Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 1 Coding	• There are objects in 2Code and that there are different types and these have attributes (properties) that can be changed. • Backgrounds can be changed and manipulated. • Selection is a term used in computer programming, which is a decision command that will be run dependent on whether a condition is met. • 'If' statements are used to create selection in 2Code. • Coordinates are used in computer programming to determine the position of a point, shape or object. • 'Repeat until' is a control block and that blocks of code will repeat until a condition is met. • If/else statements are a conditional command that tests a statement. • Variables are a virtual container (A place in computer memory) that contain a value that can change.	• Change the attributes (properties) of an object in 2Code • Change and manipulate a background. • Use a flowchart to help them visualise a simple program. • Interpret flowcharts depicting selection and explain what happens if a condition is or isn't met within it. • Create selection within 2Code using 'if' statement blocks within own program. • Identify where coordinates x and y can be changed. • Change the coordinates in the attributes of objects. • Insert 'repeat until' into own programs. • Successfully create code within 'Repeat until' block and make it run until a condition is met. .

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 1 Coding		• Create an if statement and an else statement using blocks of code. • Execute the code checking the if/else code runs as expected. • Create a variable, name it and use it within a code. • Use the variable watch to monitor how a variable changes as the program executes code
Autumn 2 **Effective Searching**	• Information can be located on a search engine page. • There are different skills needed to research effectively. • Web Pages need to be evaluated to see if the information contained is true and reliable. • Artificial intelligence is having an impact already in day-today life. • Artificial intelligence can assist and benefit us in our everyday life. • The potential of artificial intelligence is limitless. • Artificial intelligence is already being used to create music and art.	• Load up a search engine and give the name of a well-known search engine. • Enter a search enquiry. • Research the different types of information one can get from a search engine. • Enter basic and more advanced search queries without the need for full sentences. • Answer a quiz using effective search. • Analyse the contents of a web page for clues about the reliability of information. .

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Autumn 2 Effective Searching		• Appreciate that the search engine will give results tailored to the interests of the searcher. • Recall artificial intelligence in news stories and talk about positives and negatives. • Talk and write about real life applications of artificial intelligence. • Discuss how these applications are making life better for us. • Critically think about the future of artificial intelligence. • Decide if art and music are created by humans or artificial intelligence
Spring 1 Unpacking Hardware and Software (*New scheme 4 lessons)*	• Electrical, digital and smart technology are sub-sets of technology. • Hardware describes the physical parts of a computer. • Software describes the programs that instruct a computer to complete computational tasks.	• Decide whether an item is an example of electrical, digital or smart technology. • Define what is meant by hardware, components and peripherals. • Name hardware components of a computer system.

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Spring 1 Unpacking Hardware and Software (*New scheme 4 lessons)*	• Software and hardware operate together to follow processes that assist in completing tasks.	• Describe the function of these different parts. • Identify the functions and common components of different software tools and relate them to the tasks those tools perform. • Describe a process in terms of inputs, hardware and software processing and outputs.
Spring 2 Micro:bits	• 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. • Code from the coding environment can be transferred onto a micro:bit. • The order (sequence) of instructions is important when coding.	• 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.

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Spring 2 **Micro:bits**		• 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. • 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.

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
Summer 1 **Sound Stories**	• An audiobook is a story or book read aloud and recorded for people to listen to. • Audiobooks make texts more accessible for a range of people. • Audiobooks can be made more interesting by adding expression, different voices, sound effects and background music. • An audiobook script may contain notes on the speaker, the text spoken and how the sound effects are created and used. • Editing is the process of polishing and improving an audiobook to ensure it is the best it can be. • Reviewing and evaluating is an important step when creating any digital content including audiobooks.	• Explain the differences between an audiobook and a physical book. • Explain the advantages and disadvantages of an audiobook over a physical book. • Recognise the features that makes an audiobook engaging. • Identify where a voice or sound effect might make a recorded story more exciting and engaging. • Create a range of sound effects using everyday items. • Use the library of music and sound effects on 2Cast. • Read and understand cues on an audiobook script. • Contribute to writing a successful script for an audiobook. • Use the editing tools within 2Cast, including cutting, copy and paste, duplication and moving segments on the timeline.

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
		• Reflect on their work and think about any improvements which could be made using the criteria from the lesson.
UNIT 4.6– 3 lessons Animation	• Animations can be created in different ways. • Animation software has specific functions that support the animation of still images. • Choices of sound effects, their timing and frames per second settings can enhance an animation • Storyboarding is a process that supports planning an animation.	• Contrast the process of animating by hand to the use of animation technology. • Use 2Animate to make simple animations using the specific animation functionality. • Choose appropriate sound effects and speeds for animations. • Use storyboarding to plan an animation.
UNIT 4.9 - 4 lessons Making music	• There are some main elements to music including pulse, rhythm, tempo, pitch and texture. • A piece of music can be altered by changing the rhythm and tempo. • A melodic phrase can be created using music software. • An electronic piece of music contains the key musical features.	• Define what the significant elements to music are. • Listen to some ready-made musical examples and identify some key elements. • Explain what tempo is and how changing it can change the mood of the music.

Year 4 - Progression of Knowledge and Skills IT

Term	Knowledge	Skills
		• Create their own music using the program Busy Beats focussing on rhythm and tempo. • Create a simple melodic pattern. • Create their own music using the program Busy Beats focussing on melody and pitch. • Create a piece of electronic music on busy beats combining their knowledge of pitch, rhythm and melody.