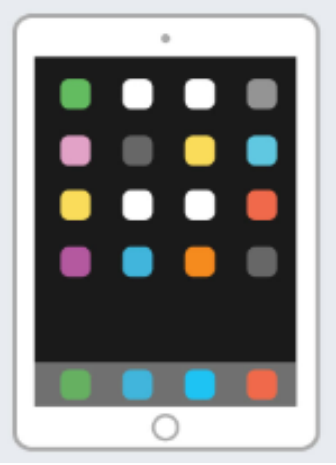
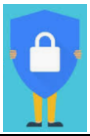
Swindon Village Primary School



Computing Curriculum

Swindon Village Primary School Computing Overview

	Autumn 1 Digital Literacy	Autumn 2	Spring 1 Coding	Spring 2 Coding	Summer 1 Creation	Summer 2 Creation
EYFS	Use iPads to listen to stories. Use technology to record our ideas	Keeping ourselves safe online and on the road	Using technology to find out information about animals	Using a simple tool on the iPad to create a picture	Exploring the use of google maps around the world	How to take a picture using technology
Year 1	Computing Skills iPad 101 	Computing Skills Word Processing 	Coding Bee-Bots and Code-a-Pillar 		ChatterPix 	Creation Stop Motion Animation 
Year 2	Digital Literacy Online Safety 	Computing Skills Presentations 	Coding Scratch Jr 		Digital Photography 	Creation Video Diary 
Year 3	Computing Skills iPad Skills 	Computing Skills Word Processing 	Coding Intro to Scratch 		Computing Skills Book Creator 	Creation Comic Creation 
Year 4	Digital Literacy Searching the Web 	Computing Skills Presenting Information 	Coding Scratch Game 		Photo Editing 	Creation Stop Motion Animation 
Year 5	Online Safety 	Computing Skills Data Handling 	Coding Advanced Scratch 		Photo Manipulation 	Robotics 
Year 6	Computer Networks and AI 	Podcasting 	Coding - Swift Playgrounds Robotics Coding – Sphero 		Creation Movie Making 	

Year 1

	Autumn 1	Autumn 2	Spring 1 / Spring 2	Summer 1	Summer 2
Year 1	Computing Skills iPad Licence 	Computing Skills Word Processing 	Computer Science Programming 	ChatterPix 	Creation Stop Motion animation 
Suggested content and progression	**Pupils will learn to use an iPad safely for basic tasks.** Turn on and off iPad. Unlock screen. Turn off screen. Find apps in folders. Open and close apps. Switch between apps. Open the camera and take a photo. Find the photo. Edit a photo with mark up tools. Open Safari. Search on Google. Search for an image. Save image to gallery. Use Siri to ask a question. Change the volume. Understand how to carry and charge an iPad. Possible outcome: Create a how-to poster for using an iPad.	**Pupils will explore and improve fluency in word processing.** *Know how to type your name using capital letters.* *Know how to use the space bar, return key, back space.* *Write words in upper case and lower case.* *Know how to open and save a document.* Use a full stop. Understand the uses of Word beyond school. Possible outcome: Type a sentence on your topic and save.	**Pupils will be able to develop and explore a range of coding skills. Using Beebots, they will navigate these devices in a variety of contexts.** *Understand what algorithms are.* *Know where some algorithms are used in our lives.* *Explore the possible actions of Beebots.* *Create algorithms for a specific outcome.* Possible outcomes: Design and create a Beebot obstacle course.	**Pupils will create an animation using ChatterPix Kids.** Take a photo on the app. Animate the photo by adding a mouth. Edit the photo with stickers, frames, and text. Record their voice. Save the animation to the device. Save a picture from the internet. Upload from Gallery. Possible outcome: Publish a piece of work from English.	***Pupils will photograph characters to create a movie.*** *Plan a short movie scene.* *Create characters and backdrops.* *Use small movements to create smooth animation.* *Add a title using capital letters appropriately* *Discuss careers in animation e.g. Aardman Studios* *Possible outcome:* *Retell a known story or create an alternate ending.*
Online Safety	Health, wellbeing and lifestyle	Managing online information	Online reputation, Online bullying, Self-image and identity	Privacy and security	Copyright an ownership,
Key vocabulary	iPad, Home button, Apps, save, open, close, search, image, camera, edit, mark up tools, photo, volume, charge, charging cable.	keys, letters, space bar, back space, return, shift, upper case, lower case, full stop, symbol, type, key, document.	Beebot, algorithm, instructions, navigate, steps, coding, debug, turn.	Open, app, save, device, gallery, photo, animate, animation, filter, text, sticker, frame, edit, record.	Photo, movie, animation, stop motion, play.

Required resources	iPads	Microsoft Word, iPads, iLearn2	iPads, iLearn2, Beebots, Mazes, Beebot app, Code-a-pillar app.	iPads. ChatterPix Kids	iPads, Stop Motion app, Lego/toys or modelling clay.
Additional Online Resources	Term 1 https://code-it.co.uk/csplanning.html Term 2 https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing https://www.ilearn2.co.uk/previewmouseandkeyboardks1.html/ Term 3-4 https://www.ilearn2.co.uk/previewks1programming.html/ https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot https://www.barefootcomputing.org/resources/bee-bots-basics-activity https://www.barefootcomputing.org/resources/bee-bots-1-2-3-programming https://www.barefootcomputing.org/resources/bee-bot-route-decomposition-activity				

Year 2

	Autumn 1	Autumn 2	Spring 1 Spring 2	Summer 1	Summer 2
Overview Year 2	Digital Literacy Online Safety 	Computing Skills Presentations 	Computer Science Programming 	Digital Photography 	Creation Video Diary 
Suggested content and progression	**Pupils know how to use technology safely and respectfully** Understand how and why we keep 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. Possible outcome: in groups, create a poster and speech regarding safety online.	**Pupils to develop skills in using technology to present information.** *Understand the purpose of a presentation.* *Type and create slides for a presentation.* Add text and pictures to a presentation *Know how to change text size, font and font colour.* *Understand when you might use a presentation beyond school.* Possible outcome: Create and present a PowerPoint on Rosa Parks.	**Pupils will discuss and understand what debugging is.** *Identify an algorithm and know what debugging is.* *Understand that programs execute by following precise and unambiguous instructions* *Debug algorithms in real life situations – using written or verbal instructions.* *Create and debug simple algorithms.* *Use logical reasoning to predict the outcome of different algorithms.* *Learn to create code using blocks in ScratchJr (movement, change size, turn, green flag)* Possible outcome: Design and Create an animation on ScratchJr	**Learners will gain experience capturing, editing, and improving photos.** Explain how to take a good photograph. Know the difference between landscape and portrait. Explore different light sources. Retake a photo to improve it. Know how to focus a photo. Experiment with editing a photo. Discuss possible careers in photography. Understand about careers using photography. Possible outcome: Take a edit a photo, annotate what you have done and why.	**Pupils discuss how to present information. They will understand the benefits of formal/informal presentation.** *Categorize which ways of online presenting are formal/informal* *Discuss possible career pathways* *Discuss the drawbacks of online presenting (compare to podcasting)* *Plan their final product and write script.* Possible outcome: create a week of video diaries for school Facebook page. Present Sports Day/ class story/school event formally or informally.
Online Safety	Health, well-being and lifestyle	Privacy and Security, Copyright and ownership	Managing Online information	Self-image and Identity	Online bullying Online reputation
Key vocabulary	Cyberbullying, trustworthy, website, report,	Presentation, slides, transition, text, font, size,	Algorithm, coding, debugging, decompose,	Internet, World Wide Web, surfing, reliability,	Formal, informal, presenting, video, benefits, audio,

	block, tell, dangers, respect and positives.	software, program.	troubleshoot, online, unplugged.	refine, advanced search, search engines, sources, website	visual, identity, diary, YouTube, appropriate.
Required resources	iPads, childNet, thinkuknow, iLearn2.	Microsoft PowerPoint, iPads	ScratchJr, Code-a-Pillar, Beebots, Bluebots Beebot app, iPads, barefoot computing, iLearn2	iPads, iLearn2	iPads, headphones
Additional Online Resources	Term 1 https://www.thinkuknow.co.uk/ Term 3-4 https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms https://www.barefootcomputing.org/resources/scratchjr-tinkering-activity https://www.barefootcomputing.org/resources/scratchjr-knock-knock-joke-activity Term 5 https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography				

Year 3

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview Year 3	iPad Skills 	Computing Skills Word Processing 	Coding 		Computing Skills Book creator 	Creation Comic Creation 
Suggested content and progression	**Pupils will develop their iPad skills by using a range of tools, apps, and shortcuts.** Recap basic iPad skills (see year 1 curriculum). Understand how and why we close apps. Use QR codes to access websites and explain how they work. Know when and how to use 'pinch zoom' Use Siri to answer a question. Use the screen record feature. Use camera to read and copy text. Use the timer / stopwatch feature. Know how to use the Split Screen feature. Possible outcome: Use screen record to create a 'how to' guide.	**Pupils will apply prior skills to creating content with a specific program.** *Practice typing, including use of the return key, capital letters and punctuation.* *Change the font, font size, and colour.* *Use voice typing to write a sentence.* *Use italic/bold/ underline tools.* *Use Word Art and copy and paste images from the internet.* *Save a document in the correct area with a suitable name.* *Open documents saved on the server.* Possible outcome: create a Christmas card with a digital image and text.	**Pupils will examine a variety of coding skills that get more complex. They will apply these to a specific context.** *Debug programs to ensure they accomplish specific goals* *Debug algorithms* *Write programs that accomplish specific goals* *Solve problems by deconstructing them into smaller parts* *Use Scratch to code movement, sound, clicking control and backdrop changes.* Possible outcome: Design and Code their own version of the Balloon Pop Game.		***Pupils learn to create and edit content on a range of software.*** *Type and edit text using appropriate size, colour and font style.* *Add pictures and other media e.g. voice recording.* *Use the draw feature* *Save and print their work* Possible outcome *Create a Blog Entry from Hogarth's Point of View in the Iron Man.*	**Pupils will create a comic book using technology.** *Discussion into why technology may create a quality comic.* *Creating layouts – add and edit boxes.* *Add pictures from camera and the camera roll.* *Create narrations, thoughts and dialogue using bubbles.* *Include captions, change font and colour of titles.* Possible outcome: Retell a Greek Myth as a Comic Book.
Online Safety	Health, well-being and lifestyle	Managing Online Information	Online bullying, Online reputation		Copyright and ownership, Privacy and Security	Self-image and identity
Key vocabulary	iPad, app, open, close, pinch zoom, copy, paste, Siri, voice typing, timer, stopwatch, split screen, QR code,	Key, layout, border, word art, type, space bar, enter, file, open, save as, cursor, images.	Algorithm, coding, debugging, decompose, troubleshoot, online, unplugged, systems, physical.		Size, font, bold, media, transition, edit, voice recording.	Layout, links, webpage, drop downs, sections, information, hyperlinks, software, web

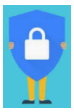
	double tap, home button				address, edit, evaluate.
Required resources	iPads, thinkuknow, childnet.	iPads, Microsoft Word, iLearn2	iPads, iLearn2, Scratch	iPads, Book Creator, iLearn2	iPads, Comic Life
Additional Online Resources	Term 1 https://education.apple.com/#/home/resources Term 2 https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing Term 3-4 https://teachcomputing.org/curriculum/key-stage-2/programming-b-events-and-actions https://scratch.mit.edu/educators Term 5 https://bookcreator.com/resources-for-teachers/ Term 6 https://www.ilearn2.co.uk/comiccreationteacherfree.html/				

Year 4

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview Year 4	Systems and Searching 	Computing Skills Presenting Information 	Coding 		Photo Editing 	Creation Animation 
Suggested content and progression	**Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** Understand the words: network and system. Explain what the internet is. Explain what a website is and who owns the web. Understand how search engines work, how results are ranked and influenced. Use BOOLEAN operators to enhance their searches. Be discerning in evaluating digital content. Possible outcome: Create a screen record of searching	**Pupils will develop an understanding of how to make presenting information more engaging.** *Familiarise with features of presentations.* *Implement transitions from slide to slide.* *Use animations so that specific information appears simultaneously.* *Include images and text.* *Understand how to make a presentation engaging.* *Learn presenting skills and practice sharing information.* Possible outcome: deliver a presentation to showcase your learning in topic.	**Pupils will create a code that will complete a desired outcome. They will plan and create the algorithms needed for the outcome.** *Code sprites to react with other sprites.* *Be able to change controls by editing numbers in blocks.* *Be able to code an interactive game by following instructions.* *Debug errors in their code using logical reasoning.* *Design their own version of the original game.* *Use Scratch to code variables to create a scoreboard.* *Use sequence, selection, and repetition in programs* Possible outcome: Code the Pong Game in Scratch.		**Learners will develop their understanding of how digital images can be changed and edited.** Recap Photography skills (Year 2) Save an image and Open in image editing software. Rotate and Crop images. Use mark up tools. Understand how colours, filters and effects affect an image. Choose appropriate effects to suit an image. Possible outcome: Annotate an image to explain the editing you have done and why.	**Pupils will use technology to create an animation.** *Identify the various way animation is done.* *Duplicating slides* *Transitions with times* *Animate individual elements* *Create short gifs with pixel animation* Possible outcome: Retell a story for English. Make an animation to share a method in Maths.
Online Safety	Online reputation, Copyright and Ownership	Privacy and Security	Self-image and Identity, Health, well-being and lifestyle		Online bullying	Online relationships
Key vocabulary	Network, system, internet, website, search engine,	File explorer, file, save, open, organise, retrieve, information, documents.	Algorithm, coding, debugging, decompose, troubleshoot, online,		Presentation, slides, transition, fade, speed,	Presentation, slides, transition, fade,

	BOOLEAN operators.		unplugged, systems, physical, program, output, input.	text, font, size, animations, software, program, cursor select.	duplicate, speed, text, object, size, animations, program, loop, movement.
Required resources		iPads	iPads, Scratch	iPads	iPads, PowerPoint, iLearn2
Additional Online Resources	Term 1 https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-sharing-information https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet Term 2 Term 3-4 https://scratch.mit.edu/educators https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games Term 5 https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing Term 6 https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation https://www.ilearn2.co.uk/freeyear4animation.html/				

Year 5

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview Year 5	Online Safety 	Computing Skills Data Handling 	Coding 		Photo Manipulation 	Robotic Coding 
Suggested content and progression	**Pupils will know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.** *Revise the term Cyberbullying.* *Understand how identify, self-image and photos may not be true.* *To be aware of the dangers of sharing information, strangers and communicating online.* *Understand how to report inappropriate messages from online sources.* *Digital footprint – how what we do now can affect us in the future.* *Know how to protect yourself when gaming.* Possible outcome: Design a presentation about how to be responsible online.	**Pupils will understand how to use a database.** *Record information on a form.* *Understand how to input data.* *Compare paper and computer-based databases.* *Answer questions by grouping and sorting data.* *Create graphs to display data visually.* *Save and Open Databases.* Possible outcome: Create a table that can count house points.	**Pupils will examine a variety of different types of coding skills that develop in complexity.** *Understand what variables are and how to use them.* *Use logical reasoning to explain algorithms.* *Design, write and debug programs to accomplish specific goals.* *Practice debugging pre-existing algorithms.* *Solve problems by decomposing them into smaller parts.* *Create and debug the algorithm for your own game.* Possible outcome: Design and create a project using variables in Scratch		**Explore how photos can be edited and changed.** Use the Green Screen to create a photo with a chosen background. Edit a photo to change the appearance of a person. Explore Augmented Reality and Virtual Reality. Understand how AI can create or change images. Possible outcome: Annotate an image to explain how it has been manipulated.	**Pupils will code Sphero to complete a range of tasks.** *Learn to make Sphero move in a variety of ways.* *Code Sphero to turn.* *Code Sphero to change colour.* *Make Sphero move through a channel.* *Take Sphero through a simple maze.* Possible outcome: Guide Sphero through an assault course Create a Sphero Solar System
Online Safety	Online relationships, online reputation	Copyright and ownership,	Privacy and security, Health, well-being and lifestyle.		Self-image and identity,	Online bullying
Key vocabulary	Cyberbullying, trustworthy, website, report, block, tell, dangers, respect, social media, password, cyber	Cell, formula, output, outcome, Excel, program, column, row, data, table.	Algorithm, coding, debugging, decompose, troubleshoot, online, unplugged, systems,		Edit, Photo, Image, Manipulation, Green Screen, Augmented	Scene, background, algorithm, debug, program, game,

	footprint, reputation, positives.		physical, program, output, input.	Reality, Virtual Reality, Artificial Intelligence.	character, game, environment, goal.
Required resources	Thinkuknow, iPads, iLearn2	iPads	iPads	iPads	iPads, Sphero
Additional Online Resources	Term 1 https://beinternetawesome.withgoogle.com/en_us/interland https://www.thinkuknow.co.uk/ Term 2 https://teachcomputing.org/curriculum/key-stage-2/data-and-information-flat-file-databases https://teachcomputing.org/curriculum/key-stage-2/data-and-information-spreadsheets Term 3-4 https://scratch.mit.edu/educators https://teachcomputing.org/curriculum/key-stage-2/programming-a-variables-in-games https://turtleacademy.com/lessons https://www.ilearn2.co.uk/year6scratchpreview.html/ Term 6 https://edu.sphero.com/				

Year 6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview Year 6	Computer Networks and AI 	Podcasting 	Robotic Coding and Swift Playgrounds. 		Creation Movie making 	
Suggested content and progression	**Pupils will extend their understanding of computer networks and explore how AI is changing the world.** Learn about computer systems. Explain the terms input, output and process. Understand computer networks including the internet Explain how they can provide multiple services, such as the world wide web Explore the opportunities they offer for communication and collaboration. Explore AI and the possibilities and limitations. Understand how AI works. <u>Possible outcome:</u> Create a presentation on computer networks. Use AI to answer question or create content.	**Pupils will design and record a podcast.** Research podcasts and understand what they are. Plan their podcast and write a script. Use the voice recording feature. Use audio editing software to crop files. Add music and jingles to their recordings. <u>Possible outcome:</u> Create a podcast	**Pupils will code Sphero to complete a range of tasks and learn to code using Swift Playgrounds.** *Design a challenge for Sphero to complete.* *Code Sphero's LED lights in a variety of patterns.* *Detect and correct a range of errors with algorithms in Sphero.* *Control Sphero through a complex course.* *Understand that code can be written in words.* *Learn to code using Swift Playgrounds.* <u>Possible outcome:</u> Compete in Sphero Olympics		**Pupils will create a movie using a range of features from iMovie app** Learn to insert photos and movie clips into a movie. Learn to edit photos using cropping, duplicate, filter and timing tools. Add text to relevant parts of the movie. Add trailers to movie. Learn to add music to movie (including own music from garage band). Learn to edit music using fade and cropping tools. <u>Possible outcome:</u> Create a leavers video for SVPS	
Online Safety	Self-image and identity, Copyright and ownership.	Health, well-being and lifestyle	Privacy and security, online reputation		Online relationships, online bullying	

Key vocabulary	Artificial Intelligence, network, system, input, output, process, internet, world wide web, service.	Internet, surfing, reliability, refine, advanced search, search engines, sources, website, digital manipulation.	Algorithm, instructions transition, fade, duplicate, speed, text, object, size, animations, program, loop, movement.	Movie, edit, crop, fade, media, filter, duplicate, trailer
Required resources	iPads	iPads	iPads, Swift Playgrounds, Sphero	iMovie, iPads
Additional Online Resources	Term 1 https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers Term 2 https://musiclab.chromeexperiments.com/ https://teachcomputing.org/curriculum/key-stage-2/creating-media-audio-editing https://www.tes.com/teaching-resource/podcasting-ict-year-5-6-planning-6393384 https://www.teachingideas.co.uk/multimedia/podcasting-0 Term 3-4 https://edu.sphero.com/ Term 5-6 https://teachcomputing.org/curriculum/key-stage-2/creating-media-video-editing			

Cross Curricular Computing

	Autumn	Spring	Summer
Year 1	**Personal Development** SCARF	**Personal Development** SCARF	**Personal Development** -SCARF
Year 2	**Personal Development** SCARF	**Personal Development** SCARF	**Personal Development** -SCARF **Maths – Term 5 - Statistics** Tally Chart, Pictogram and Block Diagram **Art** Digital Media Create a digital painting of a Chinese landscape in the style of Roy Lichtenstein.
Year 3	**Personal Development** SCARF	**Personal Development** SCARF	**Personal Development** -SCARF **Maths – Term 6 - Statistics** Pictogram, Bar Chart Data in Table
Year 4	**Personal Development** SCARF	**Personal Development** SCARF	**Personal Development** - SCARF **Maths – Term 6 - Statistics** Bar Chart and Time Graph **Art** Digital Media Create images, video and sound recordings and explain why they were created.
Year 5	**Personal Development** SCARF	**Personal Development** - SCARF **DT** Computer Aided Design (CAD) Tinkercad	**Personal Development** -SCARF
Year 6	**Personal Development** SCARF	**Personal Development** - SCARF **Music** Garage band History of music- understand how electric music is created. Composing – Develop an understanding how to use garage band. Compose their own music using garage band.	**Personal Development** -SCARF **Maths – Term 5** - Statistics Line Graphs and Pie Charts **Art** Digital Media A series of pop art pictures inspired by iconic objects and people