| | Autumn Term | Spring Term | | Summer Term | | Key vocabulary |
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| Computing Nursery | **Inspire Unit – Basic iPad Skills** Children will become familiar with how to use the iPad and how to use a small selection of simple apps e.g. the camera app and simple games such as Cbeebies and Geoboard. | **Inspire Unit – Digital Music** Children will choose songs for a party playlist then be involved in playing, pausing, rewinding, fast forwarding and changing the volume, using the interactive whiteboard with adult support. | **Inspire Unit – Voice Recording** Children will use a recordable microphone to record one spoken sentence each, learning how to operate the record and play buttons. They will then listen back to a recording at a time and try to work out which of their friends is speaking. | **Inspire Unit – Digital Reading** Children will use the Cbeebies app to access an e-book, learning how to navigate through the book and adjust the volume. They can listen to it with or without headphones and discuss which option works best and why. | **Inspire Unit - Digital Pictures** Children will work with a partner, taking turns to complete a picture scene using Purple Mash Simple City. They will learn how to move the mouse and use the mouse buttons to move images on screen to create their finished product. Children will not be expected to independently log in to, or navigate within, Purple Mash at this stage. | iPad, charger, technology, home button, touchscreen, apps, camera app, photograph  Interactive Whiteboard, play, pause, fast forward, rewind, video, volume, loud, quiet  Microphone, record  E-book, headphones  Computer, keyboard, mouse, drag |
| | In addition to the units covered, children in Nursery will have access to technology such as iPads, desktop computers, the interactive whiteboard etc during continuous provision to explore freely and alongside an adult | | | | | |
| Computing Reception | **Inspire Unit – Recording Content** Children will learn how to take a photograph on the camera app of the iPad, ensuring they have the full picture in frame, and holding it steady to ensure the photograph is not blurred. They will also learn how to record a video. Once secure with this, children will learn how to take photographs and videos of their independent learning in the provision through the Seesaw app, recording captions to explain what they have done / learnt. | **Inspire Unit – Programming Remote-Controlled Technology** Children will learn that a direction is the way in which something moves. They will learn how to use the forwards, backwards, left and right controls on a remote-controlled car to direct it from a set starting point to a set end point. | **Inspire Unit – Digital Art** Children will learn how to log on to Purple Mash, using their username and picture / number password. They will learn how to create a simple picture using the 2Paint app. Children will not be expected to open the Purple Mash website or to save their own work at this point but we can model and talk about what we are doing and why. | **Inspire Unit – Programming Robots** Children will learn how to programme the robot to reach a set end point. They will gain experience in debugging when having to clear the Bee-bot before reprogramming. They will also be given the opportunity to freely explore the Bee-bots as part of their continuous provision. | **Inspire Unit – Basic Laptop Skills** Children will learn what a laptop is and how to look after it. They will gain experience in logging on, opening Microsoft Word and typing a simple sentence. Children will not be expected to open Microsoft Word independently or save their own work at this point but we can model and talk about what we are doing and why. | iPad, charger, technology , home button, apps, camera app , photograph, video, record, blurred, frame, QR codes, scan, Seesaw App caption, save  Remote-controlled car, charger, technology, remotes. Instruction, direction, forwards, backwards, left, right, reverse, fix / correct, mistake  Online, Purple Mash, website, log in, username, password, 2Paint, mouse, drag, paintbrush tool, screen  Bee-bot, quarter turn, clear, repeat |

| | In addition to the units covered, children in Reception will have access to technology such as desktop computers, iPads, the interactive whiteboard, Bee-bots etc during continuous provision to explore freely and alongside an adult | | | | |
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| | **Autumn Term** | **Spring Term** | | **Summer Term** | | **Key vocabulary** |
| **Computing Year 1** | **NCCE Teach Computing Unit – Programming: Moving a Robot with extension on Programming** Children will learn how to create a clear and precise algorithm to programme a Bee-bot to take a specific route. They will also learn how to debug when needed.  **Online Safety** | **NCCE Teach Computing Unit – Computing Systems and Network: Technology All Around Us** Children will develop their mouse pad and typing skills by independently logging in, drawing and typing within a simple painting app and saving and opening documents. They will learn about how we can stay safe and healthy when using technology.  **Online Safety** | **NCCE Teach Computing Unit – Creating Media: Digital Painting** Children will learn how to use some new tools within a painting app to create pieces of online art in the style of various well-known artists. | **Inspire Unit – Basic Word Skills** Children will combine text and an image to create a piece of work linked to their current topic using Microsoft Word.  **Online Safety** | **NCCE Teach Computing Unit – Programming: Algorithms** Children will be introduced to on-screen programming through ScratchJr. They will explore the way a project looks by investigating sprites and backgrounds and will use programming blocks to use, modify, and create programs. Children will also be introduced to the early stages of program design through the introduction of algorithms. | Command, instruction, device, outcome, directions, Bee-bot, forwards, backwards, left, right, quarter turn, algorithm, clear, precise, ordered, instructions, bug, debug, route, permission, online  Technology, laptop, computer, charger, username, password, log in, screen, switch on, shut down, trolley, mouse pad, pointer, mouse button, drag, double click, open, tools, paintbrush tool, line colour, line thickness, fill tool, text box tool, keyboard, type, keys, space bar, left and right arrow keys, backspace key, delete, save  Pencil tool, spray can tool, fill tool, line tools, shape tools, brush colour, brush size, eraser tool, undo, effects  Microsoft Word, word processor, caps lock key, full stop key, letter keys, number keys, enter / return key, toolbar, retrieve, document, image, copy, paste, search engine, Swiggle, internet  Scratch Jr, house icon, home page, sprites, backgrounds, blocks of code, programming area, run, start block, end blocks, predict |

| | Autumn Term | | Spring Term | | Summer Term | | Key vocabulary |
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| **Computing Year 2** | **NCCE Teach Computing – Programming: Robot Algorithms** Children will use given commands in different orders to investigate how the order affects the outcome. They will design algorithms and then test those algorithms as programs on the Bee-bots, debugging them along the way. | **NCCE Teach Computing – Computing Systems and Networks: IT All Around Us** Children will develop their understanding of what information technology (IT) is and will begin to identify examples. They will discuss where they have seen IT in school and beyond, how IT improves our world, and the importance of using IT responsibly. **Online Safety** | **NCCE Teach Computing – Creating Media: Digital Photography** Children will learn to recognise that different devices can be used to capture photographs and will gain experience in capturing, editing, and improving photographs. Finally, they will use this knowledge to recognise that the images they see may not always be real. **Online Safety** | **NCCE Teach Computing – Data & Information: Pictograms** Children will begin to understand what the term data means and how data can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data in the form of pictograms and finally block diagrams, and use the data presented to answer questions. **Online Safety** | **Inspire Unit – PowerPoint Skills** Children will learn how to create and deliver a PowerPoint presentation on a subject linked to one of their wider curriculum topics. **Online Safety** | **NCCE Teach Computing – Programming: Quizzes** Children will begin to understand that sequences of commands have an outcome, and make predictions based on their learning. They will use and modify designs to create their own quiz questions in ScratchJr, and realise these designs in ScratchJr using blocks of code. Finally, they will evaluate their work and make improvements to their programming projects. | Command, instruction, device, outcome, unambiguous, clear, precise, algorithm, sequence, imprecise, bug, debug, Bee-bots, computers, code, program, predict, memory, input, rout, directions, forwards, backwards, left, right, quarter turn, half turn, three-quarter turn<br><br>Information Technology, computers, barcode, code, scanner, passwords, permission, photograph, online, balanced digital diet<br><br>Images, capture, camera, landscape, portrait, action shot, selfie, field of view, frame, angle, delete, positioning, framing, detail, background, focus, lighting, flash, blurry, out of focus, edit, effect, warmer tint, cooler tint, save<br><br>Data, pictogram, chart, attributes, private<br><br>Microsoft PowerPoint, document, slides, text boxes, caps lock key, space bar, punctuation keys, letter keys, number keys, toolbar, bold, italic, underlined, font, double click, highlight, undo, redo, search engine, Swiggle, copy, paste, slideshow, print, internet, online bullying<br><br>Scratch Jr, house icon, home page, sprites, backgrounds, blocks of code, drag, programming area, |

| | Autumn Term | | Spring Term | | Summer Term | | Key vocabulary |
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| | | | | | | | sound, run, program, start, end blocks, computer animation, |
| Computing Year 3 | **NCCE Teach Computing Unit – Computing Systems and Networks: Connecting Computers** Children will develop their understanding of digital devices, with an initial focus on inputs, processes and outputs. They will then be introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. Finally, children will discover the benefits of connecting devices in a network. | **Inspire Unit – Basic Publisher Skills** Children will learn new skills within Microsoft Publisher to create a newspaper article based on one of their topics, combining text and images to communicate with their audience effectively.<br><br>**Online Safety** | **NCCE Teach Computing – Programming: Sequencing Sounds** This unit explores the concept of sequencing in programming through Scratch. Children will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences. The final project is to make a representation of a piano. | **NCCE Teach Computing – Creating Media: Animation** Children will use a range of techniques to create a stop-frame animation using iPads. Next, they will apply those skills to create a story-based animation. This unit will conclude with children adding other types of media to their animation, such as music and text.<br><br>**Online Safety** | **NCCE Teach Computing Unit – Data & Information: Branching Databases** Children will develop their understanding of what a branching database is and how to create one using J2e software. They will use yes/no questions to gain an understanding of what attributes are and how to use them to sort groups of objects. Children will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it and will consider real-world applications for branching databases. | **NCCE Teach Computing – Programming: Events and Actions** This unit explores the links between events and actions, while consolidating prior learning relating to sequencing. Children begin by moving a sprite in four directions (up, down, left, and right). They then explore movement within the context of a maze, using design to choose an appropriately sized sprite. This unit also introduces programming extensions, through the use of Pen blocks. Children are given the opportunity to draw lines with sprites and change the size and colour of lines. The unit concludes with them designing and coding their own maze-tracing program. | Digital devices, inputs, processes, outputs, non-digital devices, network, connections, computer network, network switch, server, files, wires, wireless device, wireless access point, router, wired devices, network cable, network socket, internet connection<br><br>Text, images, templates, orientation, portrait, landscape, publishing software, layouts, headlines, font style, font size, font colour, toolbar, backspace key, return key, align text, left, right, centre, justify, bullet points, numbering, cut, copy, paste, ctrl shortcuts, word art, text box, line colour, line thickness, fill colour, gradient, image, clip art, trust, online<br><br>Scratch, sprites, backdrops, commands, blocks of code, program, outcome, event blocks, sequence, sound, motion, costumes, stage, predict, errors, debug<br><br>Animation, photographs, frame, onion skinning, storyboard, media, edit, save, camera roll, iMotion, iMovie |

| | | | | | | Branching database, data, attributes, table, rows, columns, classifying

Action, right key, up key, left key, down key, resize, re-centre, mouse, pen code block, extension block, pen up, pen down, screen, pen size, duplicate, erase all, coordinates |
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| | Autumn Term | | Spring Term | | Summer Term | **Key vocabulary** |
| **Computing Year 4** | **NCCE Teach Computing Unit – Computing Systems & Networks: The** Internet Children will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and will be given opportunities to explore the World Wide Web for themselves in order to learn about who owns content and what they can access, add, and create. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is, and understand | **Inspire Unit – Word Skills** Children will use Microsoft Word to combine text and a table relating to current topic work.

**Online Safety** | **NCCE Teach Computing Unit – Creating Media: Photo Editing** Children will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices

**Online Safety** | **NCCE Teach Computing Unit – Programming: Repetition in Shapes** Children will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language. This unit is the first of the two programming units in Year 4, and looks at repetition and loops within programming | **NCCE Teach Computing Unit – Creating Media: Audio Editing** In this unit, children will initially examine devices capable of recording digital audio, which will include identifying the input device (microphone) and output devices (speaker or headphones). Children will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files.

**Online Safety** | **NCCE Teach Computing Unit – Programming: Repetition in Games** Children will explore the concept of repetition in programming using the Scratch environment. The unit begins with a Scratch activity similar to that carried out in Logo in Programming unit A, where children can discover similarities between two environments. Children look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition. Their final project is to design and create a game which uses repetition, applying stages of programming design throughout. | Network, internet, computers, connected, switch, secured, world wide web, websites, web pages, stored, uploaded, online content, web address, devices, web browser, address bar, refresh, tabs, ownership, false

Edit, table, Microsoft Word, delete cells, insert cells, find and replace tool, text, ctrl shortcuts, shift key, caps lock key, page setup, portrait, landscape, spellcheck, index fingers, home keys, touch typing, online content, images, reputation

Crop tool, rotate, flip, filters, retouch, cloning tool, undo, zoom, rectangle, lasso, ellipse, magic wand tool, fake, copyright

Count-controlled loop, modify, outcome, program, decomposition, algorithm, repetition, programming

Audio, input, output, microphone, headphones, speakers, podcast, save, digital recording file, retrieve, download, permission, record, play, trim, delete, volume, peaks, soundwave, time shift tool, audio tracks, export, MP3 file |

| | the consequences of false information.<br><br>**Online Safety** | | | | | Infinite loops |
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| | Autumn Term | | Spring Term | | Summer Term | | Key vocabulary |
|---|---|---|---|---|---|---|---|
| Computing Year 5 | **NCCE Teach Computing Unit – Computing Systems & Networks: Sharing Information** In this unit, children will develop their understanding of computer systems and how information is transferred between systems and devices. They will consider small-scale and large-scale systems and will explain the input, output, and process aspects of a variety of different real-world systems. Children will also take part in a collaborative online project with other class members and develop their skills in working together online. **Online Safety** | **Inspire Unit – PowerPoint Skills** Children will create a PowerPoint, combining different media, linked to one of their current topics. **Online Safety** | **NCCE Teach Computing Unit – Creating Media: Video Editing** Children will learn how to create short videos by working in pairs or groups. As they progress through this unit, they will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video. Children are guided with step-by-step support to take their idea from conception to completion. | **NCCE Teach Computing Unit – Programming: Selection in Physical Computing** In this unit, children will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment. They will be introduced to a microcontroller (Crumble controller) and learn how to connect and program it to control components (including output devices — LEDs and motors). Children will be introduced to conditions as a means of controlling the flow of actions in a program. They will make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the 'if…then…' structure) and write algorithms and programs that utilise this concept. To conclude the unit, learners will design and make a working model of a fairground carousel that will demonstrate their understanding of how the microcontroller and its components are connected, and how selection can be used to control the operation of the model. | **NCCE Teach Computing Unit – Creating Media: Vector Drawing** In this unit, children start to create vector drawings. They learn how to use different drawing tools to help them create images. Children will recognise that images in vector drawings are created using shapes and lines, and each individual element in the drawing is called an object. They will then layer their objects and begin grouping and duplicating them to support the creation of more complex pieces of work. | **NCCE Teach Computing Unit – Programming: Selection in Quizzes** In this unit, children develop their knowledge of 'selection' by revisiting how 'conditions' can be used in programming, and then learning how the 'if… then… else…' structure can be used to select different outcomes depending on whether a condition is 'true' or 'false'. They represent this understanding in algorithms, and then by constructing programs using Scratch. They learn how to write programs that ask questions and use selection to control the outcomes based on the answers given. They use this knowledge to design a quiz in response to a given task and implement it as a program. | Computers, systems, inputs, processes, outputs, communicate, devices, internet, transfer, networked digital devices, unique addresses, data, packets, collaborate, online content, public, private, search engines, refine, inappropriate, crawlers, indexes, spiderbots, data centres, web pages, sponsored posts, adverts

Combine text, image, video, source, presentation, insert, hyperlink, thesaurus tool, layout, background, theme, edit, enhance, photographs, slides, slideshow mode, hoax, fake news, online identity

Video, visual media, camera angles, filming techniques, close-up, mid-range, long shot, moving subject, side by side, high angle, low angle, normal angle, static camera, zoom, pan, tilt, pivot, storyboard, script, create, save, retrieve, import, edit, reshoot

Crumble, micro-controller, Sparkle, LED, crocodile clips, connect, battery box, command, loop, repeat, count-controlled loops, control outputs, switch, condition, selection

Drawing tools, vector drawings, computer graphics, object, move, re-size, rotate, delete, duplicate, undo, redo, zoom, layering, ctrl shortcuts, outline, border colour, border weight, border dash, grouped, ungrouped, dragged, flipped, direction

Flow of actions, modify, conditional statement, conditional outcome |

| | Autumn Term | | Spring Term | | Summer Term | | Key vocabulary |
|---|---|---|---|---|---|---|---|
| **Computing Year 6** | **NCCE Teach Computing Unit – Creating Media: 3D Modelling** During this unit, children will develop their knowledge and understanding of using a computer to produce 3D models. They will initially familiarise themselves with working in a 3D space, including combining 3D objects to make a house and examining the differences between working digitally with 2D and 3D graphics. Children will progress to making accurate 3D models of physical objects, such as a pencil holder, which include using 3D objects as placeholders. Finally, they will examine the need to group 3D objects, then go on to plan, develop, and evaluate their own 3D model of a photo frame. | **Inspire Unit – Spreadsheet Skills** In this unit, children will learn a variety of new skills within Microsoft Excel such as using formulae and creating graphs.  **Online Safety** | **NCCE Teach Computing Unit – Programming: Variable in Games** This unit explores the concept of variables in programming through games in Scratch. First, children will learn what variables are, and relate them to real-world examples of values that can be set and changed. Children will then use variables to create a simulation of a scoreboard. In Lessons 2, 3, and 5, which follow the Use-Modify-Create model, pupils will experiment with variables in an existing project, then modify them, then they will create their own project. In Lesson 4, pupils will focus on design. Finally, in Lesson 6, pupils will apply their knowledge of variables and design to improve their game in Scratch. | **No unit due to SATS** | **No unit due to SATS** | **NCCE Teach Computing Unit – Programming: Sensing** This unit is the final KS2 programming unit and brings together elements of all the four programming constructs: sequence from Year 3, repetition from Year 4, selection from Year 5, and variables (introduced in Year 6 – 'Programming A'. It offers learners the opportunity to use all of these constructs in a different, but still familiar environment, while also utilising a physical device — the micro:bit. The unit begins with a simple program for learners to build in and test in the programming environment, before transferring it to their micro:bit. Learners then take on three new projects in Lessons 2, 3, and 4, with each lesson adding more depth.  **Online Safety** | Three-dimensional, perspectives, zoom, workplane, select, move, re-size, rotate, delete, position, duplicate, digital model, text, placeholder  Spreadsheet, columns, rows, cells, cell references, data, format, calculations, formula, mathematical operations, multiplication, division, data headings, graph, pie chart, table, media, gender, race, religion, disability, culture, stereotype, judgement inappropriate, representations  Variable, event, program, value, underscore, reset, code  Micro:bit, Make Code, emulator, run, test, dowload, controllable device, accelerometer, detect, input, process, output, selection, flow, condition, healthy media balance, peer pressure |