Computing
Armfield Primary Curriculum Map 2022-2023

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Children have access to technology in all learning areas, through the use of handheld devices, iPads and cameras.					
Reception	Children have access to technology in all learning areas, through the use of handheld devices, iPads, cameras and beblots.					
Year 1	**Online Safety, Exploring Purple Mash & Technology Around School** *Children will learn how to log on to Purple Mash with their own login and navigate and use the site, knowing how to save, search and explore. They will discuss how to stay safe when logging in. Children will discuss what is meant by technology and learn different examples outside of school.*	**Grouping and Sorting & Pictograms** *Children will learn how to sort various items offline and online, using a variety of criteria. They will discuss what data is and how it can be represented in picture format in a pictogram. Children will learn how to collect data and represent it in a pictogram.*	**Lego Builders & Maze Explorers** *Children will discuss the importance of following accurate instructions in order to achieve the correct result and that in computing this is called an algorithm. Children will follow, and create, a variety of simple instructions (including directions) on the computer and know this is called a program. They will investigate how the order of the instructions affects the result at the end and debug programs to find where it has gone wrong.*	**Animated Story Books** *Children will discuss the difference between a book and an e-book. They will create their own online animated story books, learning: how to add sound, different backgrounds, copy and paste, create additional drawings and save their own work for next time.*	**Coding** *Children will learn how to use symbols to represent different instructions and use code blocks when writing a program. Children will learn how the different code blocks (event, object and action) work together to create the program. They will learn how to edit the scene of their program by using design tools.*	**Spreadsheets** Children will learn how to navigate around a spreadsheet, understanding what rows and columns are. They can save and open sheets and enter data into cells. They will also be able to move cells, and lock changes into the cells.
Year 2	**Coding** *Children will describe an algorithm they have created as a set of instructions. They will plan algorithms that will include collision detections, timer-after commands, and read code blocks to predict what will happen. They will be able to debug their own programs to look for errors and modify the code blocks when needed.*	**Online Safety & Effective Searching** *Children will use the search facility to refine searches on Purple Mash, and then safely search on a web search engine. They will search the internet for answers to a quiz. They will know that email is a form of digital communication and use the tools in Purple Mash to safely open and send emails. They will understand what a digital footprint is and give examples of things they would not want to be in their digital footprint.*	**Spreadsheets** *Children will recap on what rows and columns are on a spreadsheet. They will learn how to add images and allocate them a value. They will use different tools to automatically total rows and columns, in order to solve mathematical calculations. They will use data from a spreadsheet and create a block graph to represent the data involved.*	**Questioning** *Children will learn that data that is represented in different graphs can be used to answer more complex questions. They will learn that binary means there are only two options. Children will look at a binary tree, limited to 'yes' and 'no and find out answers to simple questions. They will investigate databases and understand that they can be used to answer simple and more complex search questions.*	**Creating Pictures** *Children will describe the main features of impressionist and pointillism art and use the tools to create art based on these styles. They will describe the features of Piet Mondrian's work, art based on repeated patterns, and some surrealist art – they will use the tools to also create pieces of artwork based on these styles.*	**Making Music & Presenting Ideas** *Children will use their knowledge of what a sequence is to create a musical sequence to create a tune. They will experiment with how the sound changes when the sounds are moved. Children will create own music on the online software to depict two feelings.*
Year 3	***Online Safety and Email*** *Children will learn what makes a good password. They will learn that not all information on all websites is accurate or true, identify some physical and emotional effects of playing or watching inappropriate content and relate cyberbullying to bullying in the real world. They will learn strategies for dealing with online bullying including screenshot and reporting. Children will learn about email and sending/responding in a safe way.*	**Coding** Children will learn to read and explain a flowchart and use it to create a computer program. They will create their own programs to solve different problems, including using repeat commands. They will run, test and debug their programs and make several different things happen at the same time.	**Spreadsheets** Children will learn how to create a table of data on a spreadsheet and automatically create charts and graphs from the data. They will use 'more than' and 'less than' and 'equals' tools to work out solutions to calculations. Children will describe the cell location on a spreadsheet by the letter of the column and number for the row.	**Presentation (Google Slides)** Children will know what Google Slides is and how to open it. They will add text and format it and will also be able to add pictures, shapes, lines, animations and transitions. They will be able to combine this to create a multi-slide presentation on a particular topic.	**Touch Typing and Simulations** Children will learn the names of their fingers and understand what is meant by the home, bottom and top rows of a keyboard. They will begin to learn how to touch type the letters on a keyboard, using both hands. Children will learn that a computer simulation can represent real and imaginary situations. They will explore a simulation and recognise patterns within them, making predictions and evaluating them.	**Branching and Graphing** Children will learn how binary yes/no questions are structured and answered. They will understand what a database is and use yes/no questions to split their database. Children will create their own branching database, based on fruit that can be split with binary questions. Children will learn how to use graphs to represent data in different types of graph, that will best help analyse the results.
Year 4	**Coding** *Children will learn how to create backgrounds and objects to create a scene and plan an algorithm for it. They will create programs that include an 'IF' statement or IF/ELSE statement and make use of X and Y properties in their coding. Children will begin to explain what a variable is and use them within their programming.*	**Online Safety** Children will learn that security symbols such as a padlock protect their identity online. They will discuss the term 'phishing' and know about the existence of scam website. They will discuss the risks of installing free and paid software and know that malware is software designed to disrupt and damage your computer. Children will learn about copyright and know how to manage the amount of screen time they have.	**Spreadsheets** Children will learn how to use the number formatting tools to appropriately format numbers. They will add a formula to a cell to automatically make a calculation in that cell. Children will use a series of data in a spreadsheet to create a line graph and discuss how this can be used to show changes in temperature.	**Writing for Different Audiences** Children will discuss how different font size and text types are tailored to certain kinds of text, to fit the audience and purpose. They will use further simulations to understand how information is communicated online for certain jobs such as journalism. Children will create a written community campaign online and make choices to suit their intended audience.	**Logo & Hardware Investigators** Children will learn the common instructions in Logo and follow simple Logo instructions to create shapes on paper, using the repeat command. They will use further 'pu' and 'pd' commands to create patterns of increasing complexity, including writing four letter words. Children will predict the outcome of certain algorithms and find the most efficient way to draw shapes. Children will learn the names of the different parts of a desktop computer and know the function.	**Animation and Making Music** Children will learn how to put together a simple animation using a flick book and understand them as animation frames. They will use the Onion Skin tool in an online animation to animate an image. Children will understand the concept of stop motion and create their own version. Children will learn to identify sounds in a piece of music. They will discuss rhythm, tempo, melody and pitch. They will experiment and create a piece of house music, using Busy Beats.
	Proposed Curriculum					
Year 5	Coding	Online Safety & Spreadsheets	Game Creator	Databases	3D Modelling and Concept Maps	Word Processing
Year 6	Coding	Online Safety and Blogging	Text Adventures, Networks and Understanding Binary		Quizzing	Spreadsheets