

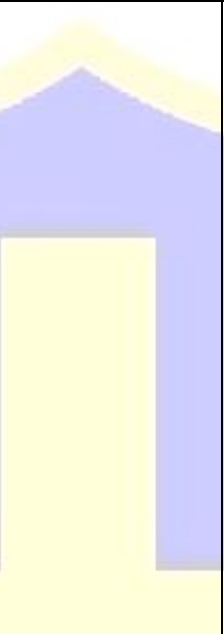

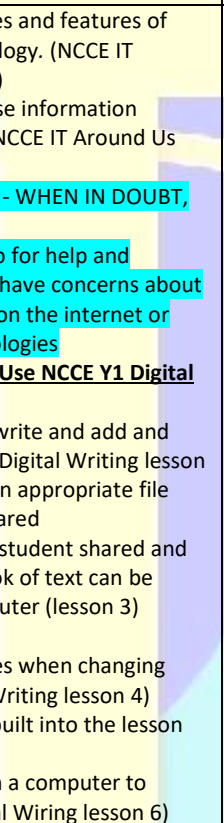





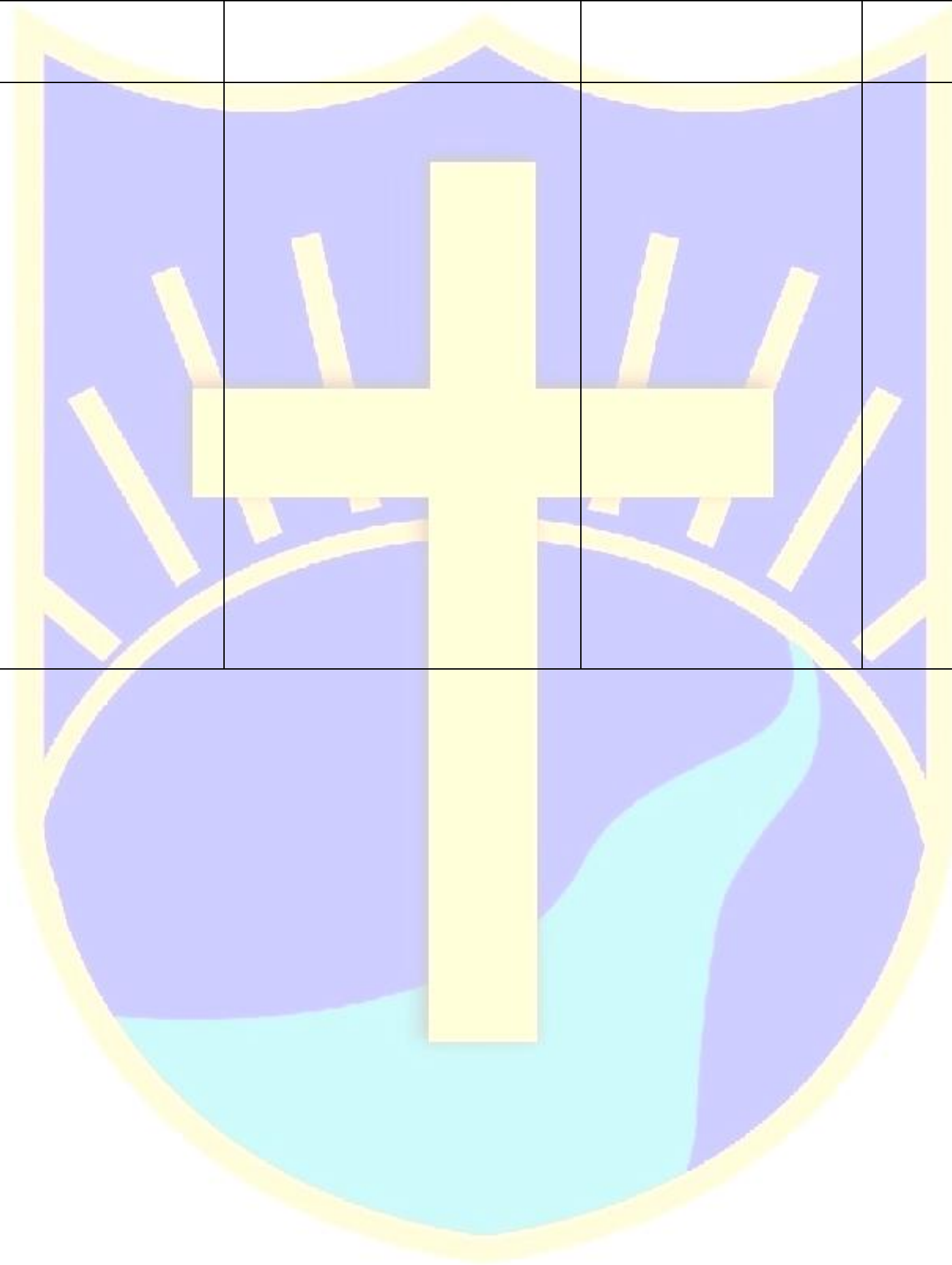


Concepts and Content Organiser- Computing
 (Year Even 2022-2023, 2024-2025 / Year Odd 2021-2022, 2023-2024)

KS1	Outline	Basic Skills	<u>Digital Literacy</u> Systems, Networks and Communication	<u>Information Technology</u> Multimedia	<u>Information Technology</u> Data Handling	<u>Computer Science</u>
Y1/2	<p>YEAR ODD: NCCE Y1 – Technology Around Us (DL)</p> <p>Key Skills: Online safety Typing Skills Identifying technology around us</p> <p>Key vocab: Log on/off Icon Desktop Double click Technology</p> <p>RESOURCES: NCCE Y1 – Technology around us NCCE Y1 Digital Writing Be Internet Legends</p>	<p>Basic Skills</p> <p>1. How to log on/off, mouse control and keyboard boards refreshers. Teach Icon, Desktop and Double Click. How to find and open a program and close it down.</p> <p>Y1 Basic Skills (use NCCE Y1 Technology Around Us)</p> <p>5. identify a computer and its main parts (NCCE lesson 2) 6. use a keyboard to type on a computer (NCCE lesson 4) including to log in (this may take two lessons) 7. use the keyboard to edit text (NCCE lesson 5)</p>	<p>2. identify technology in the classroom and say how it helps us (NCCE Y1 Technology Around Us lesson1) Y2 -as above plus technology beyond school.</p> <p>3. use technology safely and respectfully, keeping personal information private;</p> <p>4. Internet Legends - WHEN IN DOUBT, DISCUSS: 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>Y2 log on PC independently (Use NCCE Y1 Digital Writing)</p> <p>5. use a computer to write and add and remove text (NCCE lesson 1&2) 6. identify that the look of text can be changed on a computer (lesson 3) 7. make careful choices when changing text (NCCE lesson 4)</p> <p>Extension: compare typing on a computer to writing on paper (NCCE lesson 6)</p>			
	<p>YEAR EVEN: NCCE Y1 Creating Media -Digital Painting (IT)</p> <p>Key skills: Children will explore how computers can be used to simulate traditional forms of art. Use 'Paint'. Mouse skills will be developed.</p> <p>Key vocab: Paint software Shape tool Line tool Fill tool</p> <p>RESOURCES: NCCE Y1 – Creating Media - Digital Painting</p>			<p>1. describe what different freehand tools do 2. use the shape tool and the line tools 3. make careful choices when painting a digital picture 4. explain why I chose the tools I used 5. use a computer on my own to paint a picture 6. compare painting a picture on a computer and on paper</p>		

<p>Year Even: Computer Science: Programming Animations</p>	<p>YEAR EVEN: NCCE Y1 -Programming Animations (CS)</p> <p><u>Key skills:</u> Algorithms and Sequence in Scratch</p> <p><u>Key vocab:</u> Scratch Jr Sprite Block Sequence Command Program Algorithm Value</p> <p>RESOURCES: NCCE Y1 – Programming Animations</p>					<ol style="list-style-type: none"> 1. choose a command for a given purpose 2. show that a series of commands can be joined together 3. identify the effect of changing a value 4. explain that each sprite has its own instructions 5. design the parts of a project including creating algorithms for sprites 6. use algorithms to create programs
<p>Year Odd: Systems, Networks and Communication: IT Around Us</p>	<p>YEAR ODD: NCCE Y1 – IT Around Us (DL)</p> <p><u>Key Skills:</u> Online safety Typing Skills Identifying technology around us</p> <p><u>Key vocab:</u> Log on/off Icon Desktop Double click Technology</p> <p>RESOURCES: NCCE Y2 – IT around us NCCE Y1 – Technology around us NCCE Y1 Digital Writing Be Internet Legends</p>	<p>Basic Skills</p> <p>1.How to log on/off, mouse control and keyboard boards refreshers. Teach Icon, Desktop and Double Click. How to find and open a program and close it down.</p> <p>Y1 Basic Skills (use NCCE Y1 Technology Around US)</p> <p>5. identify a computer and its main parts (NCCE Tech Around Us lesson 2) 6. use a keyboard to type on a computer (NCCE Tech Around Us lesson 4) including to log in (this may take two lessons) 7. use the keyboard to edit text (NCCE Tech Around Us lesson 5)</p>	<p>2. recognise the uses and features of information technology. (NCCE IT Around Us lesson 1) 3. explain how to use information technology safely (NCCE IT Around Us lesson 5) 4. Internet Legends - WHEN IN DOUBT, DISCUSS: 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>Y2 log on PC independently (Use NCCE Y1 Digital Writing)</p> <p>5. use a computer to write and add and remove text (NCCE Digital Writing lesson 1&2) then save as an appropriate file name in student shared 6. retrieve work from student shared and identify that the look of text can be changed on a computer (lesson 3) -save work 7. make careful choices when changing text (NCCE Digital Writing lesson 4) -retrieve and save built into the lesson</p> <p>Extension: compare typing on a computer to writing on paper (NCCE Digital Wiring lesson 6)</p>			
<p>Year Odd: Data and Information - Pictograms</p>	<p>YEAR ODD NCCE Y2 Data and Information - Pictograms (IT – Data Handling)</p> <p><u>Key Skills:</u> Pictograms and charts Simple data handling</p> <p><u>Key vocab:</u> Pictogram Data Object Attribute</p>					<ol style="list-style-type: none"> 1. recognise that we can count and compare objects using tally charts 2. recognise that objects can be represented as pictures 3. create a pictogram 4. select objects by attribute and make comparisons 5. recognise that people can be described by attributes 6. explain that we can present information using a computer

		RESOURCES: NCCE Y2 Data and Information – Pictograms					
	<p>Year Odd: Computer Science: Programming - Robot Algorithms</p>	<p>YEAR ODD NCCE Y2 Programming A -Robot algorithms (CS)</p> <p>Key Skills: Algorithms Sequence & programming</p> <p>Key vocab: Program Beebot Sequence Algorithm Debug</p> <p><i>Children will learn how machines can be 'programmed'. Beebots progression from FS – use pause and use unplugged activities to aid teaching.</i></p> <p>Unplugged – Barefoot Computing KS1 decomposition lesson</p> <p>RESOURCES: NCCE Y2 Programming A -Robot algorithms</p>					<ol style="list-style-type: none"> 1. Unplugged: describe a series of instructions as a sequence 2. Unplugged: To explain what happens when we change the order of instructions 3. use logical reasoning to predict the behaviour of simple programs 4. To explain that programming projects can have code and artwork 5. Create simple programs, by designing an algorithm to meet a goal 6. create and debug a program that I have written)

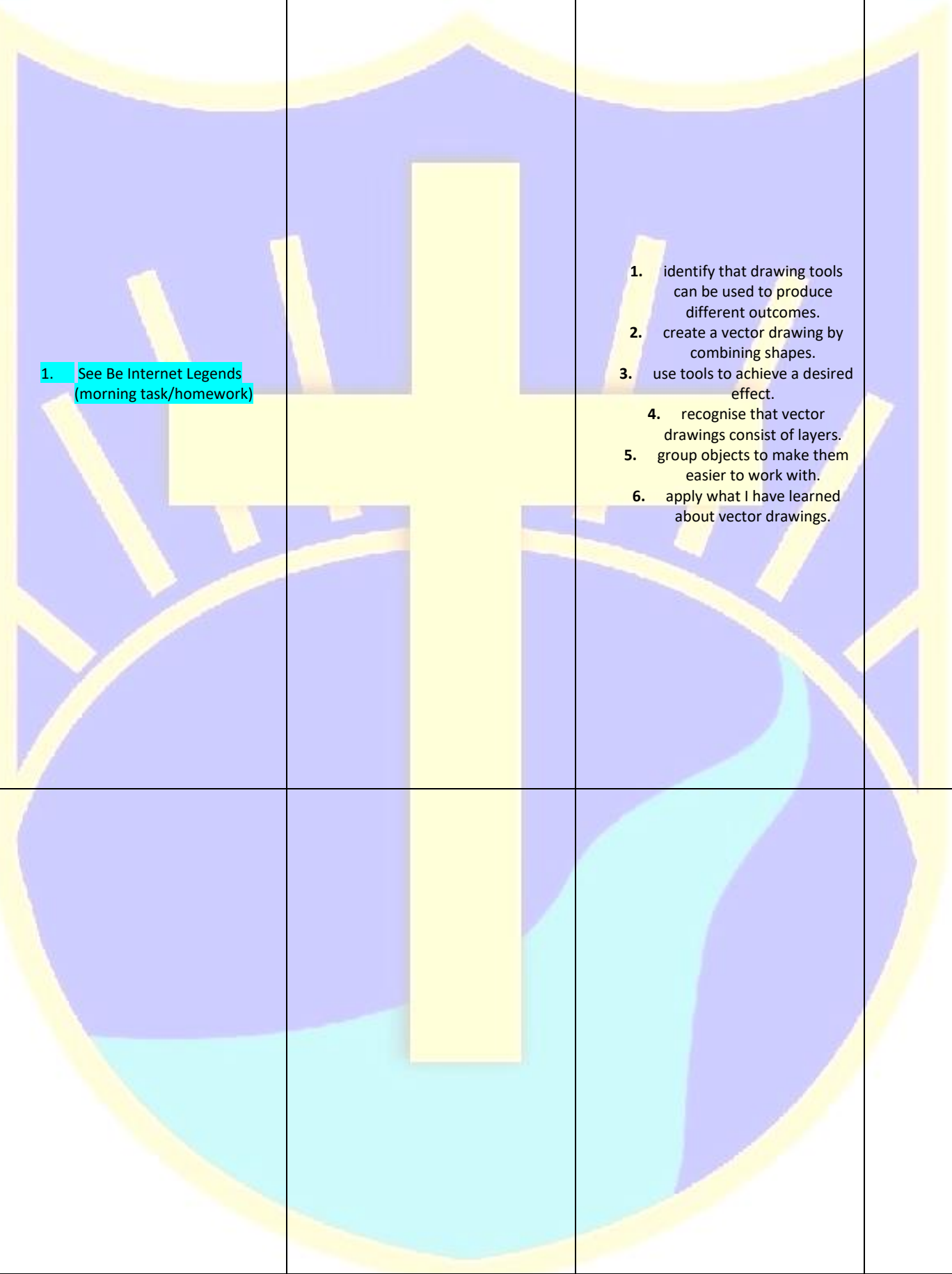


LKS2	Outline	Basic Skills	<u>Digital Literacy Systems, Networks and Communication</u>	<u>Information Technology Multimedia</u>	<u>Information Technology Data Handling</u>	<u>Computer Science</u>
<p style="text-align: center;">Year Even: Systems, Networks and Communication: Connecting Computers</p>	<p style="text-align: center;">YEAR Even: NCE Y3 -Connecting Computers (DL)</p> <p>Key Skills: Basic Skills – saving work Input / output What is a network? Phishing</p> <p>Key Vocab: Input Output Network Phishing</p> <p>RESOURCES: NCE Y3 – Connecting Computers Be Internet Legends (see below)</p> <p style="text-align: center;">Be Internet legends: Check if it's for Real Unit How to be a critical consumer while online. About different online scams, including what 'phishing' means. Include 'You've won a prize' – what to do if this pops up.</p>	<p style="text-align: center;">Where did my work go? Teach how to save work files with appropriate names and file locations and how to find and re-open the file.</p> <ol style="list-style-type: none"> Write a simple sentence in Word then save work in a certain file location with an appropriate name. 	<ol style="list-style-type: none"> explain how digital devices function identify input and output devices recognise how digital devices can change the way that we work explain how a computer network can be used to share information explore how digital devices can be connected understand what 'phishing' is and know about online scams and how to deal with them (oral discussion) 			
	<p style="text-align: center;">Year Even: Multimedia: Photo Editing</p>	<p style="text-align: center;">YEAR Even: Photo Editing (IT) (DL)</p> <p>Content, Contact, Conduct Content– being exposed to illegal, inappropriate or harmful material Contact – being subjected to harmful online interaction with other users Conduct – online behaviour that increases the likelihood of, or causes, harm.</p> <p>Copyright – a law that gives the owner of any work the right to decide what other people can do with it.</p> <p>Key Skills: Online safety Photo editing Digital Literacy</p> <p>Key vocab: Content, Contact, Conduct Edit Crop Digital image Cloning Copyright</p>			<ol style="list-style-type: none"> Learn what is meant by content, contact and conduct and the effect they have on lives. Use a widget to match key word and definition and use Padlet or Google Jam Board (Google Classroom) to record answers. Understand where photo editing is appropriate and acceptable P4C SORTING ACTIVITY discuss the pros and cons of photo editing and why it exists in the real world (eg fashion magazines) understand about Creative Commons images and (NCE lesson 1) explain that the composition of digital images can be changed (NCE lesson 2) explain that colours can be changed in digital images 	

		<p>RESOURCES: NCCE Y4 – Photo Editing</p>			<p>5. (NCCE lesson 3) explain how cloning can be used in photo editing 6. (NCCE lesson 4 and 5) combine images for a purpose.</p>		
	<p>Year Even: Computer Science: Drawing Shapes</p>	<p>YEAR Even: NCCE Y4: Repetition in Shapes(CS)</p> <p>Key Skills: Repetition Decomposition</p> <p>Key vocab: Logo Algorithm Code Repetition Loop Decomposition</p> <p>RESOURCES: NCCE Y4 – Programming A: Repetition in Shapes</p>					<ol style="list-style-type: none"> 1. identify that accuracy in programming is important 2. create a program in a text-based language 3. explain what 'repeat' means 4. modify a count-controlled loop to produce a given outcome 5. decompose a task into small steps 6. create a program that uses count-controlled loops to produce a given outcome
	<p>Year Odd: Systems, Networks and Communication: The Internet</p>	<p>YEAR Odd: NCCE Y4 – The Internet (DL)</p> <p>Key Skills: Basic Skills – saving work Internet Networks World Wide Web (WWW) Digital footprint</p> <p>Key Vocab: Network Internet World Wide Web (WWW) Digital footprint</p> <p>RESOURCES: NCCE Y4 – The Internet Be Internet Legends (see below)</p> <p>Be Internet legends: Think before you Share Unit What having a positive digital footprint means. Ways in which they can start to build a positive digital footprint.</p>	<p>Where did my work go? Teach how to save work files with appropriate names and file locations and how to find and re-open the file.</p> <ol style="list-style-type: none"> 1. save work in a certain file location with an appropriate name and retrieve the work from a certain location. 	<ol style="list-style-type: none"> 2. describe how networks physically connect to other networks 3. recognise how networked devices make up the internet 4. outline how websites can be shared via the World Wide Web (WWW) 5. describe how content can be added and accessed on the World Wide Web (WWW) 6. evaluate the consequences of unreliable content 7. understand what digital footprint means and the effect on your reputation eg employer searches when looking for jobs 			

	<p>Year Odd: Data Handling: Branching Databases</p>	<p>YEAR Odd: NCCE Y3- Branching Databases (IT)</p> <p>Key Skills: Classifying information Organising data based on attributes</p> <p>Key Vocab: Attribute Data Branching database</p> <p>RESOURCES: NCCE Y3 Branching Databases Purple Mash (unit 3.6 Branching Databases)</p>				<ol style="list-style-type: none"> 1. create questions with yes/no answers 2. identify the attributes needed to collect data about an object 3. create a branching database 4. explain why it is helpful for a database to be well structured 5. plan the structure of a branching database 6. independently create an identification tool 	
	<p>Year Odd: Computer Science: Events and Actions in Programs</p>	<p>YEAR Odd: NCCE Y3 – Events and Actions in Programs (CS)</p> <p>Key Skills: Repetition Selection Decomposition</p> <p>Key Vocab: Program Code Pen block Debug Repetition</p> <p>RESOURCES: NCCE Y3 – Events and Actions in Programs</p> <p>Computational thinking is about looking at a problem in a way that a computer can help to solve it. ... For example, if you're going to make an animation, you need to start by planning the story and how you'll shoot it before you can use computer hardware and software, such as Scratch, to create it</p>					<ol style="list-style-type: none"> 1. explain how a sprite moves in an existing project 2. create a program to move a sprite in four directions 3. adapt a program to a new context 4. develop my program by adding features 5. identify and fix bugs in a program (debug) 6. design and create a maze-based challenge

UKS2	Outline	Basic Skills	<u>Digital Literacy</u> Systems, Networks and Communication	<u>Information</u> <u>Technology</u> Multimedia (& Graphic Design)	<u>Information</u> <u>Technology</u> Data Handling	<u>Computer Science</u>	
Y5/6	<p>Year Even: Computer Science: Variables in Games</p>	<p>YEAR EVEN: NCE Programming A Variables in Games (CS)</p> <p><u>Key Skills:</u> Sequence Repetition Selection Variables</p> <p><u>Key Vocab:</u> Variable Sequence Repetition Selection</p> <p>RESOURCES: NCE Y6 – Programming A – Variables in Games</p>					<ol style="list-style-type: none"> 1. define a 'variable' as something that is changeable. 2. explain why a variable is used in a program. 3. choose how to improve a game by using variables. 4. design a project that builds on a given example. 5. use my design to create a project. 6. evaluate my project.
	<p>Year Even: Systems, Networks and Communication: Systems and Searching</p>	<p>YEAR EVEN: NCE Y5 Systems and Searching (DL)</p> <p><u>Key Skills:</u> Physical and electronic connections. Computer systems and how they work</p> <p><u>Key Vocab:</u> Input / output Process System Search Engine Ranking Index</p> <p>RESOURCES: NCE Y5 Systems and Searching</p>	<p>Technology Through the Ages (Morning Task / Homework)</p> <p>1. Explain the development of technology throughout history.</p> <p>Know the impact technology has on everyday lives compared to the past (10 years ago / 50 years ago etc)</p>	<ol style="list-style-type: none"> 1. explain that computers can be connected together to form systems. 2. recognise the role of computer systems in our lives. 3. identify how to use a search engine. 4. describe how search engines select results. 5. explain how search results are ranked. 6. recognise why the order of results is important, and to whom. 			

Y5/6	Year Even: IT Graphic Design: Vector Drawing	<p>YEAR EVEN: NCCE Y5 –Vector Drawing (IT Graphic Design)</p> <p>Key Skills: Know what a vector drawing is and why we use them. Understand how to copy, paste and group objects and why these are useful skills. Understand about layers in vector drawings.</p> <p>Key Vocab: Copy Paste Select Zoom Layering Grouping objects</p> <p>RESOURCES: NCCE Y5 – Vector Drawings</p> <p>Morning Work/Homework: Be Internet Legends: Protect your Stuff Unit Ways to develop safe habits online, including the importance of protecting personal information. How to respect online privacy boundaries for themselves and others. Ways to seek or ask for help if they or others feel unsafe online</p>		<ol style="list-style-type: none"> 1. See Be Internet Legends (morning task/homework) 	<ol style="list-style-type: none"> 1. identify that drawing tools can be used to produce different outcomes. 2. create a vector drawing by combining shapes. 3. use tools to achieve a desired effect. 4. recognise that vector drawings consist of layers. 5. group objects to make them easier to work with. 6. apply what I have learned about vector drawings. 	
	Year Odd: Computer Science: Crumble Controllers	<p>YEAR ODD: NCCE Y5 – Programming A Selection in Physical Computing (CS) DT LINK – Electronic Systems (Crumble Controller)</p> <p>Key Skills: Input and Output Devices Repetition Selection Decomposition Variables Physical Systems</p> <p>Key Vocab: Input/Output Algorithm Loops Selection Test Debug</p>				<ol style="list-style-type: none"> 1. control a simple circuit connected to a computer. 2. write a program that includes count-controlled loops. 3. explain that a loop can stop when a condition is met. 4. explain that a loop can be used to repeatedly check whether a condition has been met. 5. design a physical project that includes selection. 6. create a program that controls a physical computing project.

		<p>Evaluate</p> <p>RESOURCES: NCEE Y5 – Programming A – Selection in Physical Computing</p>					
	<p>Year Odd: Data Handling: Spreadsheets</p>	<p>YEAR Odd: NCEE Y6- Introduction to Spreadsheets (IT – Data Handling)</p> <p>Key Skills: Introduction to Excel (or 2Calculate Purple Mash). Cells, rows and columns. Introduction to formulas.</p> <p>Key Vocab: Spreadsheet Data Cell Column Row Formula</p> <p>RESOURCES: NCEE Y6 Spreadsheets</p>				<ol style="list-style-type: none"> 1. create a data set in a spreadsheet. 2. build a data set in a spreadsheet. 3. explain that formulas can be used to produce calculated data. 4. apply formulas to data. 5. create a spreadsheet to plan an event. 6. choose suitable ways to present data. 	
	<p>Year Odd: Multimedia: Web Design</p>	<p>YEAR ODD: NCEE Y6 Web Page Creation (IT-multimedia)</p> <p>Key Skills: Know that websites are written in HTML coding language Understand copyright Evaluate and compare sites Know the implications of linking to content owned by other people</p> <p>Key Vocab: Website HTML Edit Copyright Navigation path Hyperlink</p> <p>RESOURCES: NCEE Y6 – Web Page Creation</p> <p>Morning Work/Homework: Be Internet Legends: Respect Each Other Unit How to develop respectful, empathetic and healthy online relationships. Ways to manage and respond in a healthy and safe way to hurtful online behaviour.</p>	<p>2. See Be Internet Legends (morning task/homework)</p>		<ol style="list-style-type: none"> 3. review an existing website and consider its structure. 4. plan the features of a web page. 5. consider the ownership and use of images (copyright). 6. recognise the need to preview pages. 7. outline the need for a navigation path. 8. recognise the implications of linking to content owned by other people. 		

Assessment framework - Assessment criteria based on statements from Sheffield ILS Learning Service	Acquire	Apply
	<ul style="list-style-type: none"> - Basic Skills - know what log on and off means and how to do it with support. - name a range of digital devices eg laptop, phone, games console. - understand click and double click - navigate to an icon and access a program - use and understand computer related terminology such as monitor, keyboard, mouse, desktop and icon - begin to save the work in a specified file location with an appropriate name <ul style="list-style-type: none"> - Digital Literacy (Systems, Networks and Communication) - use a simple password when logging on - recognise examples of personal information eg name, address, age and the need to keep it private - know who to tell about content or contact online. - talk about the use of technology at home. - recognise that some information found online may not be true. <ul style="list-style-type: none"> - Information Technology (Multimedia and Graphic Design) - recognise that you can edit digital content - create simple digital content for a purpose - digital art - know how to adjust the line size - use the 'fill' tool to colour the background - select basic tools/ options to change the appearance of digital content eg filter on an image / font / size of paintbrush <ul style="list-style-type: none"> - Information Technology (Data Handling) - understand what data is and recognise different forms of digital content such as text, image, video - collect simple data - recognise charts and pictograms and why we use them - present simple data using images - explain information shown in a pictogram or simple chart - modify pictograms eg add a title, item or labels - identify the key features of a pictogram - use pictograms to answer simple questions about objects <ul style="list-style-type: none"> - Computer Science - recognise that computers don't have a brain - recognise that we control computers by giving them a precise set of instructions - explain that an algorithm is a precise sequence of instructions to complete a task - know that we can use algorithms to plan out our programs - create a simple program to control a Beebot - write programs to control objects including Sprites - use logical reasoning to predict the outcome of a simple algorithm or program - know that the order of the instructions in the algorithm is important - debug an error in a simple algorithm or program - that programs execute by following precise and unambiguous instructions 	<ul style="list-style-type: none"> - Basic Skills - type username and password independently - know how to save work (on student shared drive) - know how to retrieve work (from student shared) - explain the need for an appropriate file name <ul style="list-style-type: none"> - Digital Literacy (Systems, Networks and Communication) - recognise that digital content belongs to the person who created it. <ul style="list-style-type: none"> - Information Technology (Multimedia and Graphic Design) - plan out digital content eg simple sketch. <ul style="list-style-type: none"> - Information Technology (Data Handling) - collect data and present in a pictogram <ul style="list-style-type: none"> - Computer Science - explain how a program has been debugged and why this was necessary. - evaluate work and make adaptations where necessary.
By the end of Y4, children can:	<ul style="list-style-type: none"> - Basic Skills - independently save a file in a specific location and with an appropriate file name - confidently use a keyboard to type text <ul style="list-style-type: none"> - Digital literacy - understand that school computers are connected (networks) - explain the difference between input and output devices on a computer - understand what digital footprint means - understand what 'phishing' is and know about online scams and how to deal with them - explain how a web search works - use a search engine to find simple information - know that games have age ratings - recognise that some people lie about who they are and how that relates to editing content online - recognise that digital content belongs to the person who first created it, but we can get permission for others to use it. <ul style="list-style-type: none"> - Information Technology – (Multimedia) - explain what is meant by content, contact and conduct and the effect they have on lives - know that digital content can be edited and altered including photographs - understand when photo editing is appropriate and acceptable 	<ul style="list-style-type: none"> - Basic Skills - explain why we shouldn't name files with people's real names such as 'Billy Sharp's Excel Work' <ul style="list-style-type: none"> - Digital Literacy (Systems, Networks and Communication) - choose web search terms with precision to find what is needed - start to evaluate the reliability of the information I find on the Internet - explain what copyright is <ul style="list-style-type: none"> - Information Technology (Multimedia and Graphic Design) - explain why we use technology to create digital content - identify positive and negative reasons for photo editing and why it exists in the real world (eg fashion magazines)

	<ul style="list-style-type: none"> - know how to manipulate and change the digital composition of digital content (editing) - explain how cloning can be used in photo editing 	<ul style="list-style-type: none"> - collaborate with peers using online tools (Padlet/Google Jam Board)
	<p>Information Technology – (Data Handling)</p> <ul style="list-style-type: none"> - sort objects using yes and no questions - choose and present information in a suitable way - answer questions about information in a database - use filters in a database to find out specific information - draw conclusions from information stored in a database, chart or table. 	<p>Information Technology (Data Handling)</p> <ul style="list-style-type: none"> -name some benefits of using a computer to create charts and databases
	<p>Computer Science</p> <ul style="list-style-type: none"> - understand and use sequence in programs - recognise a forever loop and know that this is repetition in programs or algorithms - use a forever loop in a program or algorithm - understand and use simple selection in algorithms and programs to change what happens depending on if a condition is met eg <i>if...then...</i> and know that this is working with variables - use logical reasoning to explain how some simple algorithms work - detect and correct errors in algorithms and programs. (debugging) - write and debug a series of commands to create a game - design and test games 	<p>Computer Science</p> <ul style="list-style-type: none"> - debug a set of commands until the desired effect is achieved. - evaluate programs or algorithms after testing them
By the end of Y6, children can:	<ul style="list-style-type: none"> - Basic skills - explain the development of technology throughout history. - organise files effectively using folders and file names - explain the basic function of an operating system - recognise that there is more than one search engine and they may produce different results. 	<ul style="list-style-type: none"> - Basic skills - know the impact technology has on everyday lives compared to the past (10 years ago / 50 years ago etc) - Consider the positive and negative impacts of technology on everyday life.
	<ul style="list-style-type: none"> - Digital Literacy - know where to find copyright free images and why this is important. - critically evaluate websites for reliability of information including fake news. - demonstrate a responsible use of online services and know a range of ways to report concerns. - explain how algorithms are used to track online activities with a view to targeting advertising and information / how pages are ranked. - know about the URL and looking out for lock symbols to mean 'secure'. - know that websites are written in HTML code and identify what makes a good website. - Explain the difference between the internet and the world wide web. - Explain the difference between physical, mobile and wireless networks. 	<ul style="list-style-type: none"> - Digital Literacy - Use more advanced searching techniques (e.g. Boolean and relational operators)
	<ul style="list-style-type: none"> - Information Technology (Multimedia and Graphic Design) - select, combine and remix a range of media to create original content. - consider all steps of the design process when creating content eg identify problem, plan, create, evaluate, share) and identify success criteria for a given purpose and audience. - consider the audience when designing and creating digital content. - identify the most appropriate tools to present information for a specific purpose including drawings. - evaluate existing digital content in terms of effectiveness and design. - explain the benefits of using technology to collaborate with others. - know how to create a vector drawing by combining shapes. 	<ul style="list-style-type: none"> - Information Technology (Multimedia and Graphic Design) - Evaluate own content against success criteria and make improvements accordingly.
	<ul style="list-style-type: none"> - Information Technology (Data Handling) - explain the difference between data and information - recognise the benefits and risk of sharing data online. - recognise what a spreadsheet is and what it is used for. - use simple formulae in a spreadsheet to find out information from a set of data. - collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. - analyse and evaluate data and information in a spreadsheet, chart or database. 	<ul style="list-style-type: none"> - Information Technology (Data Handling) - Produce graphs from data in a spreadsheet to answer a question. - Recognise that poor quality data leads to unreliable results.
	<ul style="list-style-type: none"> - Computer Science - understand what physical systems are - explain common errors in programs and how to fix them. - recognise key concepts (sequence, selection, repetition and variables) in various languages and contexts and how these influence the flow of a program. - design a program for a purpose, decompose into parts and create an algorithm for each part. - create programs including repeat until loops. - Recognise variables and what they do. - name a range of sensors and output devices including LEDs in physical systems - predict what will happen in a program or algorithm when the input changes eg sensor, data or event - create an algorithm for a physical system and implement it as a program. - Evaluate a program and make improvements accordingly by debugging it. 	<ul style="list-style-type: none"> - Computer Science - Explain why we use variables in programs. - Explain why we use selection and use two-way selection in programs and algorithms i.e <i>if...then...else</i>