

Computing Progression Map

2014 National Curriculum – Computing

Key Stage 1

- CS1/1.1 Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- CS1/1.2 Create and debug simple programs.
- CS1/1.3 Use logical reasoning to predict the behaviour of simple programs.
- IT1/1.4 Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- DL1/1.5 Recognise common uses of information technology beyond school.
- DL1/1.6 Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies.

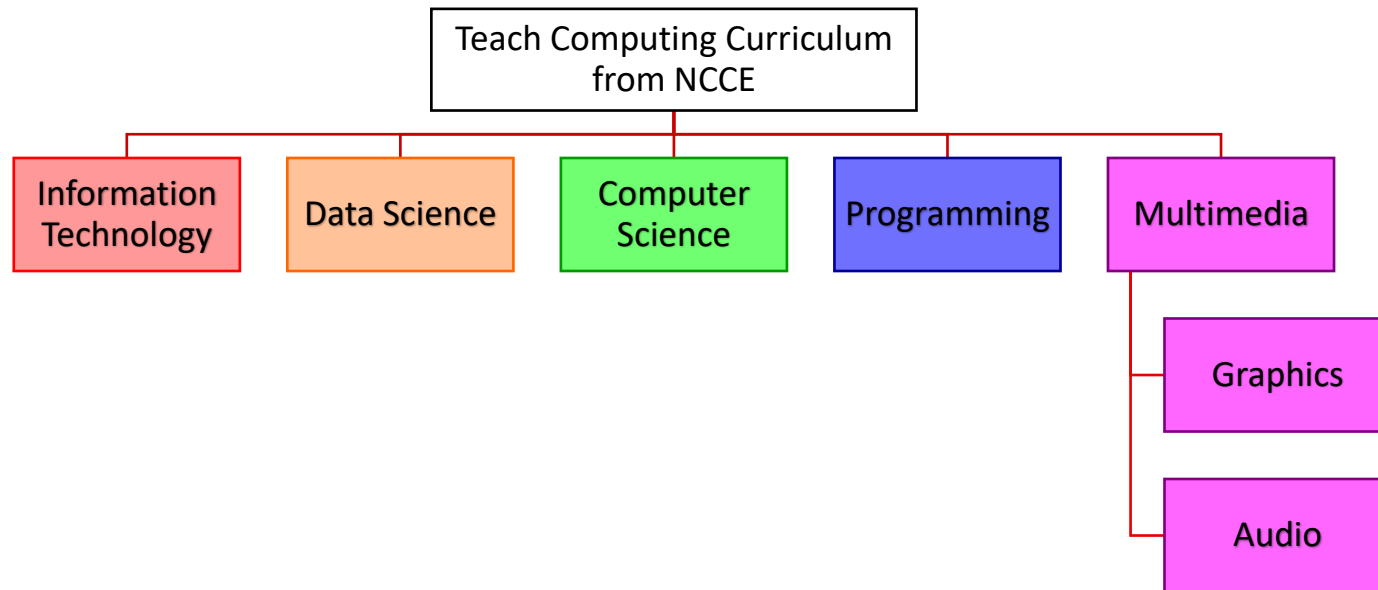
Key Stage 2

- CS2/1.1 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- CS2/1.2 Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
- CS2/1.3 Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- CS2/1.4 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.
- CS2/1.5 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- IT2/1.6 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.
- DL2/1.7 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Key

- CS -How computers and computer systems work & how they are designed and programmed
- IT -The purposeful use of existing programs to develop products and solutions
- DL -The skills, knowledge and understanding needed in order to participate fully and safely in an increasingly digital world.

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EYFS

Reception	
Online Safety: Understanding the World Early Learning Goals: - Talk about the lives of the people around them and their roles in society. Communication and Language Early Learning Goals: - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions. - Offer explanations for why things might happen, making use of recently introduced vocabulary. - Express their ideas and feelings about their experiences. Personal, Social and Emotional Development Early Learning Goals: - Show an understanding of their own feelings and those of others, and begin to regulate behaviour accordingly. - Explain the reasons for rules, know right from wrong and try to behave accordingly. Computing Skills: Expressive Arts and Design Early Learning Goals: - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. - Share their creations, explaining the process they have used.	
Online Safety	Computing Skills
- I can identify (name) devices I could use to access information on the internet. - I know that the internet can help me find information online. - I can talk about how to use the internet as a way of finding information online. - I can recognise some ways in which the internet can be used to communicate. - I can give examples of how I (might) use technology to communicate with people I know. - I can alert a grown up if a 'pop up' appears on a device.	- Independently operate simple equipment and help adults to operate equipment around the school. - Press buttons on equipment and talk about movements; cause and effect. - Eye and hand coordination: use a mouse to rearrange objects and pictures on a screen. - Recognise text, images and sound when using ICT. - Begin to use a keyboard developing uppercase / lower case correspondence. - Explore options and use simple software to make things happen.

Computing Progression Map

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| <ul style="list-style-type: none">- I can recognise that online or offline, I can say 'no' 'please stop' 'I'll tell' 'I'll ask' to somebody who asks me to do something that makes me feel sad, upset or embarrassed.- I can describe ways that some people can be unkind online.- I can identify rules that help keep us safe and healthy in and beyond the home when using technology.- I can give some simple examples of these rules.- I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).- I can describe who would be trustworthy to share this information with; I can explain why they are trusted.- I know that work I create belongs to me.- I can name my work so that others know it belongs to me. | |
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Computing Progression Map

Year 1 Teach Computing NCCE

Information Technology	Data Science	Computer Science	Programming	Multimedia: Graphics	Multimedia: Audio
DL1.1.1 - I can identify technology CS1.1.2 - I can identify a computer and its main parts IT1.1.3 - I can use a mouse in different ways IT1.1.4 - I can use a keyboard to type IT1.1.5 - I can use the keyboard to edit text DL1.1.6 - I can identify rules to keep us safe IT1.5.1 - I can identify and find keys on a keyboard IT1.5.2 - I can add and remove text on a computer IT1.5.3 - I can type capital letters IT1.5.4 - I can select all of the text by clicking and dragging IT1.5.5 - I can use 'undo' to remove changes IT1.5.6 - I can write a message on a computer and on paper	IT1.4.1 - I can describe objects using labels IT1.4.2 - I can count a group of objects IT1.4.3 - I can find objects with similar properties IT1.4.4 - I can count objects with the same properties IT1.4.5 - I can compare groups of objects IT1.4.6 - I can answer questions about groups of objects		CS1.3.1 - I can predict the outcome of a command CS1.3.2 - I can follow an instruction CS1.3.3 - I can predict the outcome of a sequence CS1.3.4 - I can compare left and right turns CS1.3.5 - I can choose the order of commands in a sequence CS1.3.6 - I can find more than one solution to a problem CS1.6.1 - I can use commands to move a sprite CS1.6.2 - I can use more than one block by joining them together CS1.6.3 - I can find blocks which have numbers CS1.6.4 - I can add blocks to each of my sprites CS1.6.5 - I can create an algorithm CS1.6.6 - I can test the programs I have created	IT1.2.1 - I can use the paint tools to draw a picture IT1.2.2 - I can use the shape and line tools effectively IT1.2.3 - I can choose appropriate shapes IT1.2.4 - I know that different paint tools do different jobs IT1.2.5 - I can change the colour and brush sizes IT1.2.6 - I can say whether I prefer painting using a computer or using paper	

Computing Progression Map

Year 2 Teach Computing NCCE

Information Technology	Data Science	Computer Science	Programming	Multimedia: Graphics	Multimedia: Audio
	IT2.4.1 - I can record data in a tally chart IT2.4.2 - I can use pictograms to answer simple questions IT2.4.3 - I can create a pictogram IT2.4.4 - I can create a pictogram to arrange objects by an attribute IT2.4.5 - I can create a pictogram and draw conclusions from it IT2.4.6 - I can use a computer program to present information in different ways	DL2.1.1 - I can identify examples of computers DL2.1.2 - I can move and resize images DL2.1.3 - I can find examples of information technology DL2.1.4 - I can explain how information technology helps people DL2.1.5 - I can recognise how to use information technology responsibly DL2.1.6 - I can explain simple guidance for using information technology	CS2.3.1 - I can describe a series of instructions as a sequence CS2.3.2 - I can use an algorithm to program a sequence CS2.3.3 - I can predict the outcome of a sequence CS2.3.4 - I can explain that programming projects can have code and algorithm CS2.3.5 - I can use my algorithm to create a program CS2.3.6 - I can debug a program that I have written CS2.6.1 - I can identify the start of a sequence CS2.6.2 - I can predict the outcome of a sequence of commands CS2.6.3 - I can create a program using a given design CS2.6.4 - I can change a given design CS2.6.5 - I can create an algorithm CS2.6.6 - I can debug	IT2.2.1 - I can capture digital photos IT2.2.2 - I can take photos in both landscape and portrait format IT2.2.3 - I can discuss how to take a good photograph IT2.2.4 - I can explore the effect that light has on a photo IT2.2.5 - I can recognise that images can be edited IT2.2.6 - I can apply a range of photography skills to capture a photo	IT2.5.1 - I can say how music can make us feel IT2.5.2 - I can identify that there are patterns in music IT2.5.3 - I can use a computer to experiment with pitch and duration IT2.5.4 - I can identify that music is a sequence of notes IT2.5.5 - I can create music for a purpose IT2.5.6 - I can explain how I made my work better

Computing Progression Map

Year 3 Teach Computing NCCE

Information Technology	Data Science	Computer Science	Programming	Multimedia: Graphics	Multimedia: Audio
IT3.5.1 - I can explain the difference between text and images IT3.5.2 - I can format text IT3.5.3 - I can choose appropriate page settings IT3.5.4 - I can make changes to content after I've added it IT3.5.5 - I can consider how different layouts can suit different purposes IT3.5.6 - I can identify the uses of desktop publishing in the real world	IT3.4.1 - I can create questions with yes/no answers IT3.4.2 - I can select an attribute to separate objects IT3.4.3 - I can group objects using my own yes/no questions IT3.4.4 - I can identify objects using a branching database IT3.4.5 - I can explain why databases need structure IT3.4.6 - To compare the information shown in a pictogram with a branching database	CS3.1.1 - I can explain how digital devices function CS3.1.2 - I can identify input and output devices DL3.1.3 - I recognise how digital devices change the way we work DL3.1.4 - I can explain how networks share information DL3.1.5 - I can explore how digital devices can be connected CS3.1.6 - I can recognise the physical components of a network	IT3.3.1 - I can explore a new programming environment IT3.3.2 - I can create a program following a design IT3.3.3 - I can create a sequence of connected commands IT3.3.4 - I can explain what a sequence is IT3.3.5 - I can change the appearance of my project IT3.3.6 - I can implement my algorithm as code IT3.4.1 - I can create questions with yes/no answers IT3.4.2 - I can select an attribute to separate objects IT3.4.3 - I can group objects using my own yes/no questions IT3.4.4 - I can identify objects using a branching database IT3.4.5 - I can explain why databases need structure IT3.4.6 - To compare the information shown in a pictogram with a branching database	IT3.2.1 - I can explain animation is a sequence of images IT3.2.2 - I can create an effective stop frame animation IT3.2.3 - I can plan an animation IT3.2.4 - I can evaluate the quality of my work DL3.2.5 - I can provide and listen to feedback DL3.2.6 - I can evaluate the impact of mixing medias	

Computing Progression Map

Year 4 Teach Computing NCCE

Information Technology	Data Science	Computer Science	Programming	Multimedia: Graphics	Multimedia: Audio
	IT4.4.1 - I can identify data that can be gathered over time IT4.4.2 - I can explain that sensors are input devices IT4.4.3 - I can identify the intervals used to collect data IT4.4.4 - I can use a computer program to sort data IT4.4.5 - I can use a data logger to collect data IT4.4.6 - I can draw conclusions from the data that I have collected	CS4.1.1 - I can describe how networks physically connect CS4.1.2 - I can recognise networked devices make up the internet CS4.1.3 - To outline how websites can be shared via the World Wide Web CS4.1.4 - I can describe how content is added and accessed on the World Wide Web CS4.1.5 - I can recognise content is created by people DL4.1.6 - I understand the consequences of unreliable content	CS4.3.1 - I know accuracy in programming is important CS4.3.2 - I can create a program in a text-based language CS4.3.3 - I can identify everyday tasks that include repetition CS4.3.4 - I can modify a count-controlled loop to produce a given outcome CS4.3.5 - I can decompose a program CS4.3.6 - I can create count-controlled loops CS4.6.1 - I can predict the outcome of a snippet of code CS4.6.2 - I can choose when to use a count-controlled and an infinite loop CS4.6.3 - I can explain what the outcome of the repeated action should be CS4.6.4 - I can modify an infinite loop in a given program CS4.6.5 - I can design a project that includes repetition CS4.6.6 - I can refine the algorithm in my design	IT4.5.1 - I can explain that digital images can be edited IT4.5.2 - I can adjust the composition of an image IT4.5.3 - I can describe how images can be changed for different uses IT4.5.4 - I can choose appropriate tools to retouch an image DL4.5.5 - I can sort images into 'fake' or 'real' DL4.5.6 - I can evaluate how changes can improve an image	IT4.2.1 - I can identify digital devices that can record sound and play it back IT4.2.2 - I can use a digital device to record sound IT4.2.3 - I can explain a digital recording is stored as a file IT4.2.4 - I can explain audio can be edited IT4.2.5 - I can use editing tools to arrange sections of audio IT4.2.6 - I can evaluate editing choices made:

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Year 5 Teach Computing NCCE

Information Technology	Data Science	Computer Science	Programming	Multimedia: Graphics	Multimedia: Audio
	IT5.4.1 - I can use a form to record information IT5.4.2 - I can explain what a 'field' and a 'record' is in a database IT5.4.3 - I can group information to answer questions IT5.4.4 - I can choose multiple criteria to answer a given question IT5.4.5 - I can select an appropriate chart to visually compare data IT5.4.6 - I can refine a search in a real-world context	CS5.1.1 - I can explain that systems are built using a number of parts CS5.1.2 - I can recognise the role of computer systems in our lives CS5.1.3 - I can explain that data is transferred over networks in packets DL5.1.4 - I can explain that the internet allows different media to be shared DL5.1.5 - I can contribute to a shared project online DL5.1.6 - I can identify different ways of working together online	CS5.3.1 - I can control a simple circuit connected to a computer CS5.3.2 - I can write a program with count-controlled loops CS5.3.3 - I can experiment with a 'do until' loop CS5.3.4 - I can identify a condition and an action in my project CS5.3.5 - I can identify a condition to start an action (real world) CS5.3.6 - I can use selection to produce an intended outcome CS5.6.1 - I can explain how selection is used in computer programs CS5.6.2 - I can explain conditional statements connect a condition to an outcome CS5.6.3 - I can explain how selection directs the flow of a program CS5.6.4 - I can design a program which uses selection CS5.6.5 - I can implement my algorithm to create the first section of my program CS5.6.6 - I can identify ways the program could be improved	IT5.5.1 - I can identify the main drawing tools IT5.5.2 - I can create a vector drawing by combining shapes IT5.5.3 - I can modify objects to create different effects IT5.5.4 - I recognise that vector drawings consist of layers IT5.5.5 - I can group to create a single object IT5.5.6 - I can create alternatives to vector drawings	IT5.2.1 - I can plan a video project using a storyboard IT5.2.2 - I can identify digital devices that can record video IT5.2.3 - I can capture video using a digital device IT5.2.4 - I can recognise the features of an effective video IT5.2.5 - I can explain how to improve a video by reshooting and editing IT5.2.6 - I can make edits to my video and improve the final outcome

Computing Progression Map

Year 6 Teach Computing NCCE

Information Technology	Data Science	Computer Science	Programming	Multimedia: Graphics	Multimedia: Audio
	IT6.4.1 - I can answer questions from an existing data set IT6.4.2 - I can apply an appropriate number format to a cell IT6.4.3 - I can construct a formula in a spreadsheet IT6.4.4 - I can apply a formula to multiple cells by duplicating it IT6.4.5 - I can apply a formula to calculate the data I need to answer questions IT6.4.6 - I can choose suitable ways to present data	IT6.1.1 - I can compare results from different search engines CS6.1.2 - I can recognise the role of web crawlers in creating an index CS6.1.3 - I can explain how search results are ranked CS6.1.4 - I can describe some of the ways that search results can be influenced DL6.1.5 - I can recognise how we communicate using technology DL6.1.6 - I can evaluate different methods of online communication	CS6.3.1 - I can define a 'variable' CS6.3.2 - I can explain why a variable is used in a program CS6.3.3 - I can make use of an event in a program to set a variable CS6.3.4 - I can design a project that modifies a given example CS6.3.5 - I can use my design to create a project CS6.3.6 - I can evaluate my project CS6.6.1 - I can apply my knowledge of programming to a new environment CS6.6.2 - I can use a variable in an if... then... else... statement to select the flow of a program CS6.6.3 - I can use a condition to change a variable CS6.6.4 - I can modify a program to achieve a different outcome CS6.6.5 - I can decide what variables to include in a project CS6.6.6 - I can test my program against my design	DL6.2.1 - I know that websites are written in HTML IT6.2.2 - I can plan the features of a web page DL6.2.3 - I can consider the ownership and copyright DL6.2.4 - I can recognise the need to preview pages IT6.2.5 - I can make multiple web pages and link them using hyperlinks DL6.2.6 - I can evaluate the user experience of a website IT6.5.1 - I can select, move, and delete a digital 3D shape IT6.5.2 - I can identify how graphical objects can be modified IT6.5.3 - I can select and duplicate multiple 3D objects IT6.5.4 - I can identify the 3D shapes needed to create a model of a real-world object IT6.5.5 - I can modify multiple 3D objects IT6.5.6 - I can evaluate my model against a given criterion	