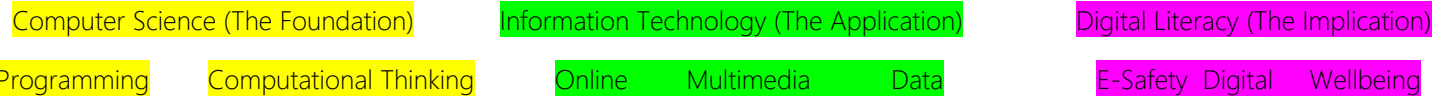Non-negotiable Progression of KSU in Computing at Buckshaw Primary School

We believe the teaching of computing is to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Knowledge and understanding of Computing is of increasing importance for children's future both at home and for employment. Our Computing curriculum focuses on a progression of skills in computer science, information technology and digital literacy to ensure that children become competent in safely using, as well as understanding, technology. At Buckshaw Primary School we believe that Computing should promote social interaction and collaborative working and be used throughout the whole curriculum.

Computer Science (The Foundation)   Information Technology (The Application)   Digital Literacy (The Implication)

Programming   Computational Thinking   Online   Multimedia   Data   E-Safety Digital   Wellbeing

End of Nursery/ End of Reception	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5	End of Year 6	Development Matters/National Curriculum
Programming Nursery - By following instructions, children pretend to be robots to carry out movements.

By following instructions, children create pictures constructed from 2D shapes. They are asked to identify errors in the instructions, akin to debugging an algorithm. | Programming To understand that programs are a defined set of algorithms that are completed to achieve a task.

Start to write basic programs for a character to follow pre-determined paths.
Bee-Bot app. Daisy the Dinosaur app. | Programming To know that computers do not understand 'our' algorithms as they use a different language (coding).

To write a more complex algorithm, for a character to follow instructions

Blue-Bot | Programming To plan and write code using sequence and repetition to solve problems, to move a character with individual steps.

Scratch Jnr Kodable Kudogamelab.com J2Code | Programming Design and write more complex codes using sequence, repetition and selection, to create and build games.

J2Code Espresso Coding Scratch Jnr Hopscotch | Programming Plan and decompose tasks; explain how the algorithms they write work and correct errors to program a robot with a sequence of commands to get through a level from start to finish.

A.L.E.X Lego Mindstorms | Programming To correct errors in their algorithms and programs to build a real working game.

Code.org Codecombat.com Barefootcomputing Code-it.co.uk | Computer Science (The Foundation)

ELGS
• PSED Managing Self: Explain the reasons for rules

• Speaking: Offer explanations for why things might happen

KS1
• 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 |

At Buckshaw we aim to prepare our children for their future by raising aspirations and developing resilience within a happy, safe and caring environment.

YR - Ordering instructions for brushing teeth. Follow a set of instructions to programme a floor robot to follow pre-determined steps. Bee-Bots							• Use logical reasoning to predict the behaviour of simple programs **KS2** 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 programme
Multimedia Nursery - To use a digital device to take a picture or record their work (iPad/tough camera) YR - To record their voice to a story about minibeasts Sock Puppets	Multimedia Create, store and retrieve digital content such as text and images using to create a poster about keeping safe during the summer Word Document	Multimedia Learn to make a range of simple digital assets such as a presentation about habitats Powerpoint Scratch Apple Keynote	Multimedia To locate, record, save and retrieve sounds to add to a stop motion animation about pets Garageband	Multimedia To design and create a ¾ minute digital film about their hobby iMovie	Multimedia Children design and create their own blogs about their future career – recorded as a podcast iCan Animate QR Code Maker	Multimedia To design, and create a blog about their future career to present during Careers Fair 2Blog Hokusai Audio Editor Canva Pixton Green screen FX	**Information Technology (The Application)** **ELGs** • PSED Managing Self: Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; **KS1** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content

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	Book Creator **Online** Recognise common uses of information technology beyond school.	**Online** Begin to develop an understanding of the importance of computers and the internet to communicate	**Online** Realise that not all information on the internet is trustworthy and there is a need to verify its reliability	**Online** *Start to develop strategies to verify the reliability and accuracy of information on the internet and develop an awareness of copyright* **Swiggle.com** **Kiddle.com**	**Online** *Use strategies to verify the reliability and accuracy of information on the internet such as fake news and understand copyright*	**Online** *Use strategies to verify and evaluate the reliability and accuracy of information on the internet and understand what copyright and plagiarism is and how it relates to their work*	• Recognise common uses of information technology beyond school **KS2** • 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 • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

			Data	Data	Data	Data	KS2
			Begin to use a data logger to sense physical data. Recording temperature on a probe thermometer for optimum planting conditions. Temperature probe	Use a data logger confidently, to capture continuous or intermittent data readings to support changes in states of matter - using Logbox	Interpret the results for… creating a graph on Logbox software Excel Spreadsheet or Apple Numbers and use these in their investigations.	*To measure light/pulse rates?* using Logbox - spotting trends in data and identify when problems may have occurred.	• 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
Online Safety To understand how others might be feeling with role play, puppets and lego	Online Safety Listen to stories/act out role plays of being a good online friend and being a good online citizen Digi Duck's Big Decision	Online Safety Develop an understanding of how to keep their personal information private and understand they need to use technology safely and respectfully. Create a 'Word Cloud' generator of Internet Safety vocabulary – following discussion	Online Safety Recognise situations using technology and the internet involving content and contact that are not safe and know where to go for help. Create 'Family Pledge Cards' to stay Internet safe	Online Safety Use technology respectfully, responsibly and safely, knowing how to keep their information and passwords secure Create a comic strip using Comic Life to promote internet safety	Online Safety Use technology safely, respectfully and responsibly and continue to develop skills to identify risks involved with contact and content including developing an understanding of digital footprints and online reputation.	Online Safety Know a range of ways of reporting concerns about content and contact involving the internet and other communication technologies, including online bullying and online grooming Prepare a Family Agreement to support the community	Digital Literacy (The Implication) ELGs ELG PSED Building Relationships: To show sensitivity to my own and to others' needs ELG PSED Managing Self: To explain the reasons for rules, know right from wrong and try to behave accordingly; KS1 • Recognise common uses of information technology beyond school • Use technology safely and respectfully, keeping personal information private

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		www.wordclouds. co.uk TagCloud			Create a short online safety advert in response to using technology safely on iMovie	Responsible for whole school 'Digital Leaders'	• identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies **KS2** • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • 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

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