



Areas of learning	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing Systems & Networks (Digital literacy)	Children will interact with technology through intuitive play. This will lead onto children interacting with computer keyboard and mouse.	This unit progresses students' knowledge and understanding of technology and how they interact with it in school. Learners will build their knowledge of parts of a computer and develop the basic skills needed to effectively use a computer keyboard and mouse.	<p>Learners should have an understanding of what technology is and where it is used in a school context. They should also be familiar with the technology available in their own school setting.</p> <p>This unit progresses students' knowledge and understanding of technology and how they interact with it beyond school. Learners will also build on their knowledge of using technology safely and responsibly, and begin to consider the implications of</p>	<p>This unit progresses students' knowledge and understanding of technology by focussing on digital and non-digital devices, and introducing the concept of computers connected together as a network. Following this unit, learners will explore the internet as a network of networks.</p>	This unit progresses students' knowledge and understanding of networks in Year 3. In Year 5, they will continue to develop their knowledge and understanding of computing systems and online collaborative working.	This unit progresses learners' knowledge and understanding of computing systems and online collaborative working.	This unit progresses students' knowledge and understanding of computing systems and online collaborative working.

			the choices that they make.				
Programming (Computer Science)	Children will begin with unplugged activities and progress onto beginning to understand the basics of giving and following instructions to a robot through programming.	<p>Programming A - This unit progresses students' knowledge and understanding of giving and following instructions. It moves from giving instructions to each other to giving instructions to a robot by programming it.</p> <p>Programming B – Introduction to animation - This unit progresses learners' knowledge and understanding of programming and follows on from 'Programming A – Moving a robot', where children will have learned to program a floor robot using instructions.</p>	<p>Programming A - In advance of the lessons in this Year 2 unit, pupils should have had some experience of creating short programs and predicting the outcome of a simple program. This unit progresses students' knowledge and understanding of algorithms and how they are implemented as programs on digital devices. Pupils will spend time looking at how the order of commands affects outcomes. Pupils will use this knowledge and logical reasoning to trace programs and predict outcomes.</p>	<p>Programming A - This unit assumes that learners will have some prior experience of programming; the KS1 NCCE units cover floor robots and ScratchJr. However, experience of other languages or environments may also be useful.</p> <p>Programming B - This unit assumes that learners will have some prior experience of programming. The KS1 NCCE units focus on floor robots and Scratch Jr, however experience of other languages or environments may also be useful. The Year 3 Programming A unit introduces the Scratch programming environment and</p>	<p>Programming A - This unit progresses students' knowledge and understanding of programming. It progresses from the sequence of commands in a program to using count-controlled loops. Pupils will create algorithms and then implement those algorithms as code.</p> <p>Programming B - This unit presumes that learners are already confident in their understanding of sequence, repetition and selection independently within programming. If learners are not yet ready for this, you may wish to revisit earlier</p>	<p>Programming A - This unit assumes that learners will have prior experience of programming using block-based construction (e.g. scratch) and understand the concepts of sequence and repetition. The KS1 NCCE units focus on floor robots and Scratch Jr, however experience of other languages or environments may also be useful.</p> <p>Programming B – Selection in quizzes - This unit assumes that learners will have prior experience of programming using block-based construction (eg Scratch), understand the concepts of 'sequence' and</p>	<p>Programming A - This unit assumes that pupils will have some prior experience of programming in Scratch. Specifically, they should be familiar with the programming constructs of sequence, repetition, and selection. These constructs are covered in the Year 3, 4, and 5 National Centre for Computing Education programming units respectively. Each year group includes at least one unit that focuses on Scratch.</p> <p>Programming B - This unit presumes that learners are already confident in their understanding of</p>

			Programming B – Introduction to quizzes - these unit progresses learners' knowledge and understanding of instructions in sequences and the use of logical reasoning to predict outcomes.	the concept of sequences.	programming units where these constructs are introduced.	'repetition', and have some experience of using 'selection'. Ideally, learners will have completed 'Programming A – Selection in physical computing' before undertaking this unit, as this will provide them with the required knowledge of 'selection'.	sequence, repetition and selection independently within programming. If learners are not yet ready for this, you may wish to revisit earlier programming units where these constructs are introduced.
Creating Media (Information technology)	Learners will begin to explore media through role-play and curiosity.	<p>Digital painting - Learners should be familiar with:</p> <ul style="list-style-type: none"> How to switch their device on Username Passwords <p>For an introduction to keyboard and mouse skills, learners may benefit from completing the Year 1 Computing</p>	<p>Make music - Learners should have experience of making choices on a tablet/computer, and they should be able to navigate within an application.</p> <p>Learners should also have some experience of patterns.</p> <p>This unit progresses students' knowledge through listening to music and</p>	<p>Animation - This unit progresses students' knowledge and understanding of using digital devices to create media, exploring how they can create stop frame animations.</p> <p>Following this unit, learners will further develop their video editing skills in Year 5.</p> <p>Desktop publishing - This unit progresses</p>	<p>Audio editing - This unit progresses students' knowledge and understanding of creating media, by focusing on the recording and editing of sound to produce a podcast.</p> <p>Following this unit, learners will explore combining audio with video in the 'Video editing' unit in Year 5.</p> <p>Learners should have experience of</p>	<p>Vector drawing - This unit progresses students' knowledge and understanding of digital painting and has some links to desktop publishing in which learners used digital images. They are now creating the images that they could use in desktop publishing documents.</p>	<p>3D Modelling - This unit progresses students' knowledge and understanding of creating 3D graphics using a computer. Prior to undertaking this unit, learners should have worked with 2D graphics applications.</p> <p>Web page creation - This unit progresses students'</p>

		<p>Systems & Networks unit</p> <p>Digital writing – This unit progresses students’ knowledge and understanding of using computers to create and manipulate digital content, focussing on using a word processor. The learners will develop their ability to find and use the keys on a keyboard in order to create digital content. The learners are then introduced to manipulating the resulting text, making cosmetic changes, and justifying their reason for making these changes.</p>	<p>considering how music can affect how we think and feel. Learners will then purposefully create rhythm patterns and music-</p>	<p>learners’ knowledge and understanding of using digital devices to combine text and images building on work from the following units; Digital Writing Year 1, Digital painting Year 1, and Digital Photography Year 2.</p>	<p>making choices on a tablet/computer. They should be able to navigate within an application.</p> <p>Photo editing - This unit progresses students’ skills through editing digital images and considering the impact that editing can have on an image. Learners will also consider how editing can be used appropriately for different scenarios, and create and evaluate ‘fake’ images, combining all of their new skills.</p>	<p>Video editing - This unit progresses learners’ knowledge and understanding of creating media by guiding them systematically through the process involved in creating a video. By the end of the unit, learners will have developed the skills required to plan, record, edit, and finalise a video.</p>	<p>knowledge and understanding of the following: digital writing, digital painting, desktop publishing, digital photography, photo editing, and vector drawing.</p>
Data and information (Computer science)		<p>This unit will introduce pupils to data and information. It will introduce pupils to the concept of</p>	<p>This unit progresses students’ knowledge and understanding of grouping data.</p>	<p>This unit progresses students’ knowledge and understanding of presenting</p>	<p>This unit progresses pupils’ knowledge and understanding of data and how it can be collected</p>	<p>This unit progresses pupils’ knowledge and understanding of why and how information might</p>	<p>This unit progresses students’ knowledge and understanding of data and teaches</p>

		<p>labelling and grouping objects based on their properties. Pupils will develop their understanding that objects can be given labels, which is fundamental to their future learning concerning databases and spreadsheets. In addition, pupils will begin to improve their ability to use dragging and dropping skills on a device.</p>		<p>information. It builds on their knowledge of data and information from key stage 1. They continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information.</p>	<p>over time to answer questions. The unit also introduces the idea of automatic data collection.</p>	<p>be stored in a database, and looks at how tools within a database can help us to answer questions about our data. It moves on to demonstrate how a database can help us display data visually, and how real-life databases can be used to help us solve problems. Finally, the pupils create a presentation showing understanding and application of all the tools used within the unit.</p>	<p>them how to organise and modify data within spreadsheets.</p>
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