"Computing is not about computers anymore. It is about living." – Nicholas Negroponte

Our School Intent.

Our computing curriculum aims to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way in order to flourish. We want our pupils to be able to operate in the 21st century workplace and we want them to know the career opportunities that will be open to them if they study computing. We want children to become autonomous, independent users of computing technologies, gaining confidence and enjoyment from their activities. We want the use of technology to support learning across the entire curriculum and to ensure that our curriculum is accessible to every child. Not only do we want them to be digitally literate and competent end-users of technology but through our computer science lessons we want them to develop creativity, resilience and problem-solving and critical thinking skills. 'Computing also ensures that pupils become digitally literate' (The National Curriculum).

Implementation
Computing is taught using a blocked curriculum approach ensuring a balanced coverage of computer science, information technology and digital literacy. This ensures children are able to develop depth in their knowledge and skills over the duration of each of their computing topics. Computing is planned using schemes of work that have been developed using the national curriculum. Planning is supported by National Centre for Computing Excellence to provide teachers with the confidence to deliver a computing curriculum from EYFS to Year 6, which are often richly linked to engaging contexts in other subjects and topics. Knowledge and skills are mapped across each year group to ensure systematic progression. We use Chromebooks and IPads alongside a range of other hardware to ensure that all year groups have the opportunity to use a range of devices and programs for many purposes across the wider curriculum, as well as in discrete computing lessons. The computing curriculum is also enhanced by local resources enabling the children access to specialist equipment. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught.

Our key knowledge concepts are: Algorithms, logic, data representation, artificial and digital systems.

Our key skills concepts are: Control, handling data and information, sound and music, understanding technologies, text and multimedia, digital images and research and internet safety.

Impact
In KS1 we build children's basic understanding of being safe when using technology. They are introduced to algorithms through unplugged activities and use of computer programs and apps to develop their understanding of block coding. They develop their understanding of staying safe online and use the internet to gather information. Within KS2, children use the internet to find a range of information and use programs to develop their digital literacy. Deepening their understanding of block coding, children use a range of devices to test and debug algorithms. Children's achievements are shared on the pupil drive. Judgements are based on teacher judgement.

Computing curriculum and SEND

Our Computing curriculum at Lilycroft Primary School will be ambitious for all pupils, including pupils with SEND. Children and young people with SEND will have their individual needs recognised bearing in mind that every pupil is different. Any adaptations to the Computing curriculum should depend on pupils' specific needs considering how the subject is taught rather than the content pupils are expected to learn, recognising cognitive load and demands on pupils' working memory. Opportunities for SEND children to work with a variety of peers and be supported by a variety of expert adults will be provided, embracing and promoting an inclusive learning environment for everyone learning Computing.

Year Group	Autumn 1 Block 1	Autumn 2 Block 2	Spring 1 Block 3	Spring 2 Block 4	Summer 1 Block 5	Summer 2 Block 6
REC	**Using Equipment** **Logic**-how to turn on iPads **Responsibility and Safety-** internet can be used to find information. Adult is needed to keep them safe **Analysis-** navigate touch screens **Emerging Tech-** how to use iPads, cameras and phones		**Using Equipment** **Exploration and creativity-** how to complete simple programmes, talk buttons **Logic-**how to turn on iPads **Responsibility and Safety-** internet can be used to find information. Adult is needed to keep them safe **Analysis-** navigate touch screens **Emerging Tech-** how to use iPads, cameras and phones		**Using Equipment** **Exploration and creativity-** how to complete simple programmes. Create videos on iPads **Logic-**programme a toy **Responsibility and Safety-** internet can be used to find information. Adult is needed to keep them safe **Analysis-** navigate touch screens **Emerging Tech-** how to use iPads, cameras and phones	
Year 1	**Learning Focus: Computing systems and Networks: Technology around us** -To identify technology -To identify a computer and its main parts -To use a mouse in different ways	**Learning Focus: Creating Media: Digital Painting** -To describe what different freehand tools do -To use the shape tool and the line tools -To make careful choices when painting a digital picture	**Learning Focus: Programming: Robots** -To explain what a given command will do -To act out a given word -To combine forwards and backwards commands to make a sequence -To combine four direction commands to make sequences	**Learning Focus: Programming: Data and Information** -To label objects -To identify that objects can be counted -To describe objects in different ways -To count objects with the same properties -To compare groups of objects	**Learning Focus: Creating Media: Digital Writing** -To use a computer to write -To add and remove text on a computer -To identify that the look of text can be changed on a computer	**Learning Focus: Programming: Animations** -To choose a command for a given purpose -To show that a series of commands can be joined together -To identify the effect of changing a value

	-To use a keyboard to type on a computer -To use the keyboard to edit text -To create rules for using technology responsibly	-To explain why I chose the tools I used -To use a computer on my own to paint a picture -To compare painting a picture on a computer and on paper	-To plan a simple program -To find more than one solution to a problem	-To answer questions about groups of objects	-To make careful choices when changing text -To explain why I used the tools that I chose -To compare typing on a computer to writing on paper	-To explain that each sprite has its own instructions -To design the parts of a project -To use my algorithm to create a program
Year 2	**Learning Focus: Computing systems and networks – IT around us** -To recognise the uses and features of information technology -To identify the uses of information technology in the school -To identify information technology beyond school -To explain how information technology helps us -To explain how to use information technology safely -To recognise that choices are made when using	**Learning Focus: Creating Media: Digital Photography** -To use a digital device to take a photograph -To make choices when taking a photograph -To describe what makes a good photograph -To decide how photographs can be improved -To use tools to change an image -To recognise that photos can be changed	**Learning Focus: Programming: Robot Algorithms** -To describe a series of instructions as a sequence -To explain what happens when we change the order of instructions -To use logical reasoning to predict the outcome of a program -To explain that programming projects can have code and artwork -To design an algorithm -To create and debug a program that I have written	**Learning Focus: Data and Information: Pictograms** -To recognise that we can count and compare objects using tally charts -To recognise that objects can be represented as pictures -To create a pictogram -To select objects by attribute and make comparisons -To recognise that people can be described by attributes -To explain that we can present information using a computer	**Learning Focus: Creating Media: Digital Music** -To say how music can make us feel -To identify that there are patterns in music -To experiment with sound using a computer -To use a computer to create a musical pattern -To create music for a purpose -To review and refine our computer work	**Learning Focus: Programming Quizzes** -To explain that a sequence of commands has a start -To explain that a sequence of commands has an outcome -To create a program using a given design -To change a given design -To create a program using my own design -To decide how my project can be improved

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	information technology					
Year 3	**Learning Focus: Computing Systems and Networks: Connecting Computers** -To explain how digital devices function -To identify input and output devices -To recognise how digital devices can change the way we work -To explain how a computer network can be used to share information -To explore how digital devices can be connected -To recognise the physical components of a network	**Learning Focus: Creating Media: Stop-frame animation** -To explain that animation is a sequence of drawings or photographs -To relate animated movement with a sequence of images -To plan an animation -To identify the need to work consistently and carefully -To review and improve an animation -To evaluate the impact of adding other media to an animation	**Learning Focus: Programming: Sequencing sounds** -To explore a new programming environment -To identify that commands have an outcome -To explain that a program has a start -To recognise that a sequence of commands can have an order -To change the appearance of my project -To create a project from a task description	**Learning Focus: Data and Information: Branching Databases** -To create questions with yes/no answers -To identify the attributes needed to collect data about an object -To create a branching database -To explain why it is helpful for a database to be well structured -To plan the structure of a branching database -To independently create an identification tool	**Learning Focus: Creating Media: Desktop publishing** -To recognise how text and images convey information -To recognise that text and layout can be edited -To choose appropriate page settings -To add content to a desktop publishing publication -To consider how different layouts can suit different purposes -To consider the benefits of desktop publishing	**Learning Focus: Programming: Events and actions in programs** -To explain how a sprite moves in an existing project -To create a program to move a sprite in four directions -To adapt a program to a new context -To develop my program by adding features -To identify and fix bugs in a program -To design and create a maze-based challenge

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Year 4	**Learning Focus: Computing systems and networks – The Internet** -To describe how networks physically connect to other networks -To recognise how networked devices make up the internet -To outline how websites can be shared via the World Wide Web (WWW) -To describe how content can be added and accessed on the World Wide Web (WWW) -To recognise how the content of the WWW is created by people -To evaluate the consequences of unreliable content	**Learning Focus: Creating Media – Audio Production** -To identify that sound can be recorded -To explain that audio recordings can be edited -To recognise the different parts of creating a podcast project -To apply audio editing skills independently -To combine audio to enhance my podcast project -To evaluate the effective use of audio	**Learning Focus: Programming: Repetition in Shapes** -To identify that accuracy in programming is important -To create a program in a text-based language -To explain what 'repeat' means -To modify a count-controlled loop to produce a given outcome -To decompose a task into small steps -To create a program that uses count-controlled loops to produce a given outcome	**Learning Focus: Data and Information: Data Logging** -To explain that data gathered over time can be used to answer questions -To use a digital device to collect data automatically -To explain that a data logger collects 'data points' from sensors over time -To recognise how a computer can help us analyse data -To identify the data needed to answer questions -To use data from sensors to answer questions	**Learning Focus: Creating Media: Photo Editing** -To explain that the composition of digital images can be changed -To explain that colours can be changed in digital images -To explain how cloning can be used in photo editing -To explain that images can be combined -To combine images for a purpose -To evaluate how changes can improve an image	**Learning Focus: Programming: Repetition in Games** -To develop the use of count-controlled loops in a different programming environment -To explain that in programming there are infinite loops and count controlled loops -To develop a design that includes two or more loops which run at the same time -To modify an infinite loop in a given program -To design a project that includes repetition -To create a project that includes repetition
Year 5	**Learning Focus: Systems and networks: Systems and Searching**	**Learning Focus: Creating media: Video production**	**Learning Focus: Programming – Selection in Physical Computing**	**Learning Focus: Data and information – Flat file Databases**	**Learning Focus: Creating Media – Introduction to Vector graphics**	**Learning Focus: Computing systems and networks – Communication and collaboration**

-To explain that computers can be connected together to form systems -To recognise the role of computer systems in our lives -To experiment with search engines -To describe how search engines select results -To explain how search results are ranked -To recognise why the order of results is important, and to whom	-To explain what makes a video effective -To identify digital devices that can record video -To capture video using a range of techniques -To create a storyboard -To identify that video can be improved through reshooting and editing -To consider the impact of the choices made when making and sharing a video	-To control a simple circuit connected to a computer -To write a program that includes count-controlled loops -To explain that a loop can stop when a condition is met -To explain that a loop can be used to repeatedly check whether a condition has been met -To design a physical project that includes selection -To create a program that controls a physical computing project	-To use a form to record information -To compare paper and computer-based databases -To outline how you can answer questions by grouping and then sorting data -To explain that tools can be used to select specific data -To explain that computer programs can be used to compare data visually -To use a real-world database to answer questions	-To identify that drawing tools can be used to produce different outcomes -To create a vector drawing by combining shapes -To use tools to achieve a desired effect -To recognise that vector drawings consist of layers -To group objects to make them easier to work with -To apply what I have learned about vector drawings	-To explain the importance of internet addresses -To recognise how data is transferred across the internet -To explain how sharing information online can help people to work together -To evaluate different ways of working together online -To recognise how we communicate using technology -To evaluate different methods of online communication
Year 6 **Learning Focus: Computing systems- Communication and collaboration** -To explain the importance of internet addresses -To recognise how data is transferred across the internet -To explain how sharing information online can help	**Learning Focus: Creating Media – Web page creation** -To review an existing website and consider its structure -To plan the features of a web page -To consider the ownership and use of images (copyright) -To recognise the need to preview pages	**Learning Focus: Programming – Variables in games** -To define a 'variable' as something that is changeable -To explain why a variable is used in a program -To choose how to improve a game by using variables	**Learning Focus: Data information – Spreadsheets** -To create a data set in a spreadsheet -To build a data set in a spreadsheet -To explain that formulas can be used to produce calculated data -To apply formulas to data	**Learning Focus: Creating Media – 3D modelling** -To recognise that you can work in three dimensions on a computer -To identify that digital 3D objects can be modified -To recognise that objects can be combined in a 3D model	**Learning Focus: Programming – Sensing Movement** -To create a program to run on a controllable device -To explain that selection can control the flow of a program -To update a variable with a user input

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people to work together -To evaluate different ways of working together online -To recognise how we communicate using technology -To evaluate different methods of online communication	-To outline the need for a navigation path -To recognise the implications of linking to content owned by other people	-To design a project that builds on a given example -To use my design to create a project -To evaluate my project	-To create a spreadsheet to plan an event -To choose suitable ways to present data	-To create a 3D model for a given purpose -To plan my own 3D model -To create my own digital 3D model	-To use a conditional statement to compare a variable to a value -To design a project that uses inputs and outputs on a controllable device -To develop a program to use inputs and outputs on a controllable device