columns into a blank document. • Click on a record and see how the information is entered. • Enter data using words and numbers as well as drop down menus. • Sort, group and arrange information in a database. • Search for information in a database. • Answer questions involving the interrogation of a database. • Enter data into a database. • Interrogate the database.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 1 **Word Processing** **(MS Word)**		• Explain that a micro:bit is a piece of hardware that can have code created for it that makes use of its inputs and outputs. • Recognise and locate key hardware components on the micro:bit such as its display, speaker and accelerometer. • Identify and use code blocks that produce outputs. • Code a micro:bit to make different outputs happen depending on different inputs. • Identify and use code blocks that are associated with receiving inputs. • Use event commands such as 'when micro:bit button' and 'when gesture' in programs to meet specific intentions. • Make a program that requires inputs (event commands as above) that produce an output.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 1 Word Processing (MS Word)	• Code from the coding environment can be transferred onto a micro:bit. • The order (sequence) of instructions is important when coding.	• Use the simulator within the Freecode/MakeCode micro:bit environment to test code before transferring to micro:bit. • Use the transfer feature to move code to a micro:bit. • Recognise how the order of code is essential in order to meet a program's intentions.
Spring 1 Coding	• Code can be simplified to complete the same process with fewer lines of code. • Computer generated variables in 2Code are tags given to objects and these can be used to control object types meaning less lines of code are needed. • A simulation is a model that represents a real or imaginary situation.	• Create a simplified code structure that functions exactly the same as an original code by using the common tags objects share. • Check both versions of the code work exactly the same way. • Explain what a simulation is • Give examples of physical systems that could be made into a simulation. • Plan an algorithm of a physical system (such as traffic light sequences.) • Convert the algorithm plan into a program within 2Code.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
	• Decomposition is a method of breaking down a task into manageable components. • Abstraction is a way of de-cluttering and removing unnecessary details to get a program functioning. • A function is a block or sequence of code that can be accessed when it is needed. • Strings are text or a combination of text characters and numbers within programs. • Concatenation is the name given to the action of linking things together in a series.	• Test the program and how it compares to real-life. • During planning of a program, use decomposition to break down the plan into the key parts that are required to get the program functioning. • Remove any unnecessary details in the plan that aren't essential for the functioning of the intended program (abstraction). • Recognise what abstraction is and why it is important. • Realise that abstraction can remove unnecessary details that aren't crucial to getting a program to function. • Create and use a function. • Include the call function command as part of an event, such as when the ball hits a wall, the function is called to reset its position back to the start.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
		• Recognise what a string is in a program, including how it is used. • Create a string variable. • Recognise where concatenation can be useful in programs. • Demonstrate concatenation in other programs created such as linking a variable (score) with text (well done) for a game.
Spring 2 Spreadsheets	• A formula can be written in a sheet to convert units. • A spreadsheet can be used to model a real-life problem. • A spreadsheet can be used to investigate a problem. • Spreadsheets can be created to support the organisation of real-life situations. • A spreadsheet tool can be used to investigate if a hypothesis is true.	• Write a simple formula for converting units from one to another (eg cm to m and m to cm) using cell references, • Drag a formula from one cell to adjoining cells. • Complete similar task for other conversions • Explain what is meant by 'modelling'. • Write a simple formula to work out area. • Write a simple formula to work out perimeter.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Spring 2 lessons Spreadsheets		• Use the formulae to solve a problem. • Investigate a problem using a spreadsheet. • Use the graphing functionality to display the results of the investigation on screen. • Create spreadsheets to appropriately model chosen scenarios. • Use formulae to analyse the data. • Use the spreadsheet to answer questions and make decisions. • Answer a hypothesis. • Solve another problem using the count tool.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Summer 1 **Quizzing**	• There are different types of quiz, suitable for a variety of different purposes. • Within 2Quiz, there are different types of quiz questions, suitable for different purposes. • The success of a quiz depends on a number of factors. • Additional features and enhancements can maximise the success of a quiz. • Settings change the look and feel of a quiz. • There are different types of quiz, suitable for a variety of different purposes.	• Select the best type of quiz to make for any given task. • Select the most suitable type of quiz question based on a chosen topic and the question being posed. • Design successful quizzes. • Explore the additional features, selecting which to use and how to make best use of these. • Explore the settings, selecting which to use to create the best outcome for a quiz. • Select the best type of quiz to make for any given task.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Summer 2 **UNIT 5.5 - 5 lessons** **Game Creator**	• It is important to plan-out a game before commencing on making it. • A game design program has specific functions for the designer to use. • The design of characters and quest items is a key aspect of game creation. • A finished game must be playable and possible for the player to complete. • Evaluation is important so a game can be improved and made more playable and exciting.	• Evaluate other games against criteria. • Use a design document to set the scene of the game. • Use the key functions of the game creator tool. • Design and add appropriate graphical elements to their game including floor, walls and ceiling. • Consider the appropriate places to locate game hazards which make the game more interesting and add to playability. • Add in game music to support the game theme. • Design the quest item and add in movement, sound effects and actions. • Consider where to place the quest items so it is possible to finish the game, and everything is collectible.

Year 5 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Summer 2 **UNIT 5.5 - 5 lessons** **Game Creator**		• Place the enemies in the game in such a way as to provide challenge but not make it impossible to play. • Use their knowledge to create at least three levels. • Write clear instructions that set a scene and provide gameplay instructions for the user. • Share the game online so other people can play it. • Evaluate games made by their peers using given criteria. Read evaluation of their game from other. • Make appropriate improvements to their game.