

West Winch Primary School Computing Curriculum Map						
Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	All About Me	Light, Dark & Colour	People Who Help Us	Growing	Minibeasts	The Great Outdoors
Understanding the World	- Role play with a range of technology, both functioning and model/broken devices - Using a variety of electronic toys, such as remote controlled cars, walkie-talkies and interactive pets - Digital cameras for pupils to photograph their own learning, selecting and use technology for a certain purpose - Opportunity to tinker, or play, with a device, in order to discover how it functions					
Literacy	- Bee Bots to provide a number of opportunities to develop pupils' computing knowledge within literacy sessions. - Creating a story about the Bee Bot's journey - Guide the Bee Bot between different locations, characters and locations - Programming devices, such as the Code-a-pillar					
Physical Development	- Providing children with opportunities to become familiar with a range of input devices, including the keyboard and mouse, to develop the required fine motor skills - Usage linked to phonics sessions through the use of drill and practice games, such Dance Mat Typing or the Animal Typing app					
Communication & Language	- Unplugged activities to give children an opportunity to develop their understanding of technology without the need for expensive devices - Children giving precise instructions verbally, such as through giving instructions to a sandwich making robot - Links to physical development activities, such as determining rules for playground games					
Personal, Social & Emotional Development	- Voice recorders/microphones used to record how pupils are feeling, or to discuss their relationships with others - Pupils creating their own videos, with a link to children giving online safety guidance to their peers on appropriate use of technology and what to do if they feel worried or concerned when using a device - Using a range of age-appropriate books for young children to examine online safety, such as Chicken Clicking, Goldilocks (A hashtag cautionary tale) and the free Smartie the Penguin. - Using voice and video recorders for children to self evaluate their own speaking					
Expressive Arts & Design	- Using painting and graphics applications to further develop pupils' keyboard and mouse skills - Using tablet based apps, such as the free Doodle Buddy - Creative projects to produce mats for Bee Beets to travel around and creating outfits for a device to wear, such as Bee Bot head dresses					
Mathematics	- Controlling devices to develop pupils' understanding of left and right, along with directional language - Pupils guiding a device around a shape					
Vocabulary	Safe, pull, button, headphones, computer, click, mouse, turn, scroll, tablet, monitor, speaker, type, technology, choices, internet, safety, equipment, movement, screen, mouse, image, keyboard, create, share, instructions, invention.					
Year 1	Computing systems and networks – Technology around us	Creating media – Digital painting	Programming A – Moving a robot	Data and information – Grouping data	Creating media – Digital writing	Programming B – Programming animations
Knowledge	- To identify technology - To identify a computer and its main parts - To use a mouse in different ways - To use a keyboard to type on a computer - To use the keyboard to edit text - To create rules for	- To describe what different freehand tools do - To use the shape tool and the line tools - To make careful choices when painting a digital picture - To explain why I chose the tools I used	- To explain what a given command will do - To act out a given word - To combine forwards and backwards commands to make a sequence - To combine four direction commands	- To label objects - To identify that objects can be counted - To describe objects in different ways - To count objects with the same properties - To compare groups of objects - To answer questions	- To use a computer to write - To add and remove text on a computer - To identify that the look of text can be changed on a computer - To make careful choices when changing	- To choose a command for a given purpose - To show that a series of commands can be joined together - To identify the effect of changing a value - To explain that each sprite has its own instructions - To design the parts of a

	using technology responsibly	- To use a computer on my own to paint a picture - To compare painting a picture on a computer and on paper	to make sequences - To plan a simple program - To find more than one solution to a problem	about groups of objects	text - To explain why I used the tools that I chose - To compare typing on a computer to writing on paper	project To use my algorithm to create a program
Vocabulary	Website, rules, online, email, private information, robots, patterns, programme, algorithm, space bar, digital, purpose, online tools, shut down, communicate, photographs, video, sound, multimedia, data, pictogram, digitally					
Year 2	Computing systems and networks – IT around us	Creating media – Digital photography	Programming A – Robot algorithms	Data and information - pictograms	Creating media – Digital music	Programming B – Programming quizzes
Knowledge	- To recognise the uses and features of information technology - To identify the uses of information technology in the school - To identify information technology beyond school - To explain how information technology helps us - To explain how to use information technology safely - To recognise that choices are made when using information technology	- To use a digital device to take a photograph - To make choices when taking a photograph - To describe what makes a good photograph - To decide how photographs can be improved - To use tools to change an image - To recognise that photos can be changed	- To describe a series of instructions as a sequence - To explain what happens when we change the order of instructions - To use logical reasoning to predict the outcome of a program - To explain that programming projects can have code and artwork - To design an algorithm - To create and debug a program that I have written	- To recognise that we can count and compare objects using tally charts - To recognise that objects can be represented as pictures - To create a pictogram - To select objects by attribute and make comparisons - To recognise that people can be described by attributes - To explain that we can present information using a computer	- To say how music can make us feel - To identify that there are patterns in music - To experiment with sound using a computer - To use a computer to create a musical pattern - To create music for a purpose - To review and refine our computer work	- To explain that a sequence of commands has a start - To explain that a sequence of commands has an outcome - To create a program using a given design - To change a given design - To create a program using my own design - To decide how my project can be improved
Vocabulary	Appropriate/inappropriate, cyber-bullying, sites, digital footprint, keyword searching, word process, right-angle, turn, sprites, coding, sequence, debug, frames, predict, select tool, drawing tool, search tool, stop motion, templates, animation, documents, present, enter/return, caps lock, backspace, website content, hyperlinks					
Year 3	Computing systems and networks – connecting computers	Creating media – stop frame animation	Programming A – Sequencing sounds	Data and information – branching databases	Creating media – Desktop publishing	Programming – Events and actions in programs
Knowledge	- To explain how digital devices function - To identify input and output devices - To recognise how digital devices can change the way we work - To explain how a computer network can be used to share	- To explain that animation is a sequence of drawings or photographs - To relate animated movement with a sequence of images - To plan an animation - To identify the need to work consistently and carefully	- To explore a new programming environment - To identify that commands have an outcome - To explain that a program has a start - To recognise that a sequence of commands can have	- To create questions with yes/no answers - To identify the attributes needed to collect data about an object - To create a branching database - To explain why it is helpful for a database to be well structured	- To recognise how text and images convey information - To recognise that text and layout can be edited - To choose appropriate page settings - To add content to a desktop publishing publication	- To explain how a sprite moves in an existing project - To create a program to move a sprite in four directions - To adapt a program to a new context - To develop my program by adding features - To identify and fix bugs in

	- information - To explore how digital devices can be connected - To recognise the physical components of a network	- To review and improve an animation - To evaluate the impact of adding other media to an animation	- an order - To change the appearance of my project - To create a project from a task description	- To plan the structure of a branching database - To independently create an identification tool	- To consider how different layouts can suit different purposes - To consider the benefits of desktop publishing	- a program - To design and create a maze-based challenge
Vocabulary	E-safety rules, log on, personal information, private, attach, open, save, mechanical systems (motors and gearing systems), cam, mechanical systems, coordinates, variables, broadcast, import, sequence debugging, test + improve, sequence programming, alignment, copy, paste, collaborate, questioning, database, recording data, data logger, present data					
Year 4	Computing Systems and Networks – The internet	Creating Media – Audio Production	Programming A – Repetition in Shapes	Data and information – Data Logging	Creating Media – Photo Editing	Programming B – Repetition in Games
Knowledge	- To describe how networks physically connect to other networks - To recognise how networked devices make up the internet - To outline how websites can be shared via the World Wide Web (WWW) - To describe how content can be added and accessed on the World Wide Web (WWW) - To recognise how the content of the WWW is created by people - To evaluate the consequences of unreliable content	- To identify that sound can be recorded - To explain that audio recordings can be edited - To recognise the different parts of creating a podcast project - To apply audio editing skills independently - To combine audio to enhance my podcast project - To evaluate the effective use of audio	- To identify that accuracy in programming is important - To create a program in a text-based language - To explain what ‘repeat’ means - To modify a count-controlled loop to produce a given outcome - To decompose a task into small steps - To create a program that uses count-controlled loops to produce a given outcome	- To explain that data gathered over time can be used to answer questions - To use a digital device to collect data automatically - To explain that a data logger collects ‘data points’ from sensors over time - To recognise how a computer can help us analyse data - To identify the data needed to answer questions - To use data from sensors to answer questions	- To explain that the composition of digital images can be changed - To explain that colours can be changed in digital images - To explain how cloning can be used in photo editing - To explain that images can be combined - To combine images for a purpose - To evaluate how changes can improve an image	- To develop the use of count-controlled loops in a different programming environment - To explain that in programming there are infinite loops and count controlled loops - To develop a design that includes two or more loops which run at the same time - To modify an infinite loop in a given program - To design a project that includes repetition - To create a project that includes repetition
Vocabulary	Search engine, reporting, secure, copyright, validate, digital content, logical reasoning, command, 3D game, debug algorithms, lasso tool, download, upload, resize, enhance, layering, decomposing, input, output, critically evaluate, URL					
Year 5	Computing systems and networks – systems and searching	Creating Media – Video Production	Programming A – Selection in physical computing	Data and Information – Flat-file databases (Living things and Habitats)	Creating Media – Introduction to Vector Graphics (Google Drawings)	Programming B – Selection in Quizzes (Scratch)
Knowledge	- To explain that computers can be connected together to form systems - To recognise the role of computer systems in our lives	- To explain what makes a video effective - To identify digital devices that can record video - To capture video using a range of techniques	- To control a simple circuit connected to a computer - To write a program that includes count-controlled loops	- To use a form to record information - To compare paper and computer-based databases - To outline how you can	- To identify that drawing tools can be used to produce different outcomes - To create a vector drawing by combining shapes	- To explain how selection is used in computer programs - To relate that a conditional statement connects a condition to an outcome

	- To experiment with search engines - To describe how search engines select results - To explain how search results are ranked - To recognise why the order of results is important, and to whom	- To create a storyboard - To identify that video can be improved through reshooting and editing - To consider the impact of the choices made when making and sharing a video	- To explain that a loop can stop when a condition is met - To explain that a loop can be used to repeatedly check whether a condition has been met - To design a physical project that includes selection - To create a program that controls a physical computing project	answer questions by grouping and then sorting data - To explain that tools can be used to select specific data - To explain that computer programs can be used to compare data visually - To use a real-world database to answer questions	- To use tools to achieve a desired effect - To recognise that vector drawings consist of layers - To group objects to make them easier to work with - To apply what I have learned about vector drawings	- To explain how selection directs the flow of a program - To design a program which uses selection - To create a program which uses selection - To evaluate my program
Vocabulary	Input device, output device, digital device, software, hardware, profile, motherboard, hard drive, RAM, ROM, CPU, GPU, operating system, design, navigate, 3D model, Micro Bit, responsibility, editing tool, refinement					
Year 6	Computing Systems and Networks – Communication and Collaboration	Creating Media – Web Page Creation	Programming A – Variables in Games	Data and Information - Spreadsheets	Creating Media – 3D Modelling	Programming B – Sensing Movement
Knowledge	- To explain the importance of internet addresses - To recognise how data is transferred across the internet - To explain how sharing information online can help people to work together - To evaluate different ways of working together online - To recognise how we communicate using technology - To evaluate different methods of online communication	- To review an existing website and consider its structure - To plan the features of a web page - To consider the ownership and use of images (copyright) - To recognise the need to preview pages - To outline the need for a navigation path - To recognise the implications of linking to content owned by other people	- To define a ‘variable’ as something that is changeable - To explain why a variable is used in a program - To choose how to improve a game by using variables - To design a project that builds on a given example - To use my design to create a project - To evaluate my project	- To create a data set in a spreadsheet - To build a data set in a spreadsheet - To explain that formulas can be used to produce calculated data - To apply formulas to data - To create a spreadsheet to plan an event - To choose suitable ways to present data	- To recognise that you can work in three dimensions on a computer - To identify that digital 3D objects can be modified - To recognise that objects can be combined in a 3D model - To create a 3D model for a given purpose - To plan my own 3D model - To create my own digital 3D model	- To create a program to run on a controllable device - To explain that selection can control the flow of a program - To update a variable with a user input - To use a conditional statement to compare a variable to a value - To design a project that uses inputs and outputs on a controllable device - To develop a program to use inputs and outputs on a controllable device
Vocabulary	Acronyms, AR (augmented reality, connectivity, generate, variable, operators, list, arithmetic operators, loops, manipulating, digital art, editing, digital music, MP3, WAV, MIDI, data structure, conditional, multitask, concurrently, process, interpret					