

PROGRESSION IN COMPUTING - Expected Outcomes

Date	Review Date	Subject Leader						
March 2020	August 2021	Richard Mendum / Miss Baker						
<p>This document aims to give guidance on the progression of Computing knowledge and skills across the year groups. It can also be used to differentiate work, and expectations, appropriately for Learners working above and below age-related expectations (particularly SEND Learners and GD Learners). Through practical learning opportunities, children will be able to make connections and reflect on prior knowledge.</p>								
<p>A high-quality computing education equips Learners to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which Learners are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, Learners are equipped to use information technology to create programs, systems, and a range of content. Computing also ensures that Learners become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.</p>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; vertical-align: top; padding: 5px;"> Teaching Sequence in Computing – lesson expectation detail within the Computing Intent Statement </td><td style="width: 40%; vertical-align: top; padding: 5px;"> Big Picture: Start with what the children know, understand, can do and able to say. Revisit previous learning. Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation Can analyse problems in computational terms, and have repeated practical experience of writing computer programs to solve such problems Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems </td><td style="width: 50%; vertical-align: top; padding: 5px;"> Possible pedagogical approaches used in Computing Behaviourism Constructivism Social Constructivism Liberationism </td><td style="width: 10%; vertical-align: top; padding: 5px;"> Behaviourism Constructivism Social Constructivism Liberationism </td><td style="width: 10%; vertical-align: top; padding: 5px;"> Direct teacher instruction; modelling of skills and techniques; demonstration Enquiry Led Learning Teacher modelling; questioning; mix of individual, paired and group instruction Pupil-led learning; opportunities Learning, working, and talking about Computing with confidence. Being introduced to the key vocabulary relating to Computing so that all children can express their understanding, findings, and conclusions. </td></tr> </table>			Teaching Sequence in Computing – lesson expectation detail within the Computing Intent Statement	Big Picture: Start with what the children know, understand, can do and able to say. Revisit previous learning. Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation Can analyse problems in computational terms, and have repeated practical experience of writing computer programs to solve such problems Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems	Possible pedagogical approaches used in Computing Behaviourism Constructivism Social Constructivism Liberationism	Behaviourism Constructivism Social Constructivism Liberationism	Direct teacher instruction; modelling of skills and techniques; demonstration Enquiry Led Learning Teacher modelling; questioning; mix of individual, paired and group instruction Pupil-led learning; opportunities Learning, working, and talking about Computing with confidence. Being introduced to the key vocabulary relating to Computing so that all children can express their understanding, findings, and conclusions.	
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The Hive	Class 1		Class 2		Class 3			
FS1/FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
Computing and Network Systems	Understanding the world: Children should explore the technology they encounter at home and school (e.g. role play toys, photocopiers, automatic doors, old phones, laptops etc.) It is important for children to learn to be e-safe from an early age.	Technology Around Us Learners will develop their understanding of technology and how it can help us. They will start to become familiar with the different components of a computer by developing their keyboard and mouse skills. Learners will also consider how to use technology responsibly.	IT Around Us Learners will look at information technology at school and beyond, in settings such as shops, hospitals, and libraries. Learners will investigate how information technology improves our world, and they will learn about using information technology responsibly.	Connecting Computers Learners develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They also compare digital and non-digital devices. Following this, learners are introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. The unit concludes with learners discovering the benefits of connecting devices in a network.	The Internet Learners 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 be given opportunities to explore the World Wide Web for themselves 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 the consequences of false information.	Sharing Information Learners will develop their understanding of computer systems and how information is transferred between systems and devices. Learners will consider small-scale systems as well as large-scale systems. They will explain the input, output, and process aspects of a variety of different real-world systems. Learners will also take part in a collaborative online project with other class members and develop their skills in working together online.	Communication The class will learn about the World Wide Web as a communication tool. First, they will learn how we find information on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines. They will then investigate different methods of communication, before focusing on internet-based communication.	Finally, they will evaluate which methods of internet communication to use for particular purposes.

Progression	<p>How technology has changed over time and how it differs across cultures by sharing artefacts, photos and videos, and asking others.</p> <p>Listen to young children talking about their online world and use this overheard talk to engage with them and find out more.</p>	<p>As this is a Year 1 unit, no prior knowledge is assumed.</p> <p>This unit progresses students' knowledge and understanding of technology and how they interact with it in school.</p> <p>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>	<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.</p> <p>Learners will also build on their knowledge of using technology safely and responsibly and begin to consider the implications of the choices that they make.</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 as a network.</p> <p>Following this unit, learners will explore the internet as a network of networks.</p>	<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.</p>	<p>This unit progresses learners' knowledge and understanding of computing systems and online collaborative working.</p>	<p>This unit progresses students' knowledge and understanding of computing systems and online collaborative working.</p>
Vocabulary		<p>Safely, responsibly, computer, technology, Shift, space bar, capital letter, full stop, Input device, computer, keyboard, mouse.</p>	<p>Technology, Information technology, computer, barcode, scanner/scan,</p>	<p>Digital device, input, output, process, program, connection, network, network switch, server, wireless access point</p>	<p>Internet, network, router, network security, wireless access point, server, network switch, website, web page, web address, routing, route tracing, browser, World Wide Web, internet, content, website, web page, links, files, use, content, download, sharing, ownership, permission, Information, sharing, accurate, honest, content, adverts</p>	<p>System, connection, digital, input, process, output, Protocol, address, packet, Chat, explore, slide deck, Reuse, remix, collaboration</p>	<p>Search, search engine, Google, Bing, Yahoo!, refine, index, crawler, bot, Ranking, search engine optimisation, links, web crawlers, content creator, selection, ranking, Communication, internet, Communication, public, private, one-way, two-way, one-to-one, one-to-many, SMS, email, WhatsApp, blog, YouTube, Twitter, BBC Newsround</p>
National Curriculum Links	<p>People and communities: children talk about past and present events in their own lives and in the lives of family members.</p> <p>Technology: children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Managing feelings and behaviour: children talk about how they and</p>	<p>Recognise common uses of information technology beyond school</p> <p>Use technology purposefully to create, organise, store, manipulate, and retrieve digital content</p> <p><u>Education for a Connected World links</u></p> <p>Health, well-being, and lifestyle 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</p> <p>Copyright and ownership I know that the work I create belongs to me I can name my work so that others know it belongs to me</p>	<p>Use technology safely and respectfully, keeping personal information private.</p> <p>Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <p>Recognise common uses of information technology beyond school</p>	<p>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.</p> <p>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</p> <p>Maths (lesson 1) Number and place value: Solve number problems and practical problems</p> <p>Art (lesson 3) To improve their mastery of art and design techniques, including drawing, painting, and sculpture with a range of materials</p>	<p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>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</p> <p>PSHE (Lesson 6) Evaluating content for honesty and accuracy</p> <p>Art (Lesson 3) To improve their mastery of art and design techniques, including drawing, painting, and sculpture with a range of materials</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>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</p> <p>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</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>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</p> <p>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</p> <p>Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p>

others show feelings, talk about their own and others' behaviour, and its consequences, and know that some behaviour is unacceptable .					<p>Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p> <p><u>Education for a Connected World links</u></p> <p>I can assess and justify when it is acceptable to use the work of others</p> <p>I can give examples of content that is permitted to be reused</p>	<p><u>Education for a Connected World links</u></p> <p>I can describe and assess the benefits and the potential risks of sharing information online.</p> <p>Use various additional tools to refine my searches (e.g. search filters: size, type, usage rights etc.).</p> <p>I can explain how to use search effectively and use examples from my own practice to illustrate this.</p> <p>I can explain how search engine rankings are returned and can explain how they can be influenced (e.g. commerce, sponsored results).</p>

Data & Information	<p>Understanding the world: Collect information, e.g., by taking photographs or collecting objects.</p> <p>Begin to sort, classify, or group various objects progressing from practical activities to the use of ICT, e.g., practically sorting fruit into colours, types or shapes, and then sort and sequence objects on a screen or interactive whiteboard.</p> <p>In addition, learners will begin to improve their ability to use dragging and dropping skills on a device.</p>	<p>Grouping Data</p> <p>Will introduce Learners to data and information and to the concept of labelling and grouping objects based on their properties.</p> <p>Learners will develop their understanding that objects can be given labels, which is fundamental to their future learning concerning databases and spreadsheets.</p>	<p>Pictograms</p> <p>Introduces the learners to the term 'data'.</p> <p>Learners will begin to understand what data means and how this can be collected in the form of a tally chart.</p> <p>They will learn the term 'attribute' and use this to help them organise data.</p>	<p>Branching Databases</p> <p>Learners will develop their understanding of what a branching database is and how to create one.</p> <p>They will gain an understanding of what attributes are and how to use them to sort groups of objects by using yes/no questions.</p> <p>The learners will create physical and on-screen branching databases.</p> <p>Finally, they will evaluate the effectiveness of branching databases and will decide what types of data should be presented as a branching database.</p>	<p>Data Logging</p> <p>Learners will consider how and why data is collected over time.</p> <p>Learners will consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment.</p> <p>Learners will collect data as well as access data captured over long periods of time. They will look at data points, data sets, and logging intervals.</p> <p>Learners will spend time using a computer to review and analyse data.</p> <p>Towards the end of the unit, Learners will pose questions and then use data loggers to automatically collect the data needed to answer those questions.</p>	<p>Flat File Databases</p> <p>This unit looks at how a flat-file database can be used to organise data in records.</p> <p>Learners use tools within a database to order and answer questions about data.</p> <p>They create graphs and charts from their data to help solve problems.</p> <p>They use a real-life database to answer a question and present their work to others.</p>	<p>Spreadsheets</p> <p>Learners are supported in organising data into columns and rows to create their own data set. They are taught the importance of formatting data to support calculations.</p> <p>Learners are introduced to formulas and begin to understand how these can be used to produce calculated data.</p> <p>They are taught how to apply formulas which include a range of cells and apply formulas to multiple cells by duplicating them.</p> <p>Learners use spreadsheets to plan an event and answer questions. Finally, learners create graphs and charts and evaluate their results in comparison to questions asked.</p>
Progression							
Vocabulary	<p>Group, object, label, image, colour, shape, property, size, data set, value, more, less, most, fewest, least, the same</p>		<p>More/less than, most, least, organise, data, objects, tally, chart, votes, total, compare, enter, count, pictogram, explain, most/least popular, conclusion, common, block diagram, sharing</p>	<p>Branching database, attribute, value, questions, j2data, pictogram, compare, selecting, information, decision tree, structure, compare, organise, order, equal, even, separate, table, objects</p>	<p>Data, table (layout), Input device, sensor, data logger, logging, data point, interval, Analyse, data set, import, export, logged, collection, analyse, review, conclusion</p>	<p>Database, data, field, record, graph, chart, presentation, axis, compare, filter, value, search, criteria, sort, order, information</p>	<p>Spreadsheet, data, data heading, data set, cells, columns and rows, spreadsheet application, format, common attribute, formula, calculation, input, output, cells, cell reference, calculate, operation, formula, range, duplicate, sigma, propose, question, organised, graph, chart, evaluate, results, comparison, questions, software, tools.</p>
National Curriculum Links	<p>Uses ICT hardware to interact with age-appropriate computer software.</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>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</p>	<p>Work with various forms of input</p> <p>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</p>	<p>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</p>	

<p>Self-confidence and self-awareness: children are confident to try new activities and will choose the resources they need for their chosen activities. They say when they do or do not need help.</p>	<p>Use technology safely and respectfully</p> <p><u>Education for a Connected World links</u></p> <p>Copyright and ownership</p> <p>I know that work I create belongs to me (Y1)</p> <p>I can name my work so that others know it belongs to me (Y1)</p>	<p>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 on the internet or other online technologies</p> <p>Maths</p> <p>Building on Year 1 number and place value: Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: 'equal to', 'more than', 'less than' ('fewer'), 'most', 'least'</p> <p>Year 2</p> <p>Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data</p>	<p>given goals, including collecting, analysing, evaluating, and presenting data and information</p> <p>Use technology safely, respectfully, and responsibly</p>	<p>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</p> <p>Science – Lower key stage 2/Year 4</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>They should learn how to use new equipment, such as data loggers, appropriately.</p>	<p>content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information.</p>	<p>given goals, including collecting, analysing, evaluating and presenting data and information</p> <p>Maths</p> <p>Number – addition, subtraction, multiplication, and division: Solve problems involving addition, subtraction, multiplication, and division</p> <p>Statistics: Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.</p> <p><u>Education for a Connected World links</u></p> <p>Managing information online</p> <p>I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites).</p> <p>I can use different search technologies.</p> <p>I can evaluate digital content and can explain how I make choices from search results.</p>
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Creating Media A	Understanding the world	Digital Writing Learners will develop their understanding of the various aspects of using a computer to create and manipulate text. Learners will become more familiar with using a keyboard and mouse to enter and remove text. Learners will also consider how to change the look of their text and will be able to justify their reasoning in making these changes. Finally, learners will consider the differences between using a computer to create text and writing text on paper. They will be able to explain which method they prefer and explain their reasoning for choosing this.	Digital Photography Learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.	Desktop Publishing Learners will become familiar with the terms 'text' and 'images' and understand that they can be used to communicate messages. They will use desktop publishing software and consider careful choices of font size, colour and type to edit and improve premade documents. Learners will be introduced to the terms 'templates', 'orientation', and 'placeholders' and begin to understand how these can support them in making their own template for a magazine front cover. They will start to add text and images to create their own pieces of work using desktop publishing software. Learners will look at a range of page layouts thinking carefully about the purpose of these and evaluate how and why desktop publishing is used in the real world.	Photo Editing Learners will develop their understanding of how digital images can be changed and edited, and how they can then be saved and reused. They will consider the impact that editing images can have and evaluate the effectiveness of their choices.	Video Editing Gives learners the opportunity to learn how to create short videos in 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. Active learning is encouraged through guided questions and by working in small groups to investigate the use of devices and software. Learners are guided with step-by-step support to take their idea from conception to completion. At the teacher's discretion, the use of green screen can be incorporated into this unit. At the conclusion of the unit, learners can reflect on and assess their progress in creating a video.	Web Page Creation Introduces learners to the creation of websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website using Google Sites. Throughout the process learners pay specific attention to copyright and fair use of media, the aesthetics of the site, and navigation paths.
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Progression	<p>Practitioners will need to support the youngest children as they explore digital apparatus with discussion about what it does, how it works and how to use it safely.</p> <p>The learners will develop their ability to find and use the keys on a keyboard to create digital content.</p> <p>The learners are then introduced to manipulating the resulting text, making cosmetic changes, and justifying their reason for making these changes.</p>	<p>Progresses students' knowledge and understanding of using computers to create and manipulate digital content, focussing on using a word processor.</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>Learners should have experience of making choices on a tablet/computer. They should be able to navigate within an application.</p> <p>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 their new skills.</p>	<p>Progresses learners' knowledge and understanding of creating media by guiding them systematically through the process involved in creating a video.</p> <p>By the end of the unit, learners will have developed the skills required to plan, record, edit, and finalise a video.</p>	<p>Progresses students' knowledge and understanding of the following: digital writing, digital painting, desktop publishing, digital photography, photo editing, and vector drawing.</p>
Vocabulary		<p>Word processor, keyboard, keys, letters, Microsoft Word, Google Docs, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, cursor, select, font, undo,</p>	<p>Device, camera, photograph, capture, image, digital, Landscape, portrait, horizontal, vertical, field of view, narrow, wide, format, Natural lighting, artificial lighting, flash, focus, background, foreground, Editing, tools, colour, filter, images, Pixlr, framing, real, changed</p>	<p>Text, images, advantages, disadvantages, communicate, Font, font style, communicate, template, Landscape, portrait, orientation, placeholder, Desktop publishing, copy, paste, Layout, purpose, benefits</p>	<p>Image, edit, arrange, select, digital, crop, undo, save, composition, save, pixels, crop, rotate, flip, adjustments, effects, colours, hue/saturation, sepia, version, illustrator, vignette, retouch, clone, recolour, magic wand, select, adjust, sharpen, brighten, fake, real, composite, cut, copy, paste, alter, background, foreground, Image, publication, elements, original, font style, shapes, border, layer</p>	<p>Video, audio, recording, storyboard, script, soundtrack, dialogue, capture, zoom, storage, digital, tape, audio, AV (audiovisual), recording, save, videographer, pan, tilt, angle, lighting, setting, YouTuber, content, light, audio/sound, camera angle, colour, Export, computer, Microsoft Movie Maker, split, trim/clip, edit, titles, end credits, timeline, transitions, audio, soundtrack, content, retake/reshoot (choose agreed language), special effects, export, constructive feedback</p>	<p>Website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, purpose, Copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, implication, external link, embed</p>
National Curriculum Links	<p>Exploring and using media and materials: They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes.</p> <p>Aspects of almost</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>Use technology safely and respectfully, keeping personal information private</p> <p><u>Education for a Connected World links</u></p> <p>Privacy and security I can give reasons why I should only share information with people I choose to and can trust. (Y1)</p>	<p>Use technology purposefully to create, organise, store, manipulate, and retrieve digital content</p> <p>Art and design To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space</p> <p><u>Education for a Connected World links</u></p> <p>To identify that some images are not real (fake)</p>	<p>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</p> <p>English links Pupils should be taught to draft and write by in non-narrative material, using simple organisational devices [for example, headings and subheadings]</p>	<p>Use search technologies effectively</p> <p>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</p> <p>Education for a Connected World links</p>	<p>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</p> <p>Internet safety Recognise inappropriate content, contact, and conduct and know how to report concerns</p> <p>Self-image and identity I can describe ways in which people might make themselves look different online.</p> <p>Copyright and ownership When searching on the internet</p>	<p>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</p> <p>Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour.</p> <p>English links Writing composition: Identifying the audience for and purpose of the writing, selecting the appropriate form, and using other similar writing as models for their own.</p> <p>Education for a Connected World</p>

	<p>all of the other ELGs could be enhanced or evidenced through the use of technology e.g. use of eBooks and recording devices.</p>		<p>punctuation errors</p> <p><u>Education for a Connected World links</u></p> <p>Managing online information I can use key phrases in search engines and use search technologies effectively</p> <p>Copyright and ownership When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it</p> <p>I can demonstrate the use of search tools to find and access online content which can be reused by others</p>	<p>for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.</p>	<p>Identify a range of ways to report concerns about content and contact</p> <p><u>Education for a Connected World links (Years 7–11)</u></p> <p>Self-image and Identity I can explain how I can represent myself in different ways online</p> <p>Knowing this, I can describe the right decisions about how I interact with others and how others perceive me</p> <p>Online relationships I can recognise some ways in which the internet can be used to communicate and can give examples of how to be respectful to others online</p> <p>Online reputation I can search for information about an individual online and create a summary report of the information I find</p> <p>I can explain ways that some of the information about me online could have been created, copied, or shared by others</p> <p>Managing online information I can evaluate digital content (and can explain how I make choices from search results)</p>	<p>links</p> <p>Online relationships I can use the internet with adult support to communicate with people I know. (EY-7)</p> <p>Managing information online I can navigate online content, websites, or social media feeds using more sophisticated tools to get to the information I want (e.g. menus, sitemaps, breadcrumb-trails, site search functions). (11-14)</p> <p>Copyright and ownership I can explain why copying someone else's work from the internet without permission can cause problems and I can give examples of what those problems might be.</p> <p>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. I can give some simple examples.</p> <p>I can assess and justify when it is acceptable to use the work of others and I can give examples of content that is permitted to be reused.</p> <p>I can demonstrate the use of search tools to find and access online content which can be reused by others.</p> <p>I can demonstrate how to make references to and acknowledge sources I have used from the internet.</p> <p>I can explain the principles of fair use and apply this to case studies. (11-14)</p>	
Programming A	<p>Understanding the world ELG: Children in Early Years are already immersed in a programmed world. They experience it every day of their lives when: the doors at the supermarket open automatically when they</p>	<p>Moving a Robot Introduces learners to early programming concepts. Learners will explore using individual commands, both with other learners and as part of a computer program. They will identify what each floor robot command does and use that knowledge to start predicting the outcome of programs. The unit is paced to ensure time is spent on all</p>	<p>Making Music Develops pupils' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Pupils will use given commands in different orders to investigate how the order affects the outcome. Pupils will also learn about design in programming. They will develop artwork and test</p>	<p>Sequence in Music Explores the concept of sequencing in programming through Scratch. It begins with an introduction to the programming environment, which will be new to most learners. They 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.</p>	<p>Repetition in Shapes The first of the two programming units in Year 4 and looks at repetition and loops within programming. Pupils will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language.</p>	<p>Quizzes Learners will use physical computing to explore the concept of selection in programming using the Crumble programming environment. Learners will be introduced to a microcontroller (Crumble controller) and learn how to connect and program components (including output devices — LEDs and motors) through the application of their existing programming knowledge.</p>	<p>Variables in Games Explores the concept of variables in programming through games in Scratch. First, pupils will learn what variables are, and relate them to real-world examples of values that can be set and changed. Pupils 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</p>

	<p>approach, the hand drier starts when they place their hands underneath, the price of an item shows as you scan and the streetlights come on automatically when it gets dark.</p> <p>Additional experiences might also include: 'programming' friends by telling them how to move around like a robot or make a pretend sandwich use of control toys like remote control cars, Beebots.</p>	<p>aspects of programming and builds knowledge in a structured manner.</p> <p>Learners are also introduced to the early stages of program design through the introduction of algorithms.</p>	<p>it for use in a program. They will design algorithms and then test those algorithms as programs and debug them.</p>	<p>The unit is paced to focus on all aspects of sequences, and make sure that knowledge is built in a structured manner. Learners also apply stages of program design through this unit.</p>		<p>Learners will be introduced to conditions as a means of controlling the flow of actions and explore how these can be used in algorithms and programs through the use of an input device (push switch).</p> <p>Learners 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.</p> <p>To conclude the unit, learners will design and make a working model of a fairground carousel that will incorporate their understanding of how the microcontroller and its components are connected, and how selection can be used to control the operation of the model.</p> <p>Throughout this unit, pupils will apply the stages of programming design.</p>	<p>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.</p>
Progression	<p>Continuous provision draws on common uses of control technology for children to experience first-hand and to explore their uses through play.</p>	<p>No prior knowledge is assumed.</p> <p>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>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.</p> <p>Progresses students' knowledge and understanding of algorithms and how they are implemented as programs on digital devices.</p> <p>Pupils will spend time looking at how the order of commands affects outcomes and will use this knowledge and logical reasoning to trace programs and predict outcomes.</p>	<p>Assumes that learners will have some prior experience of programming; the KS1 NCCE units cover floor robots and ScratchJr.</p> <p>However, experience of other languages or environments may also be useful.</p>	<p>Progresses students' knowledge and understanding of programming.</p> <p>It progresses from the sequence of commands in a program to using count-controlled loops.</p> <p>Pupils will create algorithms and then implement those algorithms as code.</p>	<p>Assumes that learners will have prior experience of programming using block-based construction (eg Scratch) and understand the concepts of sequence and repetition.</p> <p>The National Centre for Computing Education key stage 1 units focus on floor robots and ScratchJr, however, experience of other languages or environments may also be useful.</p>	<p>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.</p> <p>These constructs are covered in the Year 3, 4, and 5 National Centre for Computing Education programming units respectively.</p> <p>Each year group includes at least one unit that focuses on Scratch.</p>
Vocabulary		<p>Forwards, backwards, turn, clear, go, commands, Instructions, directions, left, right, turn, plan, algorithm, program, route</p>	<p>Instruction, sequence, clear, unambiguous, algorithm, program, order, commands, prediction, artwork, design, route, mat, debugging</p>	<p>Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point, go to, glide, sequence, event, task, design, code, run the code, order, note, chord, bug, debug, algorithm</p>	<p>Program, Turtle, Commands, Code snippet, Repeat, Count-controlled loop Decompose, Procedure, Algorithm, Design, Debug, Logo, pattern, repeat, repetition,</p>	<p>Selection, condition, true, false, count controlled loop,</p>	<p>Variable, change, name, value, set, design, event, algorithm, code, Task, artwork, program, project, code, test, debug, Improve, evaluate, share</p>

					value, trace		
National Curriculum Links	<p>Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events.</p> <p>Moving and handling: children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space.</p>	<p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>Create and debug simple programs</p> <p>Use logical reasoning to predict the behaviour of simple programs</p>	<p>Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions</p> <p>Create and debug simple programs</p> <p>Use logical reasoning to predict the behaviour of simple programs</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs, work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs, work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>use sequence, selection, and repetition in programs, work with variables and various forms of input and output</p> <p>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>Science – Electricity (Year 4) construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs, work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>

Programming B	Understanding the world ELG: Explore toys that simulate control devices e.g., traffic lights, scanner, microwave, cash tills, with the intention of finding out how it works. Explore the commands needed to control a range of electronic toys, e.g. Beebots, remote control cars. Explore simple simulations and find out 'what happens if...'	Intro to Animation Introduces learners to on screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify and create programs. Learners are also introduced to the early stages of program design through the introduction of algorithms.	Intro to Quizzes Initially recaps on learning from the Year 1 Scratch Junior unit 'Programming A - An introduction to animation' Learners begin to understand that sequences of commands have an outcome and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make improvements to their programming projects.	Events and Actions Explores the links between events and actions, whilst consolidating prior learning relating to sequencing. Learners will begin by moving a sprite in four directions (up, down, left and right). They will 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.	Repetition in Games Explores the concept of repetition in programming using the Scratch environment. It begins with a Scratch activity similar to that carried out in Logo in Programming unit A, where learners can discover similarities between two environments. Learners 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.	Selection Pupils develop their knowledge of selection by revisiting how conditions can be used in programs 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 the Scratch programming environment. They learn how to write programs that ask questions and use selection to control the outcomes based on the answer given. They use this knowledge to design a quiz in response to a given task and implement it as a program. To conclude the unit, learners evaluate their program by identifying: how it meets the requirements of the task; the ways they have improved it; further ways it could be improved.	Sensing 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 whilst also utilising a physical device - the micro:bit. The unit begins with a simple program which learners 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. Design features prominently in this unit. A design template is introduced in lesson 3, initially scaffolded to give learners the opportunity to create code from a given design. In lesson 4 that scaffolding is gradually reduced, then in lesson 5, learners create their own design, using the same template. In the final lesson, learners will apply their knowledge of the programming constructs and use their design to create their own micro:bit based step counter.
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Progression		Progresses students' knowledge and understanding programming and follows on from 'Programming A – Moving a robot' where children will have learned to program a floor robot using instructions.		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 the concept of sequences.	Assumes that learners will have some prior experience of programming; the KS1 NCCE units cover floor robots and ScratchJr, and Scratch is introduced in the Year 3 programming units. However, experience of other languages or environments may also be useful.	Assumes that learners will have prior experience of programming using block-based construction (e.g. Scratch) and understand the concepts of sequence, repetition and have some experience of using selection. Ideally, learners will have completed programming unit A (selection in physical computing) before undertaking this unit as this will provide them with the required knowledge of selection.	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 programming units where these constructs are introduced.
Vocabulary		Route, ScratchJr, Bee-Bot, sprite, compare, programming, programming area, joining, command, start block, run, background, delete, reset, predict, Effect, change, value, block	Sequence, command, program, run, start, outcome, predict, blocks, Sprite, algorithm, design, sequence, predict, actions, project, modify, change, build, match, compare, features, evaluate, debug,	Motion, event, sprite, algorithm, logic, Move, resize, Extension block, pen up, set up, Pen, design, action, Debugging, errors, setup, test, code	Scratch, programming, sprite, blocks, code, loop, repeat, value, forever, infinite loop, count-controlled loop, costume, animate, event block, duplicate, repetition, modify, design, algorithm, debug, refine, evaluate	Microcontroller, Crumble controller, components, LED, Sparkle, crocodile clips, connect, battery box, program, repetition, infinite loop, switch, motor, condition, true, false, input, output devices, selection, action, Task, design, selection, repetition, algorithm, program, debug, evaluate	Micro:bit, MakeCode, input, process, output, flashing, USB, Selection, condition, if... then... else, variable, random, sensing, accelerometer, Compass, direction, navigation, Plan, create, code, test, debug
National Curriculum Links	Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events. Moving and handling: children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs, work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs, work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs, work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs, work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Science – Electricity (Year 4) construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers

Creating Media B	Understanding the world ELG: Interact and explore their environment using a range of multimedia equipment, including digital cameras, video cameras, microscopes etc. This could also include the use of tablets e.g. iPad to capture still and moving images. Explore ways of listening to sounds using simple programs and devices.	Digital Painting Learners develop their understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings, while gaining inspiration from a range of artists' work. The unit concludes with learners considering their preferences when painting with and without the use of digital devices.	Making Music Learners will be using a computer to create music. They will listen to a variety of pieces of music and consider how music can make them think and feel. Learners will compare creating music digitally and non-digitally. Learners will look at patterns and purposefully create music.	Animation Learners will use a range of techniques to create a stop frame animation using tablets. Next, they will apply those skills to create a story-based animation. This unit will conclude with learners adding other types of media to their animation, such as music and text.	Audio Editing Learners will initially examine devices capable of recording digital audio, which will include identifying the input device (microphone) and output devices (speaker or headphones). Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. 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. Finally, learners will evaluate their work and give feedback to their peers.	Vector Drawing Learners will find out that vector images are made up of shapes. They will learn how to use the different drawing tools and how images are created in layers. They will explore the ways in which images can be grouped and duplicated to support them in creating more complex pieces of work. This unit is planned using the Google Drawings app other alternative pieces of software are available.	3D Modelling Learners will develop their knowledge and understanding of using a computer to produce 3D models. Learners 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. Learners will progress to making accurate 3D models of physical objects, such as a pencil holder, which include using 3D objects as placeholders. Finally, learners will examine the need to group 3D objects, then go on to plan, develop, and evaluate their own 3D model of a photo frame.
Progression	Practitioners will need to support the youngest children as they explore digital apparatus with discussion about what it does, how it works and how to use it safely.	Learners should be familiar with: How to switch their device on, usernames and passwords	Learners should have experience of making choices on a tablet/computer, and they should be able to navigate within an application. Learners should also have some experience of patterns. Progresses students' knowledge through listening to music and considering how music can affect how we think and feel. Learners will then purposefully create rhythm patterns and music.	This unit progresses students' knowledge and understanding of using digital devices to create media, exploring how they can create stop frame animations. Following this unit, learners will further develop their video editing skills in Year 5.	This unit progresses students' knowledge and understanding of creating media, by focusing on the recording and editing of sound to produce a podcast. Following this unit, learners will explore combining audio with video in the 'Video editing' unit in Year 5.	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	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.
Vocabulary		paint program, tool, paintbrush, erase, fill, undo, primary colours, shape tools, line tool, fill tool, undo tool, brush size, Pictures, painting, computers, like, prefer, dislike	Music, planets, Mars, Venus, war, peace, quiet, loud, feelings, emotions, Pattern, rhythm, pulse, Neptune, pitch, tempo, rhythm, notes, instrument, create, beat, open, edit	Animation, flip book, stop frame animation, frame, sequence, image, photograph, Setting, character, events, stop frame animation, onion skinning, consistency, delete, evaluation, media, import, transition	Audio, record, playback, microphone, speaker, headphones, input, output, start, pause, stop, podcast, save, file, edit, selection, open, mixing, time shift, Export, MP3, audio, editing, evaluate, feedback	Vector, drawing tools, shapes, object, icons, toolbar, move, resize, colour, rotate, duplicate/copy, Organise, zoom, select, alignment grid, resize, handles, consistency, modify, Layers, front, back, order, Copy, paste, group, ungroup, duplicate, vector drawing, reuse, Improvement, evaluate, alternatives,	2D, 3D, 3D object, 3D space, view, resize, colour, lift, Rotate, position, select, duplicate, Dimensions, placeholder, hole, group, ungroup, design, Modify, evaluate, improve
National Curriculum Links	Exploring and using media and materials. They safely use and	Use technology purposefully to create, organise, store, manipulate, and	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a	Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a	Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a	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

<p>explore a variety of materials, tools and techniques.</p> <p>Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes.</p> <p>They represent their own ideas, thoughts and feelings through design and technology.</p>	<p>retrieve digital content</p> <p>KS1 Art and Design Pupils should be taught:</p> <ul style="list-style-type: none"> To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space Learn about the work of a range of artists, craft makers, and designers, describing the differences and similarities between different practices and disciplines and making links to their own work 	<p>Music Play tuned and untuned instruments musically</p> <p>Listen with concentration and understanding to a range of high-quality live and recorded music</p> <p>Experiment with, create, select, and combine sounds using the inter-related dimensions of music</p> <p>Education for a Connected World links Copyright and ownership I know that work I create belongs to me.</p>	<p>range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p>Literacy Pupils should be taught to draft and write in narratives, creating settings, characters, and plot</p> <p>Pupils should be taught to proof-read for spelling and punctuation errors</p> <p>Copyright and ownership I can explain why copying someone else's work from the internet without permission can cause problems. I can give examples of what those problems might be.</p> <p>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. I can give some simple examples. I can give examples of content that is permitted to be reused.</p> <p>I can demonstrate the use of search tools to find and access online content which can be reused by others.</p>	<p>range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information</p> <p>Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Science – Year 4 (Lesson 2) Sound: Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases</p> <p>English – Years 3 and 4 (Lesson 3) Writing – composition: Plan their writing by discussing and recording ideas. Draft and write by: In non-narrative material, using simple organisational devices [for example, headings and subheadings] Writing: Read aloud their own writing, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear</p> <p>Music – KS2 (Lesson 5) Improvise and compose music for a range of purposes using the interrelated dimensions of music</p> <p>Education for a Connected World links Copyright and ownership I can explain why copying someone else's work from the internet without permission can cause problems (Y3) I can give examples of what those problems might be (Y3)</p> <p>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it (Y4) I can give some simple examples (Y4)</p>	<p>range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information</p> <p>Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Education for a Connected World links Copyright and ownership I can explain why copying someone else's work from the internet without permission can cause problems</p>	<p>content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p>Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p> <p>Art and design – KS2 To improve their mastery of art and design techniques, including drawing, painting, and sculpture with a range of materials</p> <p>Design and technology – KS2 Generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Mathematics – KS2 (Y6) Recognise, describe, and build simple 3D shapes, including making nets</p> <p>Education for a Connected World links Lesson 1 and Lesson 3 – Privacy and Security (Y4) – I can describe strategies for keeping my personal information private, depending on context</p>

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