‘And the child grew and was strong in spirit ‘

If rooted in Christ, children can **grow** into who they were created to be. Through the implementation of our curriculum our children will acquire the knowledge and skills to help them grow.

Growth in Computing	
Computing	Our Computing curriculum focuses on a progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology. These strands are revisited repeatedly through a range of themes during children's time in school to ensure the learning is embedded and skills are successfully developed. Our intention is that Computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school.
Implementation	We teach the National Curriculum, supported by a clear skills and knowledge progression. This ensures that skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children. To ensure a broad range of skills and understanding, Computing is taught across three main strands: digital literacy, computer science and information technology. As part of information technology, children learn to use and express themselves and develop their ideas through ICT for example writing and presenting as well as exploring art and design using multimedia. Within digital literacy, children develop practical skills in the safe use of ICT and the ability to apply these skills to solving relevant, worthwhile problems for example understanding safe use of internet, networks and email. In computer science we teach children to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Also, to analyse problems to computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. We also teach a progression of Computing vocabulary to support children in their understanding.
Assessment	At Bollinbrook we want our children to be competent and safe users of ICT with an understanding of how technology works. They will have developed skills to express themselves and be creative in using digital media and be equipped to apply their skills in Computing to different challenges going forward. Assessment allows children to peer and self-assess to identify gaps and support next steps in learning. We also incorporate open-ended challenges to develop computational thinking and independence in learning.

There is no strand for technology in the development matters guidance as there has been previously, however, the Birth to 5 guidance continues to provide descriptors for what the children should be able to do in the age ranges. Bollinbrook have decided that as technology is such a predominant part of modern life it is important to include technology on the EYFS curriculum with a focus on e-safety.

EYFS Termly Expectations	
Autumn	• Is able to use ICT hardware and complete an activity or access and app that is age appropriate.
Spring	• I can use technology to create a photo, video or animation.
Summer	• Is able to use the internet to find out information about something that interests me (with adult supervision). • Is aware of e-safety and how to keep themselves safe.
ELG	• There is no ELG for technology
Those working in greater depth may…	• Are able to select technology for a purpose, i.e. to record an event by video or photograph. • To be able to explain why e-safety is important and how to keep themselves safe online.

Computing: National Curriculum Key Stage 1		
Algorithms	**Create programs**	**Reasoning**
Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	*Pupils should be taught to create and debug simple programs*	*Pupils should be taught to use logical reasoning to predict the behaviour of simple programs*
Using technology	**Uses of IT beyond school**	**Safe use**
Pupils should be taught to technology purposefully to create, organise, store, manipulate and retrieve digital	*Pupils should be taught to recognise common uses of information technology beyond school*	*Pupils should be taught to 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*

Computing: National Curriculum Key Stage 2			
Create programs	**Develop programs**	**Reasoning**	**Networks**
Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	*Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output*	*Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs*	*Pupils should be taught to 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*

Search engines	**Using programs**	**Safe Use**
Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	*Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output*	*Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs*

Willow EYFS Computing			
Digital Literacy	**Computer Science**	**Information technology**	**Safe Use**
Is able to use ICT hardware and complete an activity or access and app that is age appropriate. Is able to use the internet to find out information about something that interests me (with adult supervision).		I can use technology to create a photo, video or animation.	Is aware of e-safety and how to keep themselves safe.
Key Vocabulary	**Key Vocabulary**	**Key Vocabulary**	**Key Vocabulary**
Sources	Algorithm, Programme, Control, Instruction Command	Sort, Organise, Group, Text, images, create	Private, safe, password

Oak class: Y1 & Y2 Computing

Digital Literacy	Computer Science	Information technology	Safe Use
Access information from a variety of different sources and understand technology allows quick access to these resources Explore a variety of digital information as part of a given topic. use a website and a camera record sound and play back Search for information using child friendly search engines Identify information through a range of appropriate forms of media Recognise the layout of a web page and interact with it appropriately	Understand what an algorithm is. Control devices through a series of clear and accurate algorithms to achieve a predefined outcome Recognise common uses of technology within school / home Understand that real and virtual devices can be controlled by sequences of commands. Plan a set of commands to achieve a specific outcome Predict the outcome of an algorithm using logical reasoning. Control devices through a series of commands. Write, test and debug simple programs Recognise common uses of technology beyond school – understanding the benefits	Sort, organise and classify objects based on their properties. Communicate simple ideas through the use of text and images Create an image in a simple graphics application Represent and interpret simple data as pictograms, Gather data and organise using tally charts Understand sound and music can be created using a range of simple technology, Record, locate and review sounds and add them to their digital creations Organise and communicate ideas for a specific purpose using appropriate layout and media Make simple changes to improve the look and clarity of their work. Capture and create images in different graphic applications Edit images using colour effect	use technology safely keep personal information private Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused Behave in a kind and considerate way to others in the real and virtual world Understand that the internet is fun but just like there are rules in the real world to keep you safe there are rules for keeping them safe in the online world. know where to go for help if concerned. Talk to a trusted adult before sharing information about themselves online Be polite and respectful when communicating & playing games online. Know login details and passwords should only be shared with trusted adults. Understand that they can be connected to many people in their life (real life and online). Know that some of the people they interact with online may not be who they say they are.
Key Vocabulary	**Key Vocabulary**	**Key Vocabulary**	**Key Vocabulary**
Sources	Algorithm, Programme, Control, Instruction Command	Sort, Organise, Group, Text, images, create	Private, safe, password
Web page, Search engines	Outcome, Debug, Internet	Sound, Record, Locate, Review, Capture, Purpose, web page, search engines	Login details, Respect

Teach computing recommended sequence

Autumn	Spring	Summer
Computing systems: IT around us Creating media: digital photography	Programming A: Robot algorithms Data and information: Pictograms	Creating media: digital music Programming B: Programming quizzes

Sycamore: Y3 & Y4 Computing

Digital Literacy	Computer Science	Information technology	Safe Use
Carry out and modify searches developing keywords to improve search accuracy. Check the relevancy and accuracy of search results. Locate online content using some of the available advanced features in search engines Use search technologies effectively by identifying specific keywords Find and choose appropriate information and use it in other digital forms Locate specific information online and recognise that web pages can be organised in different ways	Understand and explore different game genres and what makes a good game Understand that games, apps and web content are made of code Debug existing code to improve it. Design and code a simple game. Transfer existing coding skills between applications. Use repetition in programs to write code using the least number of lines and improving efficiency Understand what networks (including the internet) are and how they are used to transfer information Create, refine and debug a series of commands for virtual programmable devices Understand and identify simple input and outputs Create simple programs combining inputs and outputs Create a sequence of connected commands Explore how digital devices function and how they can be connected	Explain data gathered over time can be used to answer questions Use a data logger to collect data Represent data in a database using appropriate data types Interpret data and draw conclusions **Audio editing:** Source, edit and refine music and sound for a given audience or project. Use a digital device to record sound Use a digital device to show audio can be combined and played together **Photo editing:** Create and amend a range of 2D graphic representations using appropriate applications Identify features of good digital creation design Collect and organise information to find answers to questions Sort and answer questions using yes/no answers Store and access data using a branching database. Plan and create a simple animation	Recognise acceptable and unacceptable behaviour using technology Identify age limits and PEGI ratings for games and understand the importance of only accessing age appropriate content Explain the possible consequences of submitting personal information online Ensure information submitted online is only accessed by the people they trust Identify the similarities and differences of virtual and real world communication to develop an understanding of positive online communication. Use strong passwords for all online accounts and devices. use technology respectfully and responsibly Know different ways they can get help if concerned Identify the dangers of clicking links they receive when using technology Identify personal information about themselves and others Explain the possible consequences of sharing personal information online

		Understand that evaluation and improvement is a vital part of a design process and technology allows changes to be made quickly and efficiently Capture, create and enhance new and existing digital images to communicate ideas Combine and refine text, sound and graphics to communicate information for a given audience. Understand how audio can enhance multimedia projects including radio and films by choosing appropriate audio to fit a given context Use desktop publishing to present for a specific purpose: font size, colour and type; text and images; template; orientation; place holders	Know that bullying through the use of technology is called online bullying and how to report it Understand that not all information you access online is accurate or reliable.
Key Vocabulary	**Key Vocabulary**	**Key Vocabulary**	**Key Vocabulary**
Relevancy, Accuracy	Repetition, network	Data logger, Interpret, Draw conclusions, Database, Source Audience	Age limits, Virtual, Real world, Strong passwords
Search technologies Key words	Sequence, Input, Output, Code, Digital, virtual	Data, branching database, Store, access, Plan, Evaluate, Enhance, Combine, Refine, Multimedia	Dangers, Personal information, Consequences, Online bullying

Teach computing recommended sequence		
Autumn	**Spring**	**Summer**
The internet Audio Editing	Repetition in shapes Data logging	Photo editing Repetition in games

Rowan: Year 4 & Year 5 Computing

Digital Literacy	Computer Science	Information technology	Safe Use
Interpret and validate information from a range of online sources Recognise that the Internet may contain material that is irrelevant, bias, implausible and inappropriate Search for and save differing types of media using search engine functions. Search for and save differing types of media using search engine functions. Carry out and modify searches developing keywords to improve search accuracy. Check the relevancy and accuracy of search results. Locate online content using some of the available advanced features in search engines	Solve problems by decomposing them into smaller parts Understand and use variables Use selection in programming to create a quiz aimed at an audience To become familiar with inputs and outputs and create programs using them to control or simulate physical systems To understand that the internet is made up of networks of computers around the world that can provide multiple services Understand and explore different game genres and what makes a good game Understand that games, apps and web content are made of code Debug existing code to improve it. Design and code a simple game. Transfer existing coding skills between applications. Use repetition in programs to write code using the least number of lines and improving efficiency Understand what networks (including the internet) are and how they are used to transfer information	Create charts using appropriate data to interpret and answer a specific question Interrogate a database using suitable questions. Convert data in a database into different graph types for different purposes Use search criteria and database tools to find answers Understand vector images Use a range of drawing tools to create a vector images made up of layers and combining shapes Recognise the features of an effective video Capture appropriate, quality moving images. Develop an understanding of differing film shots and their effective use Plan, create and edit a film presentation, then reflect on its efficacy. Explain data gathered over time can be used to answer questions Use a data logger to collect data Represent data in a database using appropriate data types Interpret data and draw conclusions **Audio editing:**	understand that they have to make choices when using technology and that not everything is true and/or safe Understand the terms plagiarism and copyright and be aware of the implications of copying and sharing content without permission. Use blocking / unsubscribing / reporting mechanisms appropriately. Control who they interact with online and the information they share. Describe the causes and consequences of online bullying and discuss behaviours and strategies to prevent and stop online bullying Recognise acceptable and unacceptable behaviour using technology Identify age limits and PEGI ratings for games and understand the importance of only accessing age appropriate content Explain the possible consequences of submitting personal information online Ensure information submitted online is only accessed by the people they trust Identify the similarities and differences of virtual and real world communication to develop an understanding of positive online communication. Use strong passwords for all online accounts and devices.

		Source, edit and refine music and sound for a given audience or project. Use a digital device to record sound Use a digital device to show audio can be combined and played together **Photo editing:** Create and amend a range of 2D graphic representations using appropriate applications Identify features of good digital creation design	
Key Vocabulary	**Key Vocabulary**	**Key Vocabulary**	**Key Vocabulary**
Interpret, Validity, Bias	Selection, Variables, Decompose sensor	Charts, Graphs, Purpose, Search, compare, Theme, Soundtrack Zoom	Plagiarism, Copyright, Block, Unsubscribe, Report, Causes
Relevancy, Accuracy	Repetition, network	Data logger, Interpret, Draw conclusions, Database, Source Audience	Age limits, Virtual, Real world, Strong passwords

Teach computing recommended sequence		
Autumn	**Spring**	**Summer**
Sharing information Video editing	Selection in physical computing – micro:bits Flat-file databases	Creating media: Power point presentations Selection in quizzes

Year 6 Computing

Digital Literacy	Computer Science	Information technology	Safe Use
Check plausibility of information from a variety of chosen sources on the same topic Make informed judgments as to the validity of information on a website and be aware of bias. Understand how search engines work and rank results.	To design, write and debug a program to solve a problem. Include more complex selection linked to variables to programs. Create a program where an event is triggered by a sensor. Recognise how we communicate and collaborate using technology	Use a spreadsheet to enter data and perform simple calculations Change elements of a spreadsheet and understand the effects on other calculations Use a spreadsheet to create real life models of information to offer a solution to a real-life problem. Collect and represent data using infographics Use a CAD application (3D design tool) to create a representation of an object. Compare working digitally with 2d and 3d graphics Design and make their own website using Google sites Recognise the need to preview pages Outline the need for navigation path Create hyperlinks on their own websites that link to other people's work	Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable Explain the importance of a balanced lifestyle with respect to technology use. Explain the importance of a positive 'digital footprint' Appropriately configured and secure all devices used to access personal data Evaluate whether games, websites and social media are appropriate for specific ages
Key Vocabulary	**Key Vocabulary**	**Key Vocabulary**	**Key Vocabulary**
Plausibility, Ranking		Spreadsheet, Formula, Calculate Duplicate, modify	Digital footprint, Configuration, Copyright, Fair use of media

Teach computing recommended sequence		
Autumn	**Spring**	**Summer**
Communication Web Page creation	Variables in games Introduction to spreadsheets	3D modelling Sensing