Curriculum and Progression in Computing

Intent:

The computing curriculum at Rothbury First School is designed to give children access to technology from a young age whilst providing a solid understanding of its uses and limitations. The curriculum is intended to be delivered using a spread of devices and unplugged lessons and activities should be chosen to complement the curriculum delivery in other subjects. Children should learn that computers present another way to present information and should produce work that can be shared with the world e.g websites. Children should understand that technology should be used with purpose and understand the benefits that technology can bring us. The Rothbury First School computing curriculum is based on the NCCE Teach Computing Curriculum which is personalised to our setting.

All children in Rothbury First School will have the right to have rich, deep learning experiences that balance all the aspects of computing.

Year A/B	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Early years	Sequencing/ patterns	Directions/ instructions	Curiosity-real objects	Curiosity- real objects	Recording using voice recorder/ iPads	Operating Beebots
Year 1/ 2	E Safety	Moving a Robot	Robot Algorithms	Introduction to	Introduction to	Grouping Data

A	Computing systems and networks - Technology around us.			Animation Scratch Junior	quizzes	
B	E Safety Computing systems and networks - Information technology around us.	Making Music	Digital Writing	Digital photography	Digital Painting	Pictograms
Year 3/ 4 A	Computing systems and networks- Internet	Creating media- Audio editing	Creating media- photo editing	Data and information- data logging	Programming A Repetition of shapes	Programming B Repetition in games
B	Computing systems and networks- connecting computers	Data and information Branching Databases	Creating media- Desktop publishing	Programming A Sequence in music	Creating media stop frame animation	Programming B Events and Actions

	What will a Rothbury First School Computer Scientist look like?		
	At the end of Reception they will have the following knowledge:	At the end of Year 2 they will have the following knowledge:	At the end of Year 4 they will have the following knowledge:
Being a Computer Scientist.	Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and behave	Use technology purposefully to create, organise, store , manipulate and retrieve digital information. Recognise common uses of technology beyond school	Understanding the internet can provide multiple services, world wide web, and the opportunities they offer for communication and collaboration. Use search engines to collect

accordingly Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design , texture form and function.	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.	information about a topic. Create a powerpoint presentation about something they have learnt at 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. Use logical reasoning to explain how some simple algorithms work and to find and correct errors in algorithms and programmes

Progression of Skills

	Year 1	Year 2	Year 3	Year 4
Text and multimedia	I can be creative with different technology tools. I can use technology to create and present my ideas. I can use the keyboard or a word bank on my device to enter text. I can save information in a special place and retrieve it again	I can use technology to organise and present my ideas in different ways. I can use the keyboard on my device to add, delete and space text for others to read. I can save and open files on an electrical device	I can create different effects with different technology tools. I can combine a mixture of text, graphics and sound to share my ideas and learning. I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. I can use an appropriate tool to share my work online.	I am confident to explore new media to extend what I can achieve. I can change the appearance of text to increase its effectiveness. I can use a keyboard confidently and make use of a spellchecker to write and review my work. I can use an appropriate tool to share my work and

				collaborate online. I can give constructive feedback to my friends to help them improve their work and refine my own work.
Digital Images	I can edit a photo with simple tools I can use a paint to create a digital image I can begin to cut out an image to layer on another image	I can edit a photo e.g crop I can cut images with accuracy to layer on other images.	I can confidently take and manipulate photos I can create a digital image using a range of tools, pens, brushes and effects	• I can enhance digital images and photographs using crop, brightness, contrast & resize • I can manipulate shapes to create digital art.
Sound and music	I can create a sequence of sounds (instruments, apps/software) I can record my voice and add different effects.	I can record my own sound effects. I can record my voice over a compositions to perform a song	• I can create and edit purposeful compositions using music software to create mood or a certain style	I can record a radio broadcast or audiobook.
Programming	I can give instructions to my friend and follow their instructions to move around. I can describe what happens when I press buttons on a robot. I can press the buttons in the correct order to make my robot do what I want. I can begin to predict what will happen for a short sequence of instructions.	I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. I can tell you the order I need to do things to make something happen and talk about this as an algorithm. I can use programming software to make objects move.	I can put programming commands into a sequence to achieve a specific outcome. I keep testing my program and can recognise when I need to debug it. I can use repeat commands.	I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. I can use an efficient procedure to simplify a program. I know that I need to keep testing my program while I am putting it together. I can use a variety of tools to create a program. I can recognise an error in a program and debug it.
Research and E Safety	I know who to tell if I am worried when using technology.	I can talk about why I need to keep my password and personal information private.	I can talk about what makes a secure password and why they are important.	I can talk about what makes a secure password and why they are important.

	I can ask for help. I know what information is ok to share and which information I should keep private. I know that I should be kind in person and online, and what to do if someone is unkind. I can agree and follow sensible e-safety rules.	I can talk about things that might happen on the internet that are not ok and why I should tell an adult. I know why it is important to only go online for short amounts of time. I know that I should be kind in person and online, and what to do if someone is unkind.	I can protect my personal information when I do different things online. I can use the safety features on websites as well as reporting concerns to an adult. I know websites and games that are appropriate and inappropriate for my age. I can make good choices about how long I stay online for. I know to ask permission before downloading files and games. I know what a positive comment and a negative comment looks like and which is appropriate	I can talk about the ways to protect myself and my friends from harm online. I can use the safety features on websites as well as reporting concerns to an adult. I choose websites and games that are appropriate for my age. I can talk about why I need to ask a trusted adult before downloading anything from the internet. I know that anything I post online can be seen by others. I know how to behave positively and respectfully online.
Technology and our lives	I can recognise the way we use technology in our classroom. I can recognise ways that technology is used in my home and community. I can use links to websites to find information. I can begin to identify some of the benefits of using technology	I can tell you why I use technology in the classroom. I can tell you why I use technology in my home and community. I am starting to understand that other people have created the information I use. I can identify benefits of using technology including finding information, creating and communicating. I can talk about the differences between the internet and things in the physical world.	I can save and retrieve work on the internet, the school network or my own device. I can talk about the parts of a computer. I can tell you ways to communicate with others online. I can use search tools to find and use an appropriate website.	I can tell you whether a resource I am using is on the internet, the school network or my own device. I can identify key words to use when searching safely on the World Wide Web. I think about the reliability of information I read on the World Wide Web. I can create a hyperlink to a source on the World Wide Web
Handling Information	I can sort images or text into	I can sort digital objects into	I can start to input simple	I can create my own online

	two or more categories on a digital device. I can collect data on a topic. I can create a tally chart and pictogram. I can record myself explaining what I have done and what it shows me.	a range of charts e.g bar charts using software. I can orally record myself explaining what the data shows me.	data into a spreadsheet. I can create a feelings chart exploring a story or character's feelings.	multiple choice questionnaire. I understand how data is collected.
Word processing and typing	I can confidently type words quickly and correctly on a digital device. I can use the spacebar to make space and delete to delete letters/words I can make a new line using enter/return I can dictate into a digital device	I can use the space bar only once between words and use touch to navigate to words letter to edit I can copy and paste images and text I can use caps locks for capital letters. I can add images alongside text in a word processed document. I can dictate longer passages into a digital device with accurate punctuation.	I can edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows. I can use cut, copy and paste to quickly duplicate and organise text.	I can combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, leaflets. I can confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text • Use font sizes appropriately for audience and purpose. I can use spell check confidently.

Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4
Computer, smart phone, robot, telephone, camera, beebot, iPad, Online Safety, instructions, directions, recording, voice	paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close,	paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close,	draw, object, shape, line, line colour, fill colour, group, ungroup, font, size, text box, format, image, wrap text, plan, link, image, object, link, hyperlink,	draw, object, shape, line, line colour, fill colour, group, ungroup, font, size, text box, format, image, wrap text, plan, link, image, object, link, hyperlink,

recorder	click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present.filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure. algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink. safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet.	click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present.filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure. algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink. safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, interne	minimise, restore, size, move, screen, split, create, organise, file, folder, close, exit, search, print, password, screenshot, snipping tool, shift, undo, redo, menu, dictionary, highlight, cursor, toolbar, spellcheck. audio, sound, video, movie, embed, link, file format, animate, animation, still image, thaumatrope, zoetrope, zoopraxiscope, stereoscope, flip book, frame, onion skinning, loop, frame rate, record, stop, play, stop motion, stop frame. filter, Google, search engine, image, keyboard, email, subject, address, communicate, sender, safe, secure, internet, world wide web, social mediadecompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct,	minimise, restore, size, move, screen, split, create, organise, file, folder, close, exit, search, print, password, screenshot, snipping tool, shift, undo, redo, menu, dictionary, highlight, cursor, toolbar, spellcheck. audio, sound, video, movie, embed, link, file format, animate, animation, still image, thaumatrope, zoetrope, zoopraxiscope, stereoscope, flip book, frame, onion skinning, loop, frame rate, record, stop, play, stop motion, stop frame. filter, Google, search engine, image, keyboard, email, subject, address, communicate, sender, safe, secure, internet, world wide web, social mediadecompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct,

			errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable. .safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public.	errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable. .safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public.