

SJPS COMPUTING CURRICULUM

M Gaughan

Contents

Curriculum Map	2
Year 1 – Medium Term Plan - Skills & Key Learning	3
Year 2 – Medium Term Plan - Skills & Key Learning	4
Year 3 – Medium Term Plan - Skills & Key Learning	5
Year 4 – Medium Term Plan - Skills & Key Learning	6
UKS2 Cycle A – Medium Term Plan - Skills & Key Learning	7
UKS2 Cycle B – Medium Term Plan - Skills & Key Learning.....	8
Assessment Tasks.....	9

Curriculum Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	EYFS Statutory Framework					
Year 1	Online Safety Exploring Purple Mash	Pictograms Maze Explorers	Grouping & Sorting Lego Builders	Animated Story Books	Coding	Spreadsheets Technology Outside School
Year 2	Coding	Online Safety Spreadsheets	Presenting Ideas	Questioning	Creating Pictures	Effective Searching Making Music
Year 3	Coding	Online Safety UK Bebras Challenge	Touch Typing	Email	Branching Databases	Simulations Graphing
Year 4	Coding	Online Safety UK Bebras Challenge Hardware Investigators	Spreadsheets	Writing for Different Audiences	Logo Animation	Effective Searching Making Music
UKS2 A	Coding	Online Safety UK Bebras Challenge	Spreadsheets	Databases	Game Creator	3D Modelling Concept Maps
UKS2 B	Coding	Online Safety UK Bebras Challenge	Spreadsheets	Blogging	Text Adventures	Networks Quizzing

Year 1 – Medium Term Plan - Skills & Key Learning

Year 1	Online Safety Exploring Purple Mash	Pictograms Maze Explorers	Grouping & Sorting Lego Builders	Animated Story Books	Coding	Spreadsheets Technology Outside School
SKILLS & KEY LEARNING	To log in safely. To learn how to find saved work in the Online Work area and find teacher comments. To learn how to search Purple Mash to find resources. To become familiar with the icons and types of resources available in the Topics section. To start to add pictures and text to work. To explore the Tools and Games section of Purple Mash. To learn how to open, save and print. To understand the importance of logging out.	To understand that data can be represented in picture format. To contribute to a class pictogram. To use a pictogram to record the results of an experiment. ***** To understand the functionality of the direction keys. To understand how to create and debug a set of instructions (algorithm). To use the additional direction keys as part of an algorithm. To understand how to change and extend the algorithm list. To create a longer algorithm for an activity. To set challenges for peers. To access peer challenges set by the teacher as 2dos.	To sort items using a range of criteria. To sort items on the computer using the 'Grouping' activities in Purple Mash. ***** To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. To follow and create simple instructions on the computer. To consider how the order of instructions affects the result.	To introduce e-books and the 2Create a Story tool. To add animation to a story. To add sound to a story, including voice recording and music the children have composed. To work on a more complex story, including adding backgrounds and copying and pasting pages. To share e-books on a class display board.	To understand what coding means. To use design mode to set up a scene. To add characters. To use code blocks to make the character perform actions. To use collision detection. To save and share work. To know the save, print, open and new icon.	To know what a spreadsheet program looks like. How to open 2Calculate in Purple Mash. How to enter data into spreadsheet cells. To use 2Calculate image tools to add clipart to cells. To use 2Calculate control tools: lock, move cell, speak and count. ***** To walk around the local community and find examples of where technology is used. To record examples of technology outside school.

Year 2 – Medium Term Plan - Skills & Key Learning

Year 2	Coding	Online Safety Spreadsheets	Presenting Ideas	Questioning	Creating Pictures	Effective Searching Making Music
SKILLS & KEY LEARNING	To understand what an algorithm is. To design algorithms and then code them. To compare different object types. To use the repeat command. To use the timer command. To know what debugging is and debug programs.	To know how to refine searches. To use digital technology to share work to communicate and connect with others locally. To understand how we should talk to others in an online situation. To open and send simple online communications in the form of email. To understand that information put online leaves a digital footprint. To identify the steps that can be taken to keep personal data and hardware secure. ***** To use 2Calculate tools to make a counting machine. To use the totalling tools. To use a spreadsheet for money calculations. To use the 2Calculate equals tool to check calculations. To use 2Calculate to collect data and produce a graph.	To explore how a story can be presented in different ways. To make a quiz about a story or class topic. To make a fact file on a non-fiction topic. To make a presentation to the class.	To learn about data handling tools that can give more information than pictograms. To use yes/no questions to separate information. To construct a binary tree to identify items. To use 2Question (a binary tree database) to answer questions. To use a database to answer more complex search questions. To use the Search tool to find information.	To learn the functions of the 2Paint a Picture tool. To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). To recreate Pointillist art and look at the work of pointillist artists such as Seurat. To learn about the work of Piet Mondrian and recreate the style using the lines template. To learn about the work of William Morris and recreate the style using the patterns template.	To understand the terminology associated with searching. To gain a better understanding of searching on the Internet. To create a leaflet to help someone search for information on the Internet. ***** To make music digitally. To explore, edit and combine sounds using 2Sequence. To edit and refine composed music. To think about how music can be used to express feelings and create tunes which depict feelings. To upload a sound from a bank of sounds into the Sounds section. To record and upload environmental sounds into Purple Mash. To use these sounds to create tunes in 2Sequence.

Year 3 – Medium Term Plan - Skills & Key Learning

Year 3	Coding	Online Safety UK Bebras Challenge	Touch Typing	Email	Branching Databases	Simulations Graphing
SKILLS & KEY LEARNING	To design algorithms using flowcharts. To design an algorithm that represents a physical system and code this representation. To use selection in coding with the 'if' command. To understand and use variables in 2Code. To deepen understanding of the different between timers and repeat commands.	To know what makes a safe password. Methods for keeping passwords safe. To understand how the Internet can be used in effective communication. To understand how a blog can be used to communicate with a wider audience. To consider the truth of the content of websites. To learn about the meaning of age restrictions symbols on digital media and devices.	To introduce typing terminology. To understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practice typing with the left and right hand.	To think about different methods of communication. To open and respond to an email using an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario.	To sort objects using just 'yes' or 'no' questions. To complete a branching database using 2Question. To create a branching database of the children's choice.	To consider what simulations are. To explore a simulation. To analyse and evaluate a simulation. ***** To enter data into a graph and answer questions. To solve an investigation and present the results in graphic form.

Year 4 – Medium Term Plan - Skills & Key Learning

Year 4	Coding	Online Safety UK Bebras Challenge Hardware Investigators	Spreadsheets	Writing for Different Audiences	Logo Animation	Effective Searching Making Music
SKILLS & KEY LEARNING	To use selection in coding with the 'if/else' command. To understand and use variables in 2Code. To use flowcharts for design of algorithms including selection. To use the 'repeat until' with variables to determine the repeat. To learn about and use computational thinking terms decomposition and abstraction.	To understand how children can protect themselves from online identity theft. Understand that information put online leaves a digital footprint that can aid identity theft. To Identify the risks and benefits of installing software including apps. To 'plagiarism' and to consider the consequences of plagiarism. To identify the positive and negative influences of technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives. ***** To understand the different parts that make up a computer. To recall the different parts that make up a computer.	To introduce typing terminology. To understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practice typing with the left and right hand.	To think about different methods of communication. To open and respond to an email using an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario.	To learn the structure of the coding language of Logo. To input simple instructions in Logo. Using 2Logo to create letter shapes. To use the Repeat function in Logo to create shapes. To use and build procedures in Logo. ***** To learn how animations are created by hand. To find out how 2Animate can be created in a similar way using the computer. To learn about onion skinning in animation. To add backgrounds and sounds to animations. To be introduced to 'stop motion' animation. To share animation on the class display board and by blogging.	To locate information on the search results page. To use search effectively to find out information. To assess whether an information source is true and reliable. ***** To identify and discuss the main elements of music. To understand and experiment with rhythm and tempo. To create a melodic phrase. To compose a piece of electronic music.

UKS2 Cycle A – Medium Term Plan - Skills & Key Learning

UKS2 A	Coding	Online Safety UK Bebras Challenge	Spreadsheets	Databases	Game Creator	3D Modelling Concept Maps
SKILLS & KEY LEARNING	To represent a program design and algorithm. To create a program that simulates a physical system using decomposition. To explore string and text variable types so that the most appropriate can be used in programs. To use the Launch command in 2Code Gorilla To program a playable game with timers and scorepad.	To gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology and children's responsibility to one another in their online behaviour. To know how to maintain secure passwords. To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. To learn about how to reference sources in their work. To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.	Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. To copy and paste within 2Calculate. Using 2Calculate tools to test a hypothesis. To add a formula to a cell to automatically make a calculation in that cell. Using a spreadsheet to model a real-life situation and answer questions.	To learn how to search for information in a database. To contribute to a class database. To create a database around a chosen topic.	To set the scene. To create the game environment. To create the game quest. To finish and share the game. To evaluate their and peers' games.	To be introduced to 2Design and Make. To explore the effect of moving points when designing. To understand designing for a purpose. To understand printing and making. ***** To understand the need for visual representation when generating and discussing complex ideas. To understand and use the correct vocabulary when creating a concept map. To create a concept map. To understand how a concept map can be used to retell stories and present information. To create a collaborative concept map and present this to an audience.

UKS2 Cycle B – Medium Term Plan - Skills & Key Learning

UKS2 B	Coding	Online Safety UK Bebras Challenge	Spreadsheets	Blogging	Text Adventures	Networks Quizzing
SKILLS & KEY LEARNING	To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. To code, test and debug from these designs. To use functions and tabs in 2Code to improve the quality of the code. To code user interactivity using input functions.	Identify benefits and risks of mobile devices broadcasting the location of the user/device. Identify secure sites by looking for privacy seals of approval. Identify the benefits and risks of giving personal information. To review the meaning of a digital footprint. To have a clear idea of appropriate online behaviour. To begin to understand how information online can persist. To understand the importance of balancing game and screen time with other parts of their lives. To identify the positive and negative influences of technology on health and the environment.	To use a spreadsheet to investigate the probability of the results of throwing many dice. Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. To create graphs showing the data collected. To type in a formula for a cell to automatically make a calculation in that cell. Using a spreadsheet to create computational models and answer questions.	To identify the purpose of writing a blog. To identify the features of successful blog writing. To plan the theme and content for a blog. To understand how to write a blog. To consider the effect upon the audience of changing the visual properties of the blog. To understand the importance of regularly updating the content of a blog. To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria.	To find out what a text adventure is. To plan a story adventure. To make a story-based adventure. To introduce map-based text adventures. To code a map-based text adventure.	To learn about what the Internet consists of. To find out what a LAN and a WAN are. To find out how the Internet is accessed in school. To research and find out about the age of the Internet. To think about what the future might hold. ***** To create a picture-based quiz for young children. To learn how to use the question types within 2Quiz. To explore the grammar quizzes. To make a quiz that requires the player to search a database.

Assessment Tasks

Year Group	Computer Science (CS)	Information Technology (IT)	Digital Literacy (DL)
1	Maze Explorers - To create a longer algorithm for an activity.	Animated Stories - To add sound to a story, including voice recording and music the children have composed.	Technology Outside School - To record examples of technology outside school.
2	Coding - To use the repeat command.	Presenting Ideas - To make a presentation to the class.	Effective Searching - To create a leaflet to help someone search for information on the Internet.
3	Coding - To use selection in coding with the 'if' command.	Graphing - To solve an investigation and present the results in graphic form.	Email - To learn how to use email safely.
4	Coding - To learn about and use computational thinking terms decomposition and abstraction.	Animation - - To use ideas from existing 'stop motion' films to recreate own animation.	Effective Searching - To assess whether an information source is true and reliable.
5	Coding - To program a playable game with timers and scorepad.	Spreadsheets - Using a spreadsheet to model a real-life situation and answer questions.	Online Safety - To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.
6	Coding - To code, test and debug from these designs.	Quizzing - Using a spreadsheet to model a real-life situation and answer questions.	Blogging - To understand how and why blog posts are approved by the teacher.

Please note: Assessment Tasks are **highlighted** throughout this document.