Computing Curriculum Overview

The new Computing curriculum is divided into 3 areas; Computer Science, Information Technology and Digital Literacy,

**Computer Science:** The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming

**Information Technology:** Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. The following areas are covered:

General skills: Using a laptop, keyboard skills

Finding Things Out: Digital Research

Finding Things Out: Data Handling 📹

Developing Ideas and Making Things Happen: Modelling

Developing Ideas and Making Things Happen: Data Logging

Exchanging and sharing information: Text and graphics

Exchanging and sharing information: school360

Exchanging and sharing information: Multimedia / digital imaging

**Digital Literacy:** Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology: Internet Safety will be taught throughout the year. We will also use special events such as Internet Safety Day to promote e-safety with pupils and parents.

Computing at Beaufront is taught discretely as well as embedded with the wider curriculum. Where possible it is linked with the current topic focus within each class.

Year	Digital literacy Internet Safety day - whole school - February				
	Digiduck (EYFS) https://www.childnet.com/resources/digiduck-stories				
	Education for a Connected World https://www.gov.uk/government/publications/education-for-a-connected-world				
	The Project Evolve resources link directly to each strand: https://project	ectevolve.co.uk/toolkit/rese	ources/		
	There are 8 strands - Self image and identity, Online relationships. Or Health, well-being and lifestyle, Privacy and security, Copyright and or	•	llying, managing online	information,	
		Term 1	Term 2	Term 3	
R	EYFS	Digiduck:	Digiduck:	Digiduck	
	Are aware that some online content is inappropriate.	https://www.childnet.c	https://www.childnet.	https://www.child	
	Are aware that information can be public or private.	om/resources/digiduck -stories	<u>com/resources/digid</u> <u>uck-stories</u>	net.com/resource s/digiduck-stories	
	Know to tell an appropriate adult if they see something on the computer that upsets them.	Story 1	Story 2	Story 3	
		Digiduck's Big decision	Digiduck's Famous Friend	Detective Digiduck	
	I can ask an adult when I want to use the internet.			2 igidaon	
	I can tell an adult when something worrying or unexpected happens while I am using the internet.	Keeping my password for school360 private			
	I can be kind to my friends.				
	I can talk about the amount of time I spend using a computer/tablet/ game device.				
	I am careful with technology devices.				
	I can be kind to my friends. I can talk about the amount of time I spend using a computer/tablet/ game device.				

KS1		Term 1	Term 2	Term 3
KS1	Use technology safely	Cycle A	Cycle A	Cycle A
Yr 1	Use technology respectfully	Project Evolve:	Project Evolve:	Project Evolve:
and 2	<ul> <li>Keep personal information private</li> <li>Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies</li> <li>Recognise common uses of information technology beyond school</li> <li>Year 1</li> <li>Use a simple password when logging on, where relevant.</li> <li>Explain why we use passwords.</li> <li>Recognise examples of personal information e.g. name, image.</li> </ul>	Privacy and Security <u>https://projectevolve.c</u> <u>o.uk/toolkit/resources/</u> <u>strand/privacy-and-se</u> <u>curity/early-years-7/</u> Beaufront Acceptable Use Policy Passwords	Online Reputation <u>https://projectevolve.</u> <u>co.uk/toolkit/resourc</u> <u>es/strand/online-rep</u> <u>utation/early-years-7</u> <u>/</u>	Copyright and ownership <u>https://projectevo</u> <u>lve.co.uk/toolkit/r</u> <u>esources/strand/</u> <u>copyright-and-ow</u> <u>nership/early-yea</u> <u>rs-7/</u>
	<ul> <li>Know who to tell if concerned about content or contact online.</li> <li>Recognise that digital content belongs to the person who created it.</li> <li>Talk about their use of technology at home.</li> <li>Year 2</li> <li>Remember a simple password to log onto the computer or a website.</li> <li>Identify rules for acceptable use of technology in school.</li> <li>Recognise what personal information is and the need to keep it private.</li> <li>Recognise that spending a lot of time in front of a screen can be unhealthy.</li> <li>Recognise that some information found online may not be true.</li> </ul>	Cycle B Project Evolve: Health, well-being and lifestyle <u>https://projectevolve.c</u> <u>o.uk/toolkit/resources/</u> <u>strand/health-well-bein</u> <u>g-and-lifestyle/early-ye</u> <u>ars-7/</u> Beaufront Acceptable Use Policy Passwords	Cycle B Project Evolve: Self Image and identity https://projectevolve. co.uk/toolkit/resourc es/strand/self-image -and-identity/early-y ears-7/	Cycle B Online Relationships https://projectevo lve.co.uk/toolkit/r esources/strand/ online-relationshi ps/early-years-7/

Year	Digital literacy	Term 1	Term 2	Term 3
group				
KS 2	Use technology responsibly	Cycle A	Cycle A	Cycle A
Yr 3	Identify a range of ways to report concerns about contact	Project Evolve:	Project Evolve:	Project Evolve:
and Yr 4	Understand the opportunities computer networks offer for	Privacy and security	Managing online	Copyright and
	communication	https://projectevolve.co.	information	ownership
	Identify a range of ways to report concerns about content	uk/toolkit/resources/stra	https://projectevolve	https://projectevo
	Recognise acceptable/unacceptable behaviour	nd/privacy-and-security/	.co.uk/toolkit/resour	lve.co.uk/toolkit/r
	•	<u>7-11/</u>	ces/strand/managin	esources/strand/
	Year 3	Beaufront Acceptable	g-online-information /7-11/	copyright-and-ow nership/7-11/
	Explain why we need to keep our password safe.	Use Policy	<u>//-///</u>	
	Recognise that digital content belongs to the person who first created it, but we can give permission for others to use it.	Passwords		
	Recognise when to share personal information and when not to.			
	Recognise that some people lie about who they are online.	<b>Cycle B</b> Project Evolve: Health, well-being and		
	Recognise that some people lie about who they are online.		Cycle B	Cycle B
	Are aware that games and films have age ratings.		Project Evolve:	Project Evolve:
			Self Image and	Online
	Year 4	lifestyle	identity	Relationships
	Remember and use an individual password.	https://projectevolve.co.	-	
	Recognise what kinds of websites are trustworthy sources of information.	uk/toolkit/resources/stra nd/health-well-being-an	https://projectevolve .co.uk/toolkit/resour	https://projectevo lve.co.uk/toolkit/r
	Recognise the benefits and risks of different apps and websites.	d-lifestyle/7-11/	ces/strand/self-ima	esources/strand/
	Recognise that the media can portray groups of people differently.	Beaufront Acceptable	ge-and-identity/7-11	online-relationshi
		Use Policy	<u> </u>	<u>ps/7-11/</u>
	Can rate a game or film they have made and explain their rating.	Passwords		

		Term 1	Term 2	Term 3
٦	EYFS	Autumn 1	Spring 1	Summer 1
२	EYFS         Computer Science         Can name a variety of things that can be controlled.         Controls devices on and off screen themselves.         Can explore and begin to plan their actions.         Can predict outcomes for simple devices.         I can make a floor robot move         I can use simple software to make something happen.         I can make a floor robot move         I can use simple software to make something happen.         I can make choices about the buttons and icons I press, touch or click.         Technology in our lives:         I can tell you about technology that is used at home and in school.         I can use a safe part of the Internet to play and learn.         Multimedia:         I can move objects on a screen.       I         I can use technology to show my learning.	Autumn 1Mouse skills – school360EYFS resourcesTechnology around ushttps://www.ilearn2.co.uk/com puterdiscoveryfree.htmlhttp://www.crickweb.co.uk/Earl y-Years.htmlhttps://www.nurseryworld.co.u k/News/article/ict-in-role-play-c heck-it-outAutumn 2Computer ScienceBarefoot Computing -algorithms unplugged activities: Lego BuildingCrazy Characters	Spring 1 Arthttps://www.j2e.com/jit5Art and algorithmsArt and algorithmsUsing paint apps on ipadDoodle buddy?Use JIT (school360) to write and drawSpring 2Computer Science Toy items – remote control cats , BeebotsCodeapillar:https://www.somerset.org. uk/sites/edtech/Primary%2 OComputing/NWP%20free %20samples/Y1%20Progr	Summer 1 Music creation https://www.ilearn2.co.u k/freeyear1musiccreatio n.html/ https://springroll-tc.pbsk ds.org/music-maker/d0f 261dffc3c8f713fa5a22bl 99d7f9afd04cb56/releas e/index.html https://musiclab.chrome experiments.com/Voice- Spinner/ Summer 2 Computer Science Little Red Ship – sail to the lighthouse (school360)
		Head, Shoulder, Knees and Toes Boats Ahoy	amming%206%20Core%2 0Codapillar.pdf Beep Beep Busy bundle 1 App	

KS1	Computer Science (CS) and			
Year	Information Technology (IT)			
Yr 1	Computer Science - Understand what algorithms are Create simple programs	Autumn 1	Spring 1	Summer 1
	Create simple programsI can give instructions to my friend and follow their instructions to move around.I can describe what happens when I press buttons on a robot.I can press the buttons in the correct order to make my robot do what I want.I can describe what actions I will need to do to make 	Technology in our lives:NCCE Yr 1 planning: Technology around ushttps://teachcomputing.org/curric ulum/key-stage-1/computing-syst ems-and-networks-technology-ar ound-ushttps://www.abcya.com/games /find_the_techHello Ruby keyboard https://www.helloruby.com/play /12	Understanding Algorithms:BBC Bitesize – What is an algorithm Robot Crane activities BBC Bitesize – How do you program a robot? <b>Moving a robot (Y1)</b> Bluebots <u>https://teachcomputing.org/</u> <u>curriculum/key-stage-1/prog</u> <u>ramming-a-moving-a-robot</u>	Finding things out - Data Handling: Grouping data (Y1) (Cross curricular) https://teachcomputing.org/cu rriculum/key-stage-1/data-an d-information-grouping-data
	Use technology purposefully to create digital content - text, graphics, chart, sound and animation packages Use technology purposefully to store and retrieve digital	Autumn 2 <i>Text/ Graphics</i>	Plus Lesson 1, 2 and 3 https://teachcomputing.org/ curriculum/key-stage-1/prog ramming-a-robot-algorithms	https://teachcomputing.org /curriculum/key-stage-1/pro gramming-b-introduction-t
	<ul> <li>content - save and load work</li> <li>Technology in our lives:</li> <li>I can recognise the ways we use technology in our classroom.</li> <li>I can recognise ways that technology is used in my home and community.</li> <li>I can use links to websites to find information.</li> <li>I can begin to identify some of the benefits of using technology.</li> <li>Handling data:</li> <li>I can talk about the different ways in which information can be shown.</li> <li>I can use technology to collect information, including</li> </ul>	Digital writing (cross curricular) Creating Media - digital writing NCCE https://teachcomputing.org/curric ulum/key-stage-1/creating-media- digital-writing Exploring the keyboard, adding and removing text, exploring the toolbar, making	Apps A.L.E.X	o-animation Scratch Jr Barefoot Computing Scratch Jr https://www.barefootcomputin g.org/resources/scratchjr-tink ering-activity Scratch Jr Knock

	photos, videos and sound. I can sort different kinds of information and present it to others. I can add information to a pictograph and talk to you about what I have found out. Multimedia: I can be creative with different technology tools. I can use technology to create and present my ideas. I can use the keyboard or a word bank on my device to enter text. I can save information in a special place and retrieve it again.	changes to text, explaining my choices Web <u>-https://www.j2e.com/jit5</u> e.g JIT – J2 Write – lesson 1/ 2 All about me – use ipads – take photo and insert, add text and save work e.g Book Creator https://www.commonsense.org/ed ucation/lesson-plans/using-techn ology-to-enhance-an-all-about-m <u>e-book#1</u> https://www.commonsense.org/ed ucation/lesson-plans/creating-non fiction-books-about-animals-in-bo <u>ok-creator</u>	Spring 2 Digital Painting (Y1) NCCE planning:Creating media - digital painting (6 lessons) https://teachcomputing.org /curriculum/key-stage-1/cr eating-media-digital-painti ng https://www.j2e.com/jit5	
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1/04	Computer Science		0	0
KS1	Computer Science	Autumn 1	Spring 1	Summer 1
Yr 2	Understand that algorithms are implemented as programs on digital devices	Logging on	Understanding Algorithms: Create a crazy character	Finding things out -
	Understand that programs execute by following precise	To always to see in a see time as	(Barefoot resource)	Data Handling:
	and unambiguous instructions	Technology in our lives:	(Dareloot resource)	
	Debug simple programs	NCCE Yr 2 planning:	NCCE Programming A	Pictograms (Cross
	Use logical reasoning to predict the behaviour of simple		Robot Algorithms	Curricular)
	programs	Computing systems and		https://teachcomputing.org
	I can give instructions to my friend(using forward,	networks - IT around us:	https://teachcomputing.or	/curriculum/key-stage-1/da
	backward and turn) and physically follow their	https://teachcomputing.org/cur	g/curriculum/key-stage-1/	ta-and-information-pictogra
	instructions.	riculum/key-stage-1/computing	programming-a-robot-algo	ms
	I can tell you the order I need to do things to make	-systems-and-networks-it-arou	rithms	https://www.ileerre?.co.uk/fr
	something happen and talk about this as an algorithm.	nd-us		https://www.ilearn2.co.uk/fr eeyear-2-data-handling.h
	I can program a robot or software to do a particular task.			tml
	I can look at my friend's program and tell you what will	What is information		JIT – Chart to create
	happen.	technology? Where have we	Spring 2	block and bar graphs /
	I can use programming software to make objects move.	seen IT in the home? Where		DIOCK and bar graphs /
	I can watch a program execute and spot where it goes wrong so that I can debug it.	have we seen IT in the world?	Text/ Graphics	JIT Branch - using
	wong so that i can debug it.	How does IT improve our	Creating Media Digital	branching databases.
	Information Technology	world? Safe and responsible	Creating Media - Digital	Stationing databases.
	Use technology purposefully to create digital content -	use of technology	Photographs (Y2) (Cross	
	text, graphics, chart, sound and animation packages	use of technology	curricular)	
	text, graphies, chart, sound and animation packages	Autumn 2	https://teachcomputing.org/curri	
	Use technology purposefully to organise digital content		culum/key-stage-1/creating-me	Summer 2
	– use folders	Text/ Graphics	dia-digital-photography	
	Use technology purposefully to manipulate digital	Digital writing (cross		Sound - NCCE Year 2
	content - edit, refine and publish work	· ·	NCCE Yr 2 planning:	planning:
	Technology in our lives:	curricular)	Devices, Landscape or	
	I can tell you why I use technology in the classroom.	Creating Media - digital writing	portrait? What makes a	https://teachcomputing.o
	I can tell you why I use technology in my home and	NCCE (as year 1 - recap)	, good photograph? lighting	rg/curriculum/key-stage-
	community.		and focus, Effects, Is it	1/creating-media-makin
	I am starting to understand that other people have	https://teachcomputing.org/curric	real?	g-music
	created the information I use.	ulum/key-stage-1/creating-media-		9
	I can identify the benefits of using technology including	digital-writing		Creating media - Music:
	finding information, creating and communicating.	<u>algrar writing</u>		How music makes us
	I can talk about the differences between the Internet and things in the physical world.	Exploring the keyboard,		feel, Rhythms and
	umigs in the physical world.	adding and removing text,		patterns, How music can
	Handling data:	exploring the toolbar, making		be used, Notes and
	I can talk about the different ways I use technology to	· , · · · · · · · · · · · · · · · · · ·		

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KS2	Computer Science and Information Technology			
		Term 1	Term 2	Term 3
Yr 3	CS	Autumn 1	Spring 1	Summer 2
	Write programs that accomplish specific goalsUse sequence in programsWork with various forms of inputWork with various forms of outputI can break an open-ended problem up into smaller parts.I can put programming commands into a sequence to achieve a specific outcome.I keep testing my program and can recognise when I need to debug it.I can use repeat commands.I can describe the algorithm I will need for a simple task.I can detect a problem in an algorithm which could result	NCCE Computing systems and Networks https://teachcomputing.org /curriculum/key-stage-2/co mputing-systems-and-netw orks-connecting-computer s Autumn 2	BBC Bitesize KS2: What is an algorithm? <b>Programming- Sequence</b> in music (Y3) nCCE <u>https://teachcomputing.org/curri</u> <u>culum/key-stage-2/programmin</u> <u>g-a-sequence-in-music</u> Start with some tutorials <u>https://scratch.mit.edu/projec</u> <u>ts/editor/?tutorial=getStarted</u>	Finding things out - Data Handling: JIT – Branch to create branching databases NCCE https://teachcomputi ng.org/curriculum/ke y-stage-2/data-and-in formation-branching- databases
	<i>in unsuccessful programming.</i> IT Use search technologies effectively Use a variety of software to accomplish given goals Can refine and edit their work independently Collect information Design and create content Present information Technology in our lives: I can save and retrieve work on the Internet, the school network or my own device. I can talk about the parts of a computer. I can tell you ways to communicate with others Online. I can tell you ways to communicate with others Online. I can describe the World Wide Web as the part of the Internet that contains websites. I can use search tools to find and use an appropriate website. I think about whether I can use images that I find online in my own work. <i>Handling data:</i>	Creating media- desktop publishing e.g Adobe Spark/ J2E5 (Cross curricular)(Y3) NCCE https://teachcomputing.org/curricul um/key-stage-2/creating-media-des ktop-publishing Finding things out – research - simple search using a website or Britannica on school360 Searching using Swiggle	Spring 2 Creating media- stop-frame animation (Cross curricular)(Y3) NCCE https://teachcomputing.org/curri culum/key-stage-2/creating-me dia-animation	Summer 2 Programming- events and actions(Y3)NCCE https://teachcomputing.org/ curriculum/key-stage-2/pro gramming-b-events-and-act ions https://studio.code.org/s/ coursec-2020/stage/15/pu zzle/1
	I can tell you ways to communicate with others Online. I can describe the World Wide Web as the part of the Internet that contains websites. I can use search tools to find and use an appropriate website. I think about whether I can use images that I find online in my own work.	<b>research -</b> simple search using a website or Britannica on school360		coursec-2020/stag

questions. I can collect data to help me answer a question. I can add to a database. I can make a branching database. I can use a data logger to monitor changes and can talk about the information collected.		
Multimedia: I can create different effects with different technology tools. I can combine a mixture of text, graphics and sound to share my ideas and learning. I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. I can evaluate my work and improve its effectiveness. I can use an appropriate tool to share my work online.		
r can use an appropriate toor to share my work online.		

KS2	Computer Science and Information Technology			
Yr 4	Computer Science:	Autumn 1	Spring 1	Summer 1
	Design programs that accomplish specific goals Design and create programs Debug programs that accomplish specific goals Use repetition in programs Control or simulate physical systems Use logical reasoning to detect and correct errors in programs Understand how computer networks can provide multiple services, such as the World Wide Web Appreciate how search results are selected <i>I can use logical thinking to solve an open ended problem</i> <i>by breaking it up into smaller parts.</i> <i>I can use a efficient procedure to simplify a program.</i> <i>I can use a sensor to detect a change which can select</i> <i>an action within my program.</i> <i>I know that I need to keep testing my program while I am</i> <i>putting it together.</i> <i>I can use a variety of tools to create a program. I can</i> <i>recognise an error in a program and debug it.</i> <i>I recognise that an algorithm will help me to sequence</i> <i>more complex programs.</i> <i>I recognise that using algorithms will also help solve</i> <i>problems in other learning such as maths, science and</i> <i>design and technology.</i> Information Technology Select a variety of software to accomplish given goals Can refine and edit their work independently Select, use and combine internet services Analyse information Evaluate information Evaluate information Collect data Present data Technology in our lives: I can tell you whether a resource I am using is on the	Computing Systems and Network: The Internet NCCE https://teachcomputing.org /curriculum/key-stage-2/co mputing-systems-and-netw orks-the-internet Autumn 2 Creating media- desktop publishing (Cross curricular) NCCE year 3 unit https://teachcomputing.org/curricul um/key-stage-2/creating-media-des ktop-publishing Adobe Spark/ J2E5 Keynote or Creating media Comic Creation (Cross curricular) https://www.ilearn2.co.uk/comiccre ationteacherfree.html	BBC Bitesize KS2: What is decomposition? - How to break down problems BBC Bitesize KS2: How do computer programs use variables? Programming A: Repetition in shapes NCCE https://teachcomputing.or g/curriculum/key-stage-2/p rogramming-a-repetition-in -shapes Spring 2 Creating media- photo editing (Cross curricular)(Y4) NCCE https://teachcomputing.org/curr iculum/key-stage-2/creating-me dia-photo-editing https://pixlr.com/x/	Finding things out - Data Logging: NCCE https://teachcomputi ng.org/curriculum/ke y-stage-2/data-and-in formation-data-loggi ng Summer 2 Programming B: Repetition in Games NCCE https://teachcomputi ng.org/curriculum/ke y-stage-2/programmi ng-b-repetition-in-ga mes

internet, the school network or my own device.	/Comix/	
I can identify key words to use when searching safely on		
the World Wide Web.		
I think about the reliability of information I read on the	Finding things out -	
World Wide Web	research - simple search	
I can tell you how to check who owns photos, text and	using a website or Britannica	
clipart.	0	
I can create a hyperlink to a resource on the World Wide	on school360	
web.	Searching using Swiggle	
Handling data:		
I can organise data in different ways.		
I can collect data and identify where it could be		
inaccurate.		
I can plan, create and search a database to answer		
questions.		
I can choose the best way to present data to my friends.		
I can use a data logger to record and share my reading		
with my friends.		
Multimedia		
I can use photos, video and sound to create an		
atmosphere when presenting to different audiences.		
I am confident to explore new media to extend what I can		
achieve.		
I can change the appearance of text to increase its		
effectiveness.		
I can create, modify and present documents for a		
particular purpose.		
I can use a keyboard confidently and make use of a		
spellchecker to write and review my work. I can use an appropriate tool to share my work and		
collaborate online.		
I can give constructive feedback to my friends to help		
them improve their work and refine my own work.		