New Silksworth Academy

Computing curriculum 2023-24						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
EYFS	**Early Learning Goals** **Early Digital Music** **Understanding the World** Technology: Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Expressive **Arts and Design** Being imaginative: Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. Name items we control in the everyday environment Use everyday technology devices Explore on screen activities – by clicking cause and effect Use on screen simulations and compare with real life activities – click and drag activities Create a simple **algorithm** for a floor robot e.g.: Bee Bots Move the mouse with some control to point and click Use the mouse to click and drag Right click using the mouse and uses the mouse pad on a laptop Use a paint package to draw a picture using a range of devices e.g. Paint, 2Paint a picture Use simple tools in a painting package e.g. different sized brushes, colour-fill, and palette Find the letters in name on a computer keyboard and type name Identify some simple examples of personal information (name, address, birthday and age for example) Identify rules that help keep people safe and healthy in and beyond the home when using technology Say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks them to do something that makes them feel sad, embarrassed or upset. Describe ways that some people can be unkind online. Recognise some ways in which the internet can be used to communicate. Give examples of how they (might) use technology to communicate with people they know. Identify ways that they can put information on the internet.					
EYFS Vocabulary	E-safety, Choices, Internet, Website. television, Alexa, microwave, Kindle, IWB Computer, I-Pad, phone	Equipment, buttons, Bee-bot, click, press	Keyboard, mouse, keys, screen	On/off, Photo/video		
Year 1	**#WeAreCompassionate** **E-safety** (ILearn2) 2 sessions Document and editing (ILearn2) 2 sessions	**#WeAreResilient** Text and Images (ILearn2) Pic collage Brushes Redux	**#WeAreCreative** **VEX 123 Programming**	**#WeAreCreative** **VEX 123 Programming**	**#WeAreAmbitious** IT – Presentation Creating Media (cross-curricular) Comic Creation (ILearn2) Music Creation (ILearn2)	**#WeAreCollaborative** IT- Data and Information programs Pictograms (cross – curricular) Teachcomputing.org

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KPI	Know the need to keep passwords private. Know the need to tell an adult if something worrying happens on screen. Recognise age appropriate websites. Agree and follow sensible e-safety rules Use keyboard to enter text . Begin to understand storage is where work is saved.	Talk about different ways information can be shown.	Give and follow instructions to move around. Describe what happens when you press buttons on a device.	Describe the actions needed in order to make something happen using the word algorithm. Use the word 'debug' when correcting mistakes.	Collect the ways they use technology at home and in school. Begin to identify some benefits of using technology	Talk about the different ways in which information can be shown - Collect, find and sort information/photos/videos and sound and present it to other people - Add information to a pictograph/simple graph and talk about what it means
Vocabulary	Keyboard, enter key, return key, space bar, drag, drop, add text, create, move, find video, sound ,data Load, edit, print, save. Login, Username, password. Nickname, personal information, online. Rules, safety,	Enter key, return key, space bar, drag, drop, add text, remove, select Load, edit, print, save.	program, programming, code, instructions, screen, direction, left/right/up/down, run instructions, action, click/clicked, scene	start, object, design, start event ,click event, Code icon, app share, debug, Algorithm	Enter key, return key, space bar, drag, drop, add text, technology video, sound ,data, digital, Load, edit, print, save.	Pictogram, template. Digital
Year 2	**#WeAreResilient** Recognise uses of IT (ILearn2) 1-2 sessions	**#WeAreResilient** Internet safety (ILearn 2)	**#WeAreAmbitious** Scratch Junior – programming/Coding	**#WeAreCurious** Scratch Junior – programming/Coding	**#WeAreAmbitious** Programming – teach computing Medial digital/photography	**#WeAreInspiring** Typing Yack ABC https://www.abcya.com/games/category/typing and https://zty.pe/
KPI	Explain why we use technology at home and in the classroom. Understand that other people have created the information that we use online. Explain why it is important to be kind to others online and in real life. Begin to understand that not everyone is who they say they are online.		Test and debug a set of instructions. Predict what will happen when a new Instruction is given explaining why.		Use technology to present and organise information. Understand the keyboards terms 'delete' 'space' 'shift' 'caps'. Talk about and explore how work can be saved online. Save, share and open files correctly.	
Vocabulary	. Advertise, information, trust, profiles, websites, retrieve, search, search engine, Internet, share organise, digital content Personal information, Private, dangers, trust, profiles, password. Cyberbullying.		Run, code, algorithm, execute, program, click event, start event, key pressed, characters, object action. Algorithm, swipe, tap, control, direction, event box. Debug. Command, Input , Output, code. Algorithm, bug, File, Organise, Store, Sequence, Save,		Add, move, resize, add text, adjust, images, position text, Change, rotate, design	Change, rotate, design, rhythm, pattern, beats, digital sounds, presentation, manipulate, melody, adjust tempo. Save text.
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	• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • 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.					
Year 3	**#WeAreResilient** E-safety ILearn2 7-11 2 sessions Document editing and Creation. 3 sessions. Office prog.	**#WeAreResilient** Internet research (Yr4 Ilearn2) Popplet J2edata	**#WeAreCurious** Scratch-programming/coding	**#WeAreCreative** Scratch-programming/coding	**#WeAreAmbitious** **#WeAreCollaborative** Comic Creation (ILearn2) IT Stop Frame Action (cross curricular- teach computing)	
KPI	Talk about what makes a secure password. Recognise websites and games appropriate for age and talk to an adult before downloading or using them. Write and post positive comments online. Save, share and retrieve work on the internet, school network and on other devices. Use appropriate keyboard commands and emoticons. Combine a mixture of text, graphics and sound to share ideas and learning.	Talk about the different ways data can be organised - Search a database/bank of data to answer a question - Create a branching database/flowchart	Order/use and understand programming commands, including repeat. - Recognise when a command/program needs to be debugged	Describe the algorithm for a simple task and solve errors within the program if they occur - Analyse small parts of a sequence to build up to a longer algorithm	Use appropriate tool to share work online . Save, share and retrieve work on the internet, school network and on other devices. Combine a mixture of text, graphics and sound to share ideas and learning.	
Vocabulary	Search technologies, safe search engines, keywords, cross-referencing, copying, pasting, fake news, format text, find and replace. Secure password. Acceptable/unacceptable behaviour, report. Positive comments, negative comments, posting online. P.E.G.I. age rating.	Search technologies, safe search engines, keywords, cross-referencing, variable, database, data, branching, flowchart	time, sequence, function box, after, execute, time, sequence, debug physical system, simulation, design, execute, properties, repeat, selection	Key, walls, condition, If…then, code icon, App share, background, tipped, slide, accelerometer, condition, conditional, function ,key pressed, if/hit, if/background	Sampled sounds, fill shapes, zoom, flip, layer. GIF computer graphic Design, add, animate, platforms, screen shot, touch typing	Search technologies, safe search engines, keywords, cross-referencing, avatar, Animation, computer game, customise, evaluation, image, instructions, interactive, screenshot, texture, perspective, playability.

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Year 4	**#WeAreCreative** E-safety (ILearn2) Create e-safety leaflet	**#WeAreInspiring** Video editing (Ilearn2) Apple i-movie	**#WeAreAmbitious** Coding Espresso Unit 4a Introduction to variables	**#WeAreResilient** Coding Espresso Unit 4b Repetition and loops	**#WeAreAmbitious** Data handling (ILearn 2)	**#WeAreCollaborative** Comic Creation (ILearn2) Book creator app Teach Computing(Google drawing). Vector Draw
KPI	Choose secure passwords and know the importance of changing them regularly - Recognise that anything posted online can be seen by others - Explain the need to talk to an adult before downloading files and games from the internet -Write/post positive and respectful comments online. - Know that information on the World Wide Web may not be always reliable - Identify key words when searching on the World Wide Web	Use a variety of media to create an - Change the appearance of text to match a particular purpose - Give constructive feedback to others to improve their work	Write, test and debug a program with a given outcome - Identify errors in a program and debug them independently	Recognise that algorithms help to sequence more complex instructions - Use 'if… then' in an algorithm	Choose the best way to present data to others - Organise data in different ways - Plan, create and search a database	Use a variety of media to create an atmosphere when presenting to others - Change the appearance of text to match a particular purpose - Give constructive feedback to others to improve their work
Vocabulary	Secure password. Acceptable/unacceptable behaviour, report. Positive comments, negative comments, posting online. P.E.G.I. age rating. CAD, 3D, Viewpoint, 2D Net, points, template, motherboard, graphics card, RAM, CPU.	clips, order, resize, voiceover, filters.	variable, condition, score, start, click, place, time, variable, condition, score, time, negative, assign, value, if, statement, true, virus, value, event, action, alert	stop, timer, multiples, negative, repetition, loops, stopwatch, simulation, reset, button, countdown timer, start condition, end, condition, if... equals ,infinite loop	Find data, present data, spreadsheet, bar chart, line graph, pie chart, cells. Load and save	Pixels, animation, duplicate slides, transition, motion paths, animate pixels, animate objects. Add clips, order and resize, voiceover, filters. Position, format, add audio, hyperlinks, animation, frame, background, play, stop
	NC • 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 • 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 • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact					

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Year 5	**#WeAreResilient** E-safety (ILearn 2) Lessons Computer networks and the Internet	**#WeAreCurious** Data handling (ILearn2)	**#WeAreAmbitious** Coding Espresso Unit 5a Speed direction and co-ordinates	**#WeAreCreative** Coding Espresso Unit 5b Random numbers and simulations	**#WeAreAmbitious** App design (ILearn2) Sketch Nation app	**#WeAreInspiring** e-book creation quiz Vector Drawing (Teach Computing)
KPI	Know how to protect personal information and can explain the importance of doing this, including reporting any issue/concerns to an adult - Recognise that anything posted online can be seen by others and may affect others - Explain the importance of choosing an age-appropriate game, website or app	Talk about mistakes in data and suggest how it can be checked - Choose appropriate tools to collect data and present data to others - Plan, create and test a quiz/choice story	Refine procedures by using repeat commands to improve a program - Change an input to a program to achieve a different output e.g. Scratch - Use logical reasoning to detect and debug a mistake - Use multiple 'if…then' statements in a program to increase the variables	Refine procedures by using repeat commands to improve a program - Change an input to a program to achieve a different output e.g. Scratch - Use logical reasoning to detect and debug a mistake - Use multiple 'if…then' statements in a program to increase the variables	Use a variety of media editing tools to refine and enhance own work - Combine a variety of technology tools to create greater effects - Review and improve own work and support others	Know how to search for information on the World Wide Web and check its reliability - Use different online communication tools appropriately for the purpose
Vocabulary	Online bullying, oversharing, digital footprint, trustworthy sites, online profile.	Adjacent cells, resize cells, averages, totals, formulae, maximum/minimum numbers. Branching, database, charts, collaborative, data, find, record, sort, group, arrange, report, table.	numbers, debug, object, action, speed, acceleration, deceleration, angle, heading, if, assign, decompose, co-ordinates, condition, negative numbers, Y axis, X axis ,iPad, true, value, friction, direction, condition, input, assign, rotate, variable, condition, coordinate.	variable, generated, random, intervals, time, simulate, random number, generate, angle, coordinates, variable, degrees, value, condition, score, mouse move, event, match	Add icons, navigation, duplicate slides, multiple pages, hyperlinks to navigate.	Add icons, navigation, duplicate slides, multiple pages, hyperlinks to navigate. Network, server, router, firewall, wireless access points, signals, files, wired network, web-link. Cloud computing, email, messages, forums. blog, blog page, post, collaborative, icon, concept map, database, Research, Interpret, investigation, perspective, playability.
Year 6	**#WeAreCreative** Image editing (ILearn2)	**#WeAreCompassionate** E-safety (ILearn 2 + Morpho)	**#WeAreAmbitious** Coding Espresso Unit 6a More complex variables	**#WeAreInspiring** Coding Espresso Unit 6b Object properties	**#WeAreCurious** Web/Graphic design	**#WeAreCollaborative** Digital Presentation skills Green screen Scratch

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KPI's	Talk about audience, atmosphere and structure when planning for particular outcome - Transfer skills to new technologies and media based on prior knowledge	Know and explain the importance of protecting personal information and can explain consequences of not doing this - Know and explain the consequences to self and others of not communicating kindly and respectfully online - Support friends to protect themselves and make good choices online, including reporting concerns to an adult	Deconstruct problems into smaller steps, recognising similarities to prior solutions - Recognise when to use a variable in a program - Evaluate the effectiveness and efficiency of an algorithm whilst continually testing it - Recognise the need to use a variable to achieve a required output		Know that search results have been selected and ranked according to their reliability and relevance - Can explain and select the appropriate communication tools that best fit for the purpose	Talk about audience, atmosphere and structure when planning for particular outcome - Transfer skills to new technologies and media based on prior knowledge - Explain choices for using particular media for particular effects
Vocabulary	Crop, screen shot, adjust, ratios, import, layers, effects, save, audience LAN, WAN, Router, Network, Wireless. HTML	Personal information, cyber-bullying, oversharing, digital footprint, online profile, trust, report.	Variable, prompt, pixels, shape, formula, output, Dragend event, parameter, score, variable, ev.d, ev.a, friction, direction, angle, speed, variable, score, equal, drag, swipe random, numbers, property, objects, location, events		Format text, publish, web address, mobile view.	Green screen, foreground, background, Chroma wheel, re-sizing.
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The computing Curriculum has been divided into 3 colour-coded sections: Computer Science (coding), Information Technology (Creating digital content and computer skills) and Digital Literacy (E-safety and understanding computer systems).