

COMPUTING				Autumn	Spring	Summer
INTENT						
End of EYFS		End of KS1		End of KS2		
Pupils will be given the opportunity to: - Recognise that a range of technology is used in places such as homes and schools - Select and use technology for particular purposes including expressing their ideas and feelings - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge - Explain the reasons for rules; use technology safely and respectfully - Develop their fine motor skills so that they can use a range of tools competently, safely and confidently; confidently use a keyboard, mouse, camera or other technology.		Pupils will be given the opportunity to: - Understand what algorithms are and how they are implemented - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs - Use technology to create, organise, store, manipulate and retrieve digital content - Recognise common use of information technology outside of school - Use technology safely and respectfully; keep personal information private; identify how to get help with concerns.		Pupils will be given the opportunity to: - Design, write and debug programs that accomplish specific goals - Use sequence, selection and repetition in programs, work with variables of inputs and outputs - Use logical reasoning to explain how simple algorithms work and correct errors - Understand computer networks including the Internet and how they provide services with opportunities for communication - Use search technologies effectively; appreciate how results are ranked and evaluate digital content - Select, use and combine a variety of software on a range of digital devices to design and create content that accomplish given goals - Use technology safely, recognise unacceptable behaviours, understand how to report concerns.		
IMPLEMENTATION						
Core Skills	End of EYFS		End of KS1		End KS2	
Computer Science	- Learn how to operate a camera to take photographs of meaningful creations or moments. - Learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary. - Recognise and identify familiar letters and numbers on a keyboard.		- Understand what a computer is and that it's made up of different components. - Recognise that buttons cause effects and that technology follows instructions. - Learn how we know that technology is doing what we want it to do via its output. Develop confidence with the keyboard and the basics of touch typing.		- Decompose a program into an algorithm. - Use past experiences to help solve new problems. - Write increasingly complex algorithms for a purpose. - Debug quickly and effectively to make a program more efficient. - Remix existing code to explore a problem.	

	• Develop basic mouse skills such as moving and clicking. • Use logical reasoning to understand simple instructions and predict the outcome. • Follow instructions as part of practical activities and games. • Learn to give simple instructions. • Learn to debug instructions, with the help of an adult, when things go wrong.	• Articulate what decomposition is. • Decompose a game to predict the algorithms used to create it. • Learn that there are different levels of abstraction. • Explain what an algorithm is and follow an algorithm. • Create a clear and precise algorithm. • Use logical thinking to explore software, predicting, testing and explaining what it does. • Use an algorithm to write a basic computer program.	• Use and adapt nested loops. • Programme using the language Python. • Change a program to personalise it. • Evaluate code to understand its purpose. • Predict code and adapt it to a chosen purpose. • Learn about the history of computers and how they have evolved over time. Use the understanding of historic computers to design a computer of the future. • Understand and identify barcodes, QR codes and RFID. Identify devices and applications that can scan or read barcodes, QR codes and RFID. • Learn the vocabulary associated with data: data and transmit. • Recognise that computers transfer data in binary and understand simple binary addition. • Learn that messages can be sent by binary code, reading binary up to eight characters and carrying out binary calculations.
Information Technology	• Use a simple online paint tool to create digital art. • Represent data through sorting and categorising objects in unplugged scenarios. • Explore branch databases through physical games.	• Develop word processing skills, including altering text, copying and pasting and using keyboard shortcuts. • Use word processing software to type and reformat text. • Use software (and unplugged means) to create story animations. • Create and label images. • Search for appropriate images to use in a document. • Collect and input data into a spreadsheet. • Interpret data from a spreadsheet. • Learn how computers are used in the wider world.	• Use logical thinking to explore software independently, iterating ideas and testing continuously. • Use search and word processing skills to create a presentation. • Understand how search engines work. • Understand how barcodes, QR codes and RFID work. • Gather and analyse data in real time. • Create formulas and sort data within spreadsheets. • Learn about different forms of communication that have developed with the use of technology.

			Learn how 'big data' can be used to solve a problem or improve efficiency.
Digital Literacy	- Recognise that a range of technology is used for different purposes. - Learn to log in and log out. - Understand what a computer keyboard is and recognising some letters and numbers. - Know that a mouse can be used to click, drag and create simple drawings. - Know that to use a computer you need to log in to it and then log out at the end of your session. - Know that different types of technology can be found at home and in school. - Take simple photographs with a camera or iPad. - Know that you must hold the camera still and ensure the subject is in the shot to take a photo. - Follow and give simple instructions. - Understand that it is important for instructions to be in the right order. - Understand why a set of instructions may have gone wrong. - Know that sorting objects into various categories can help you locate information. - Know that using yes/no questions to find an answer is a branching database.	- Learn how to create a strong password. - Understand how to stay safe when talking to people online and what to do if they see or hear something online that makes them feel upset or uncomfortable. - Identify whether information is safe or unsafe to be shared online. - Learn to be respectful of others when sharing online and ask for their permission before sharing content. - Learn strategies for checking if something they read online is true. - Know the difference between a desktop and laptop computer. - Know that people control technology. - Know that buttons are a form of input that give a computer an instruction about what to do (output). - Know that computers often work together. - Understand what machine learning is and how that enables computers to make predictions. - Know that abstraction is the removing of unnecessary detail to help solve a problem. - Understand that coding is writing in a special language so that the computer understands what to do. - Understand that the character in ScratchJr is controlled by the programming blocks. - Know that you can write a program to create a musical instrument or tell a joke. - Understand that holding the camera still and considering angles and light are important to take good photographs.	- Learn about the positive and negative impacts of sharing online and learn strategies to create a positive online reputation. - Understand the importance of secure passwords and how to create them. - Learn strategies to capture evidence of online bullying in order to seek help. - Use search engines safely and effectively. - Recognise that updated software can help to prevent data corruption and hacking. - Know how search engines work. - Understand that anyone can create a website and therefore we should take steps to check the validity of websites. - Understand what copyright is. - Know the difference between ROM and RAM. - Understand the importance of having a secure password and what "brute force hacking" is. - Know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2. - Understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch. - Know what a conditional statement is in programming. - Understand that pattern recognition means identifying patterns to help them work out how the code works. - Understand that algorithms can be used

		• Know that you can edit, crop and filter photographs. • Know how to search safely for images online. • Understand that you can enter simple data into a spreadsheet. • Understand what steps you need to take to create an algorithm. • Understand the difference between online and offline. • Understand what information should not be posted online. • Know what the techniques are for creating a strong password. • Know that you should ask permission from others before sharing about them online and that they have the right to say 'no.' • Understand that not everything I see or read online is true.	for a number of purposes e.g. animation, games design etc. • Understand that stop motion animation is an animation filmed one frame at a time using models, and with tiny changes between each photograph and know that decomposition of an idea is important when creating stop-motion animations. • Know that editing is an important feature of making and improving a stop motion animation. • Know that computers can use different forms of input to sense the world around them so that they can record and respond to data. This is called 'sensor data.' • Know that data contained within barcodes and QR codes can be used by computers. • Know that Radio Frequency Identification (RFID) is a more private way of transmitting data and know that data is often encrypted so that even if it is stolen it is not useful to the thief. • Know that a 'digital footprint' means the information that exists on the internet as a result of a person's online activity. • Know the steps required to capture bullying content as evidence. • Understand that it is important to manage personal passwords effectively. • Understand what it means to have a positive online reputation. • Know some common online scams.
IMPACT			
Pupil Voice			
Subject Monitoring			