Year 3	Computer Science – Programming	Mrs Slater

ICT Skills	
Sequencing sounds	Events and actions in programs
Can use motion blocks to animate a sprite. Be able to change the appearance of a sprite using Costumes, Add sounds. Create a program with three sprites using different motion blocks. Use different event blocks to start a script. Draw their own sprites to represent piano keys. Add different notes to each key. Add motion and costume changes to each sprite.	Recall the use of the events blocks and how they start a script. Resize a sprite. Duplicate a sprite and modify code. Use the pen extension to draw lines. Use additional pen blocks and choose suitable keys to turn on the additional features. Use a pre-built model and modify it with the pen tools. Identify bugs in an existing project. Create a project from a template.
Knowledge and understanding	
Be able to identify the objects in a Scratch project and be able to use the attributes within each sprite. Can use a range of motion blocks within a script. Know that joining several blocks together makes a sequence. Understand how the different event blocks affect the running of a script. Know how to sequence blocks to run a program effectively.	Know that 'events' blocks sense inputs. Be able to fit a sprite into a given background. Know how to duplicate a sprite and know the code will duplicate too. Understand how to use the features of the pen extension. Be able to modify an existing project. Look at a code sequence and be able to identify errors. Can create a project independently.
Non-Negotiable Assessment	
Add sprites and change background. Add blocks. Create a project design. Create a program following the design. Identify events and movement in a program. Order commands. Follow a set of instructions. Design and implement an algorithm.	Design algorithms for new code snippets. Resize a sprite. Add a pen block. Predict the function of a block. Complete a design template, using their choice of events. Identify how bugs can be fixed.
National Curriculum Links	
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs, work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	
Key Vocabulary	
Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, code, run the code. Sequence, order, note, chord.	Motion, event, sprite, algorithm, logic, move, resize, algorithm, extension block, pen up, set up, pen, design, event, action, debugging, errors, test.
Suggested Resources	
Scratch Create	Scratch Create, Scratch Explore

Year 3	Using ICT – Creating Media	Mrs Slater

ICT Skills	
Stop-frame animation	Desktop publishing
Recognise how stop-frame animation is made by creating a simple flip book. Create a simple stickman animation on a digital device. Create a simple storyboard with a fixed number of characters and settings. Use a digital device to capture frames one by one. Evaluate and improve the animation. Add other media to the animations. (Photo, music, text, title).	Open a publishing document template (invitation) and change the size, colour and style of font. Use capital letters, full stops, backspace, exclamation and question marks. Design a magazine cover using placeholders. Use copy and paste and make changes to the content. Consider the layout, reflect and improve.
Knowledge and understanding	
Know why small changes are needed for each frame. Know how 'onion skinning' gives a more fluid animation. Understand that the digital device has to be steady throughout the filming. To be able to explain how to make improvements to an animation. To know how to import the animation to a movie app and add other media.	Know the terms 'text' and 'images' and know they can be used to communicate messages. Use careful choice of font, size, colour etc when presenting a document. Think about page layouts and their purpose. Understand that the use of correct punctuation is important. Know how to select landscape or portrait. Know the importance of placeholders in design. Identify uses of desktop publishing in the real world.
Non-Negotiable Assessment	
Understand how animation works. Understand the term onion skins. Create and evaluate an animation. Remove frames. Recognise improvements. Show an ability to add multimedia to an animation.	Know what tools change font, size and colour. Know how to change page orientation. Find and open saved work. Choose a suitable layout for a project. Identify the benefit of desktop publishing.
National Curriculum Links	
Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Key Vocabulary	
Animation, flipbook, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluate, delete, media, import, transition.	Text, images, advantages, disadvantages, font, font style, communicate, template, landscape, portrait, orientation, placeholder, layout, content, desktop publishing, copy, paste, purpose, benefits.
Suggested Resources	
i-motion, i-movie, Purple Mash 2animate	Canva, Publisher, Google Docs

Year 3	Digital Literacy – Computer systems and networks; Data and information	Mrs Slater

ICT Skills	
Connecting computers	Branching Database
Develop and understanding of digital devices – inputs, processes, and outputs. Be able to describe a simple process. Create the same piece of work using digital and non-digital tools. Explain how and why computers are joined to a network. Explain the role of a server, switch, and wireless access points in a network.	Make up yes/no questions about a collection of objects. Create two groups of objects separated by one attribute. Think about attributes and arrange objects into a tree structure. Use an online database to arrange objects into a branching database. Create yes/no questions and test. Plan a paper-based branching database and test. Create a branching database based on the plan and test with a partner.
Knowledge and understanding	
To know that devices work by input and the output is the result. Can identify and classify input and output devices. Recognise similarities and differences between digital and non-digital tools. Know that messages are passed through multiple connections. Understand how data is passed around the world.	Be able to use yes/no questions when creating a branching database. Understand what attributes are and how to use them to sort groups of objects. Be able to create an identification tool using a branching database. Understand how to separate objects using only yes/no questions and explain why questions need to be in a specific order. Know the benefits of planning out an identification tool before implementing digitally.
Non-Negotiable Assessment	
Show an understanding of inputs, outputs and processes. Understand the difference between digital and non-digital tools. Understand connections and the function of a switch in network. Understand the function of a server.	Write 'yes, no' questions to separate objects into two groups. Organise objects in a tree structure. Follow a branching database. Divide objects by attributes. Use a branching database as an identification tool.
National Curriculum Links	
Use sequence, selection, and repetition in programs, work with variables and various forms of input and output. Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Use technology safely and respectfully, and responsibly.
Key Vocabulary	
Digital device, input, process, output, program, digital, non-digital, connection, network, network switch, server, wireless access point, network cables, network sockets.	Attribute, value, questions, table, objects, branching database, database, equal, even, separate, structure, compare, order, organise, selecting, information.
Suggested Resources	
PurpleMash, various devices, network connections around school	Purple Mash or J2data pictogram, branch, and database tools.