Progression of Knowledge and Skills in Computing

School Intent	EYFS –
At Thomas A' Becket Infant School it is our intent that through our Computing Curriculum, children will be able to develop a wide range of fundamental skills, knowledge and understanding that will equip them for the rest of their life. With technology playing such a significant role in society today, we believe children must be taught to be able to participate effectively and safely in this digital world. We aim to equip children with the skills to create their own digital content in a range of purposeful contexts. A skills-based approach will ensure that children are able to apply their knowledge to a range of technology. Central to our approach is ensuring that children can use technology safely and responsibly. We use Purple Mash to supplement our planning and delivery of the Computing curriculum.	Although Computing is no longer part of the EYFS Statutory Framework, we believe at Thomas A' Becket Infant School that exploration of technology and computing are key to lifelong learning in the age in which we live. Therefore, it is vital that children begin to explore a variety of skills whilst in this stage that will help form the foundation of skills needed at children move on in their learning journey. **National curriculum purpose of study** A high quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with Mathematics, Science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principals of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. **National curriculum aims:** **The National Curriculum for computing aims to ensure that all pupils:** • Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. • Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. • Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. • Are responsible, competent, confident and creative users of information and communication technology. **Impact** Children's skills will be assessed and developed by the teacher during lessons and through key questions and discussions. Children's achievements will be celebrated through regular opportunities. Some work will be displayed around the school and in children's My World book and Class book which will demonstrate children's progression in skills and achievements in the computing curriculum. Children will be encouraged to apply their skills across the curriculum and use ICT to support their learning in a variety of purposeful contexts.

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Key Concepts	Reception	Year 1	Year 2
Computer Science • 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 instructions. • Use logical reasoning to predict the behaviour of simple programs.	**Coding** • To create and follow a simple obstacle course. • To be able to follow instructions. • To understand simple directional language. • To give instructions to another. • To understand that actions have cause and effect. • To explore cause and effect using Beebots / 2Go MiniMash	**Grouping and sorting (1.2)** • To sort items using a range of criteria. • To sort items on the computer **LEGO Builders (1.4)** • To compare the effects of adhering strictly to instructions without complete instructions. • To follow and create simple instructions on the computer. • To consider how the order of instructions affects the result. **Maze Explorers (1.5)** • To use direction key. • To understand how to create and debug a set of instructions. • To write an algorithm. • To edit an algorithm. • To share and complete a challenge with a peer. **Coding (1.7)** • To understand what instructions are and predict what might happen when they are followed. • To use code to make a computer program. • To understand what objects and actions are. • To understand what an event is. • To use an event to control an object.	**Coding (2.1)** • To understand what an algorithm is. • To create a computer program using an algorithm. • To create a program using a given design. • To begin to understand how to use "when" and "if". • To understand that an algorithm follows a timed sequence. • To understand that different objects have different properties. • To understand what different events do in a code. • To understand the function of buttons in a program. • To debug simple programs

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		• To begin to understand how code executes when a program is run. • To understand what backgrounds and objects are. • To plan and make a computer program.	
Information Technology • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school.	**Key Skills** • To understand how to manoeuvre a mouse / track pad - Simple City. • To click to select - Simple City. • To drag and drop – MiniMash Puzzles / Matching Games. • To use keyboard to label/caption – MiniMash 2Paint a Picture. • To understand and use the space bar and full stop – MiniMash 2Paint a Picture. **Recording and Retrieving Information** • To take a photo using an Ipad / MiniMash Mashcams and Role play. • To listen to an e-book using MiniMash Stories. • To understand the function of arrow keys to move story along. **Creating Pictures** • To explore 2Paint a Picture. • To be able to change colour. • To understand and use the eraser tool Creating Pictures (2.6). • To learn the functions of the 2Paint a Picture tool.	**Pictograms (1.3)** • To understand that data can be represented in picture format. • To create a class pictogram. • To use a pictogram to record the results of an experiment. **Animated Story Books (1.6)** • To understand how an e-book is used to present and share information. • To add an animation to a story. • To add a sound to a story, including voice recordings and music. • To add a background to a story. • To use copying and pasting. • To present my learning using an ebook. **Spreadsheets (1.8)** • To understand what a spreadsheet is. • To enter data into spreadsheet cells. • To add images to cells. • To use simple spreadsheet tools: lock, move cell, speak, and count.	**Spreadsheets (2.3)** • To use copy and paste in a spreadsheet. • To use totalling tools. • To use a spreadsheet for simple money calculations. • To use the equals tool to check calculations. • To collect data and produce a graph. **Questioning (2.4)** • To learn about data handling tools that can give more information than pictograms. • To use yes / no questions to separate information. • To construct a binary tree to identify items. • To use a database to answer questions. • To use a search tool to find information. **Creating Pictures (2.6)** • To learn the functions of the 2Paint a Picture tool. • To use the tools in a paint program to recreate artwork.

	• To use the tools in a paint program to recreate artwork. • To understand and use the undo button. • To start a new page. • To use they keyboard to label/caption. **Exploring Music** • To explore sounds on 2explore/2beat. • To understand and use the play and stop tool.		• To understand and use the undo button ☆ To start a new page. • To use they keyboard to label/caption. • To use the shape tools in a paint program. • To use the line tool in a paint program. • To use the fill tool in a paint program. **Making Music (2.7)** • To make music digitally. • To explore, edit and combine sounds. • To edit and refine composed music. • To upload a sound from a bank of sounds into the sounds section. • To record environmental sounds and upload these to Purple Mash. • To use sounds to create own compositions. **Presenting Ideas (2.8)** • To explore how a story can be presented in different ways. • To create a Quiz. • To create a fact file on a non-fiction topic.
Digital Literacy • Use technology safely and respectfully, keeping personal information private; identify where to go	**Online Safety and Exploring Purple Mash** • To understand that technology/internet has things for both children and adults only.	**Online Safety and Exploring Purple Mash (1.1)** • To log in safely. • To find and open saved work. • To use a search tool to find resources.	**Online Safety (2.2)** • To refine searches using a search tool. • To use digital technology to communicate with others safely (within school closed platform).

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for help and support when they have concerns about content or contact on the Internet or other online technologies.	• To understand the importance of only using adult approved games. • To know to ask for help if something goes wrong with technology. • To be able to name and talk about the programmes used. • To be able to tell a trusted adult if something makes them feel worried when using technology. **Technology Outside School** • To be able to choose technology for appropriate purpose. • To recognise technology both at home and in school.	• To become familiar with icons in Purple Mash. • To open, save and print work. • To understand the importance of logging out. Whole Class in Let's Play **Technology Outside School (1.9)** • To walk around the local community and name examples of where technology is used. • To record examples of technology used outside school.	• To develop an understanding of how information is shared on the internet. • To understand how to talk to others in an online situation. • To open and read simple emails (within school closed platform). • To understand that information put online leaves a digital footprint or trail. • To identify the steps that can be taken to keep personal data and hardware secure. (How are we different) **Effective Searching (2.5)** • To understand the terminology associated with searching. • To gain a better understanding of searching on the internet. • To create a leaflet to help someone search for information on the internet.