

CPH Computing Long Term Plan - NCCE Teach Computing Documents

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Technology around us Link to History: Toys different to Grandmas	Creating Media – Digital writing.	Grouping Data	Programming A – Moving a Robot	Creating Media – Digital Painting Link to Art: paintings by Georgia O’Keefe	Programming B – Programming Animations
Previous learning: Preparing for: Bespoke to the School:	Builds upon use of technology with the foundation stage. Digital resources within role play areas. Link to the History topic of Different toys to Grandma’s’ in the following term. Also introduces key parts of digital devices such as laptops and desktop computers The school serves a community where there are many low income families who may not have access to the digital devices being introduced	Builds upon initial mark marking and writing with meaning in the foundation stage All future learning using digital technologies eg. use of mouse and keyboard and entering and manipulation of the text created. Prepares for the Y3 Desktop publishing unit and Y6 Web development unit. The first steps into transferable skills within digital presentation for the world of work.	Builds upon grouping counting and comparing objects within the foundation year groups. Builds upon the mouse skills taught within previous units of this year. Prepares or the later units of spreadsheets and databases. In yr2 this is built upon further through the pictograms units. Research has shown that areas of high deprivation typically have lower levels of maths on entry to primary school which we can address.	Builds upon the learning of map routes and directional language from foundation stage. Following instructions and following singular instructions. Preparing for the second programming unit in year 1 and beyond. Forms the basis of creation of algorithms and programming sets of instructions into a digital device. Related to the World of Work and how industry uses programmable machines	Builds upon previous mark making and painting skills in the foundation stage. Also build upon the keyboard and mouse skills created in the tech around us unit Autumn 1. Builds upon the Art curriculum and the study of an artist Georgia O’Keef in the previous half term Preparing for later units using Paint packages eg Year 3 Connecting computers lesson 3 Creates another retrieval link and cross curricular link to other subjects – Art and the Artist study completed in Spring2	Builds upon floor robots used in Foundation stage, instructional vocabulary and route planning using the big map. Also builds upon NCCE Y1 Programming A Unit Moving a Robot. Preparing for future programming units through the introduction eg programming blocks and vocabulary in Scratch jnr. Linked to the World of Work and the business links through emerging knowledge of how robots and machines are programmed through coding.
Year 2	Information Technology around us	Pictograms	Programming A – Robot Algorithms	Digital Photography Link to Art – self portraits	Programming B - Quizzes	Making Music Link to science with animals
Previous learning: Preparing for: Bespoke to the School:	Builds upon knowledge gained in the previous years Technology Around Us unit. Prepares children for future NCCE computing units eg connecting computers in Y3	Builds upon the Y1 Data and Information unit skills such as grouping data based on properties. Prepares for future NCCE units. Builds upon Y1	Builds upon previous Y1 programming skills and creation of short algorithms and prediction of the outcomes. Preparing for the Programming unit B in yr2	Builds upon the creating media units from Y1 and the self portraits completed in art lessons in the previous term. Retrieves skills of saving and retrieving files	Builds upon previous learning of algorithms from y1 and also block coding skills covered in Y2 Programming A Robot Algorithms	Builds upon the vocabulary and skills from previous music lessons along with experiences of making choices on a digital device. Prepares children for sequencing sounds unit in Y4

	Social context – helping children understand how rules can keep us safe and healthy in and beyond the home when using technology.	Number and place value and Y2 Data handling skills. Links with World of Work and education for a connected world through understanding self image and identity, rules for a healthy lifestyle and knowledge of personal information and how to keep this safe.	and the following year. Introduction to the PRIMM model. Links to the World of work and how coding is used in industry. Many children are living within low income households who may not have access to the technology used in this unit.	Prepares learners for the new skills to be taught in Y4 in the Photo Editing Unit. School spiral curriculum is based on the science of learning principles. This unit’s skill swill be revisited in year 4 to allow retrieval.	Preparing for future Programming units in year 3 Links to the World of work and how coding is used in industry. Many children are living within low income households who may not have access to the technology used in this unit..	and prepares for further learning in Music. School spiral curriculum is based on the science of learning principles. Retrieval from music and then build upon through Y3 units.
Year 3	Connecting Computers	Programming A – Sequencing Sounds	Stop Frame Animation Link to Science Animals and humans???	Desktop Publishing Link to History Project on Ancient Egypt	Programming B – Events and actions in Programs	Branching Databases Link to Science summer term themes of Plants and Rocks
Previous learning: Preparing for: Bespoke to the School:	Builds upon the learning of Information Technology Around Us Y2 and Technology around us Y1. Prepares for the following years units on networks and sharing information. Number and place value skills and improvement in mastery of art and design techniques. Forms part of the whole school vision through understanding how the World of Work uses technology and how we are all part of a connected world.	Builds upon the use of floor robots in KS1, skills of block coding through scratch taught in Y2. Also builds upon music skills and the making music unit in Y2. Preparing for the new programing blocks in Y3 Programming B. Access to the arts through coding fits well with the whole school vision of empowering the pupils and ensuring that all are privileged	Builds upon previous year 2 unit of digital photography and use of apps on iPads. Also builds upon Literacy skills of narrative writing with plot, conflict and resolution. Possible links to Romans in History Prepares for video editing skills in year 5 unit Connected to issues such as plagiarism and fits well into the Christian values of the school along.	Builds upon the learning in Y1 Digital writing and digital painting units and also the Y2 Digital photography units. Prepares for future years units on sharing information in digital formats eg, Sharing information. Research has shown that Literacy in areas of deprivation fall behind those of more affluent areas. Digital application of literacy skills enable access to all and builds skills for future learning and application in secondary schools and the world of work	Builds upon the programming learning from previous years but particularly within Y3 from NCCE Programming A Unit Sequencing sounds and skill introduced in Scratch jnr. Prepares for further programming units in y4,5,6. Also prepares learning for more problem solving and reasoning within computing and other subjects for example maths. Structure of the NCCE unit is built around the science of learning principles which the school follows, reducing cognitive overload through the four levels of abstraction.	Builds upon children’s K & U from KS1 ‘Grouping Data’ unit and where appropriate has been altered to include knowledge and understanding gained in Science about Plants and Rocks. Prepares for future learning in Y5 within the Flat File Databases unit as well as transference of skills within maths and science. The unit covers core concepts that are transferable within other subjects eg maths and science. IT also fits with the core concepts of the schools bespoke curriculum built on the science of learning principles of revisiting skills and concepts regularly.
Year 4	Photo Editing Link to Geography & Art: rivers and the river Humber	Data Logging Link to Science: change in states	Audio Editing Link to History: Autumn 2 project on	Programming A: Repetition in shapes Link to Art	The Internet	Programming B: Repetition in games

			Romans for context of Podcast			
Previous learning: Preparing for: Bespoke to the School:	Builds upon the Y2 Digital Photography unit and the previous understanding of how to present information in a variety of formats. Prepares for future learning about how we can impact images and understand how fake images manipulate This unit can be used to address safety issues and PHRSE links which are of higher importance within the social context of the school and its locality.	Builds upon previous data units of Branching Databases in Y3, Grouping Data Y1. Also builds upon children's previous science investigation skills and collection of results within changing state unit of the science curriculum. Prepares for future science investigations, maths data handling through graph work and builds into the Y5 and Y6 Data Units. The unit allows excellent cross curricular links with the science coverage in this year group, application of the science of learning principles of revisiting learning and core concepts within science through a digital platform.	Builds upon children's understanding of using different apps and technologies, their knowledge and understanding of the music curriculum and vocabulary. Prepares for the Science unit of sound in the following term and skills could be applied in the Y5 NCCE Video Editing unit. The unit links to the World of Work and job varieties and opportunities available in the wider world beyond the immediate locality of the school – widens horizons	Builds upon Programming units from previous years from block coding in Scratch from Y3. Also builds upon previous work on shape and space in maths and art knowledge and understanding. Prepares for further programming units as well as future use of coding including writing own code. Introduces the loops as a way of repeating own algorithms. Structure of the NCCE unit is built around the science of learning principles which the school follows, reducing cognitive overload. Key block skills are revisited and then progressed through writing of own code. Follows a PRIM structure	Builds upon technology around us units from KS1 and particularly Connecting Computers unit in Y3. Prepares for further investigation of computing networks in Y5 Sharing information and Y6 Communication Units. Also prepares children to evaluate online information and the effect that 'Fake News' can have. Links well to the vision and values of the school. Follows the science of learning principles by revisiting learning. Transferable life skills of evaluating and interrogating information given rather than just accepting it.	Builds upon children previous work in Scratch Jnr in KS1, Scratch in Y3 and Logo within this year. Also builds further upon the loops learnt in programming A. Prepares for further learning in Scratch and the creation of own algorithms using new blocks / written code. Links to the World of Work. Structure of the NCCE unit is built around the science of learning principles which the school follows, reducing cognitive overload. Follows a PRIM structure and recent relevant research has been used to develop the best pedagogy for the unit
Year 5	Sharing information: Link to Geography project 'What is Climate Change'	Flat file databases Link to Science and properties of materials????	Programming A: Selection in physical computing Links to DT Autumn 2 cam project using Crumble	Programming B Selection in Quizzes Link to History Project: Industrial Revolution context	Vector Drawing Link to Art Pop Art???	Video Editing Link to the History Project Change in Victorian Britain
Previous learning: Preparing for: Bespoke to the School:	Builds upon previous learning of how computers are connected, the inputs and outputs used and how information is transferred to allow collaborative working. Prepares for the Y6 unit Communication and further	Builds upon Y3 Database work and the knowledge and understanding of why and how information might be stored. Prepares for future presentation of data and links into the skills and ideas	Builds upon the previous programming and coding NCCE units before introducing the 'if / then' block and links to the Design and make assignments within the Y5 Design and Technology Curriculum. Also	Builds upon the previous programming and coding NCCE units developing knowledge and understanding of 'if/then/else' & 'conditions' as well as sequences within their block based algorithms.	Builds upon previous understanding of digital painting within the Y3 unit Creating media. Links to the art curriculum within the Y5 work on Pop Art Prepares for future art learning using digital	Builds upon the knowledge and understanding of Y5 History Change in Victorian Britain. Also builds upon the Y4 unit Photo Editing and Y3 Stop Frame Animation Unit. Prepares for future learning about Video creation and

	<p>learning in KS3. Also links to Geography Theme. Links to the World of Work concepts of collaborative working, transferable life skills.</p>	<p>in the Y6 unit Introduction to Spreadsheets. The school is addressing low frequent lower levels of vocabulary and this unit introduces / consolidates many of the words needed in future spreadsheet and database work</p>	<p>links to science K&U within electrical circuits Prepares for future programming units in Y5 but particularly the Y6 unit Programming B Sensing where new skills learnt will be applied. Links to the World of Work. Structure of the NCCE unit is built around the science of learning principles which the school follows, reducing cognitive overload. Follows a PRIM structure and recent relevant research has been used to develop the best pedagogy for the unit. Huge Vocab opportunity</p>	<p>Prepares for future programming units in Y6 and beyond in KS3. Links to the World of Work. Structure of the NCCE unit is built around the science of learning principles which the school follows, reducing cognitive overload. Follows a PRIM structure and recent relevant research has been used to develop the best pedagogy for the unit. Allows science of learning concepts through revisiting History K&U as a context for the outcome Quiz</p>	<p>platforms and links to the Y6 3S Modelling unit. The school is addressing low frequent lower levels of vocabulary and this unit introduces / develops vocabulary used in digital art</p>	<p>presenting information in digital formats The unit allows excellent cross curricular links with the History coverage in this year group, application of the science of learning principles of revisiting learning and core concepts within science through a digital platform. Also links to World of Work curriculum and Guest Animators within Coding Club with the intent of attracting more females into this area of work.</p>
Year 6	Communication	Web page creation Links to History Project on WW2 as the focus for content in the Web pages	Programming A - Variables	3D Modelling Links to Art Ceramics focus	Programming B – Sensing Links to DT: Coding for fairground ride Design and make project (Replace micro:bit with Crumble)	Introduction to Spreadsheets Links to Project: I’m a year 6 get me out of here event planning
Previous learning: Preparing for: Bespoke to the School:	<p>Builds upon previous Networking units completed in Y4 and Y5 Prepares for further networking education within computing at KS3 and gives an entry level understanding of networks and how the internet works Bespoke to school - Links to the World of Work concepts of collaborative working, transferable life skills.</p>	<p>Builds upon and allows transference of skills the video editing unit in Y5, and Audio Production units in Y4 along with all other units including digital writing, painting, publishing, photography and vector drawing Prepares for future learning about web page development in KS3 and KS4. The unit allows excellent cross curricular links with the History coverage in this year group, application of the science of learning</p>	<p>Builds upon prior learning and understanding of programming and coding units through Scratch. Prepares for Further Programming Units in Y6. Also prepares for future programming and coding within KS3 and KS4 and beyond in the world of work. Bespoke to school: Links to the World of Work. Structure of the NCCE unit is built around the science of learning principles which the school follows, reducing cognitive overload. Follows a PRIM structure and recent</p>	<p>Builds upon previous NCCE units Y5 Vector Drawing, Y4 Repetition in Shapes. Also reinforces and applies Maths 3D shape vocabulary and directional vocab Prepares for future Computing learning eg Media and Vector Graphics in Y8. Bespoke to school links could be made with the Art curriculum and the Ceramics work from Slavery topics. This would challenge but the scaffolding of the unit would allow the learnt skills to be applied in a relevant</p>	<p>Builds upon All previous programming units in KS2 to allow progression of skills in Sequence (Y3) repetition (Y4), Selection (Y5) and Variables (Y6 Programming Unit A) Prepares for future programming and coding Learning within KS3 and KS4 and beyond Bespoke to school – Links have been made with the DT curriculum to enable codes to be written to manipulate the pupils DT designs. Follows a PRIM structure and recent relevant research</p>	<p>Builds upon previous NCCE units Y5 Flat File Databases, Y3 Branching Databases Prepares for future data and information units in KS3 and KS4 as well as being a transferable skill in the real world Bespoke to school: The unit allows excellent cross curricular links within the curriculum and projects in this year group. Application of the science of learning principles of revisiting learning and core concepts within a digital platform are achieved.</p>

		principles of revisiting learning and core concepts within science through a digital platform.	relevant research has been used to develop the best pedagogy for the unit. Huge Vocab opportunity	context. Fits the Science of learning principles of the school.	has been used to develop the best pedagogy for the unit. Allows science of learning concepts through revisiting previous concepts.	
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Suggested cross curricular links in blue. Units may be moved within the year but Programming A must be covered BEFORE Programming B.