Easton CE Academy computing overview

EYFS	In EYFS, children are introduced to computing through games and activities using the interactive whiteboard. Children use the games to practice numeracy and phonic skills and are shown how to search for things using the internet. Bee bots are used to introduce coding to the children. iPads are used for taking photos, which are uploaded onto Class Dojo. Furthermore, Class Dojo provides the children with an example of a safe way to communicate and share photos on the internet.		
Year 1	Online Safety & Exploring Purple Mash Technology outside school	Pictograms Animated Story Books	Coding Lego Builders
	• To log in safely and understand why that is important. • To create an avatar and to understand what this is and how it is used. • To be able to create a picture and add their own name to it. • To start to understand the idea of 'ownership' of creative work. • To save work to the My Work area and understand that this is private space. • To learn how to find saved work in the Online Work area. • To learn about what the teacher has access to in Purple Mash. • To learn how to see messages left by the teacher on their work. • To learn how to search Purple Mash to find resources. • To become familiar with the types of resources available in the Topics section. • To become more familiar with the icons used in the resources in the Topics section. • To start to add pictures and text to work.	• To understand that data can be represented in picture format. • To contribute to a class pictogram. • To use a pictogram to record the results of an experiment. • To understand the differences between traditional books and ebooks. • To explore the tools of 2Create a Story's My Simple Story level. • To save the page they have created. • To add a sound effect to a picture. • To add a voice recording to the picture. • To add created music to the picture. • To add a background to the story. • To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story.	• To emphasise the importance of following instructions. • To follow and create simple instructions on the computer. • To consider how the order of Instructions affects the result. •To understand what instructions are. • To predict what will happen when instructions are followed. • To understand that computer programs work by following instructions called code. • 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. • To understand what an event is. • To begin to understand how code executes when a program is run.

	• To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. • To explore the Games area on Purple Mash. (extension) • To understand the importance of logging out when they have finished. • To find and understand examples of where technology is used in the local community. • To record examples of technology outside school.		
Year 2	Coding	Online Safety Effective searching	Spreadsheets Creating pictures Making music Presenting Ideas
	• To understand what an algorithm is. • To create a computer program using an algorithm. • To create a program using a given design. • To understand the collision detection event. • To understand that algorithms follow a sequence. • To design an algorithm that follows a timed sequence. • To understand that different objects have different properties. • To understand what different events do in code. • To know what debugging means. • To understand the need to test and debug a program repeatedly. • To debug simple programs.	To know how to refine searches using the Search tool. • To know how to share work electronically using the display boards. • To use digital technology to share work on Purple Mash to communicate and connect with others locally. • To have some knowledge and understanding about sharing more globally on the Internet. • To introduce Email as a communication tool using 2Respond simulations. • To understand how we talk to others when they are not there in front of us. • To open and send simple online communications in the form of email. • To understand that information put online leaves a digital footprint or trail.	• To understand what a spreadsheet is used for. • To understand what a spreadsheet looks like. • To be able to navigate around a spreadsheet and enter data. • To learn new vocabulary related to spreadsheets. • To add different types of images to a spreadsheet. • To use image as calculation aids. • To use the 'move cell' tool to make images draggable. • To use clipart images in a spreadsheet. • To assign values to images. • To use assigned values in calculations. • To use 2Calculate totalling tools. • To use 2Calculate to solve a simple puzzle. • To explore the capabilities of a spreadsheet in adding up coins to match the prices of objects.

		• To begin to think critically about the information they leave online. • To identify the steps that can be taken to keep personal data and hardware secure. • To understand the terminology associated with the Internet and searching. • To gain a better understanding of searching the Internet. • To create a leaflet to help someone search for information on the Internet.	• To add and edit data in a table layout. • To find out how spreadsheet programs can automatically create graphs from data. • To explore 2Paint A Picture. • To look at the work of Impressionist artists and recreate them using the Impressionism template. • To look at the work of pointillist artists such as Seurat. • To recreate pointillist art using the Pointillism template. • To look at the work of Piet Mondrian and recreate it using the Lines template. • To look at the work of William Morris and recreate it using the Patterns template. • To look at some surrealist art and create your own using the eCollage function in 2Paint A Picture. • To be introduced to making music digitally using 2Sequence. • To explore, edit and combine sounds using 2Sequence. • To add sounds to a tune to improve it. • To think about how music can be used to express feelings and create tunes which depict feelings. • To upload a sound from a bank of sounds into the Sounds section. • To record their own sound and upload it into the Sounds section. • To create their own tune using the sounds which they have added to the Sounds section. • To explore how a story can be

			presented in different ways. • To make a quiz about a story or class topic. • To make a fact file on a non-fiction topic. • To make a presentation to the class.
Year 3	Coding	Touch Typing Presenting (with Google slides) Graphing Spreadsheets Simulations	Online Safety
	• To review previous coding knowledge. • To understand what a flowchart is and how flowcharts are used in computer programming. • To understand that there are different types of timers. • To be able to select the right type of timer for a purpose. • To understand how to use the repeat command. • To use coding knowledge to create a range of programs. • To understand the importance of nesting. • To design and create an interactive scene.	• To add and edit data in a table layout. • To find out how spreadsheet programs can automatically create graphs from data. • To introduce the Advanced mode of 2Calculate. • To learn about describing cells using their addresses. • To learn about the formula wizard in 2Calculate Advanced mode. • To learn about the formula bar in 2Calculate Advanced mode. • To use formulae to complete calculations. • To explore how tools can be combined to use 2Calculate to make number games. • To explore the use of the timer, random number and spin button tools. • To use the line graphing tool in 2Calculate with appropriate data.	• To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. • To understand how the Internet can be used to help us to communicate effectively. • To understand how a blog can be used to help us communicate with a wider audience. • To consider if what can be read on websites is always true. • To look at a ‘spoof’ website. • To create a ‘spoof’ webpage. • To think about why these sites might exist and how to check that the information is accurate. • To learn about the meaning of age restrictions symbols on digital media and devices. • To discuss why PEGI restrictions exist. • To know where to turn for help if they see inappropriate content or have inappropriate contact from others.

		• To interpret a line graph to estimate values between data readings. • To use the range notation in 2Calculate. • To use 2Calculate to create a model of a real-life situation. • To create a spreadsheet file with more than one sheet. • To introduce typing terminology. • To understand the correct way to sit at the keyboard. • To learn how to use the home, top and bottom row keys. • To practice and improve typing for home, bottom, and top rows. • To practice the keys typed with the left hand. • To find out what a simulation is and understand the purpose of simulations. • To explore a simulation, making choices and discussing their effects. • To work through and evaluate a more complex simulation. • To enter data into a graph and answer questions. • To investigate in order to answer a question. • To present the results in graphic form. • To create a page in a presentation. • To add media to a presentation. • To add shapes and lines to a presentation. • To add animations into a presentation. • To use the skills learnt in previous weeks to design and present an effective presentation.	

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Year 4	Coding Logo	Making music Artificial Intelligence Writing for different audiences Effective searching Animation	Online Safety
	• To review coding vocabulary and knowledge. • To create a simple computer program. • To begin to understand selection in computer programming. • To understand how an IF statement works. • To understand how to use coordinates in computer programming. • To understand how an IF statement works. • To understand the Repeat until command. • To begin to understand selection in computer programming. • To understand how an IF/ELSE statement works. • To understand what a variable is in programming. • To use a number variable. • To review vocabulary and concepts learnt in Year 4 Coding. • To create a playable game.	• To explore how font size and style can affect the impact of a text. • To use a simulated scenario to produce a news report. • To use a simulated scenario to write for a community campaign. • To learn the structure of the language of 2Logo. • To input simple instructions in 2Logo. • To use 2Logo to create letter shapes. • To use the Repeat command in 2Logo to create shapes. • To use and build procedures in 2Logo. • To identify and discuss the main elements of music: Pulse, Rhythm, Tempo, Pitch, Texture • To understand and experiment with rhythm and tempo. • To create a melodic phrase. • To compose a piece of electronic music. • To understand the basic concept of artificial intelligence. • To identify real-life examples of artificial intelligence. • To recognise the impact of artificial intelligence in daily life. • To recap what is meant by the terminology artificial intelligence. • To explore how artificial intelligence can	• To understand how children can protect themselves from online identity theft. • To understand that information put online leaves a digital footprint or trail and that this can aid identity theft. • To identify the risks and benefits of installing software including apps. • To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. • To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. • To identify the positive and negative influences of technology on health and the environment. • To understand the importance of balancing game and screen time with other parts of their lives.

		assist and benefit us in various aspects of daily life. • To understand the potential applications and impact of AI in the future. • To encourage critical thinking and creativity when thinking about the future of AI. • To understand how artificial intelligence is being used to create music and art. • To use artificial intelligence to create music and art. • To decide what makes a good, animated film or cartoon and discuss favourite animations. • To learn how animations are created by hand. • To find out how 2Animate animations can be created in a similar way using technology. • To learn about onion skinning in animation. • To add backgrounds and sounds to animations. • Introducing 'stop motion' animation. • To share animation the class blog. • To locate information on the search results page. • To use search effectively to find out information. • To assess whether an information source is true and reliable.	
Year 5	Coding Game Creator	Spreadsheets Database Word processing (Google Docs)	Online Safety
	• To review existing coding knowledge. • To begin to be able to simplify code.	• To use formulae within a spreadsheet to convert measurements of length and distance.	• To gain a greater understanding of the impact that sharing digital content can have.

	• To create a playable game. • To understand what a simulation is. • To program a simulation using 2Code. • To know what decomposition and abstraction are in Computer Science. • To take a real-life situation, decompose it and think about the level of abstraction. • To use decomposition to make a plan of a real-life situation. • To understand how to use friction in code. • To begin to understand what a function is and how functions work in code. • To understand what the different variable types are and how they are used differently. • To understand how to create a string. • To begin to explore text variables when coding. • To understand what concatenation is and how it works. • To Introduce the 2DIY 3D tool. • To begin planning a game. • To design the game environment. • To design the game quest to make it a playable game. • To finish and share the game. • To self- and peer evaluate.	• To use a spreadsheet to model a real-life problem. • To use formulae to calculate area and perimeter of shapes. • To use a spreadsheet to investigate the probability of the results of throwing many dice. • To use spreadsheets to model real-life situations. • To use the created spreadsheet to make decisions about these situations. • To use the count tool to answer hypotheses about common letters in use. • To learn how to search for information in a database. • To contribute to a class database. • To create a database around a chosen topic. • To know what a word processing tool is for. • To add and edit images to a document. • To know how to use word wrap with images and text. • To change the look of text within a document. • To add features to a document to enhance its look and usability. • To use the sharing capabilities in Google docs. • To use tables within Google Docs to present information. • To introduce children to templates.	• To review sources of support when using technology. • To review children' responsibility to one another in their online behaviour. • To know how to maintain secure passwords. • To understand the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this. • To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. • To learn about how to reference sources in their work. • To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. • Ensuring reliability through using different methods of communication.

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Year 6	Coding Text adventures	Spreadsheets Quizzing	Online Safety
	• To design a playable game with a timer and a score. • To plan and use selection and variables. • To understand how the launch command works. • To find out what a text-based adventure game is and to explore an example made in 2Create a Story. • To use 2Connect to plan a 'Choose your own Adventure' type story. • To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. • To read and understand given code for a text adventure game. • To debug a text adventure. • To independently design and implement improvements to a text adventure game.	• To create a picture-based quiz for young children. • To learn how to use the question types within 2Quiz. • To explore the grammar quizzes. • To make a quiz that requires the player to search a database. • To develop skills in creating surveys and questionnaires. • To use a survey to gain information rather than scores. • To know what a spreadsheet looks like. • To navigate and enter data into cells. • To introduce some basic data formulae in Sheets. • To demonstrate how the use of Sheets can save time and effort when performing calculations. • To use a spreadsheet to model a situation. • To demonstrate how spreadsheets can make complex data clearer by manipulating the way it is presented. • To use formulae for percentages, averages, max and min into spreadsheets. • To create a variety of charts and graphs to understand data. • To use a spreadsheet to model a real-life situation. • To apply spreadsheet skills to solving problems.	• To identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location. • To identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon. • To identify the benefits and risks of giving personal information and device access to different software. • To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user. • To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. • To begin to understand how information online can persist and give away details of those who share or modify it. • To understand the importance of balancing game and screen time with other parts of their lives, e.g., explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health. • To identify the positive and negative influences of technology on health and the environment.

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