

WHOLE SCHOOL PROGRESSION PLANNING: COMPUTING

The following document outlines the areas/units of computing to be covered across this school year. Teachers should be flexible in making decisions about their specific choices of learning steps within lessons for their pupils, after studying the content of each unit of learning.

We have chosen not to have a two year rolling programme for computing because:

- In their KS2 journey, children will only revisit one year's worth of content twice (ie 2 years in one class)
- Children have the chance to revisit and develop their prior learning
- Professional judgement will be used by staff to ensure that where possible, end of unit projects may be changed to avoid duplication.

Annual plan	Autumn	Spring	Summer
Elm	Computing systems and networks: Technology Around Us • To identify technology. • To name the parts of a computer. • To use a mouse/track pad and keyboard. • To create rules for using technology responsibly. Data and Information: Grouping Data • To identify, label and count objects. • To describe, sort, group and compare objects. • To answer questions about groups of objects. Labelling, grouping and describing linked to literacy, maths and science.	Creating Media: Digital Painting • To describe what different freehand tools do. • To use the shape and line tools. • To make and explain my tool choice. • To use a computer to paint a picture and compare to one on paper. <i>Revisit parts of a computer, brush tool and cursor.</i> Programming: Moving a Robot • To explain what a given command will do. • To combine forwards, backwards, left and right commands to make sequences. • To plan a simple program. • To find more than one solution to a problem.	Creating Media: Digital Writing • To recognise the keys on a keyboard. • To add and remove text and identify that the look of the text can be changed. • To explain the tools and choices I made to change the text. • To compare typing on a computer to writing on paper. <i>Revisit parts of a computer, text tool and spacebar.</i> Programming: Introduction to Animation • To choose a command for a given purpose and understand that these commands can be joined together. • To add commands, including values, for more than one sprite. • To design a project using Scratch. • To use an algorithm to create a program. <i>Revisit vocabulary – algorithm, direction, program, instruction and command.</i>

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Ash Year 1	Computing systems and networks: Technology Around Us - To identify technology. - To name the parts of a computer. - To use a mouse/track pad and keyboard. - To create rules for using technology responsibly. Data and Information: Grouping Data - To identify, label and count objects. - To describe, sort, group and compare objects. - To answer questions about groups of objects. <i>Labelling, grouping and describing linked to literacy, maths and science.</i>	Creating Media: Digital Painting - To describe what different freehand tools do. - To use the shape and line tools. - To make and explain my tool choice. - To use a computer to paint a picture and compare to one on paper. <i>Revisit parts of a computer, brush tool and cursor.</i> Programming: Moving a Robot - To explain what a given command will do. - To combine forwards, backwards, left and right commands to make sequences. - To plan a simple program. - To find more than one solution to a problem.	Creating Media: Digital Writing - To recognise the keys on a keyboard. - To add and remove text and identify that the look of the text can be changed. - To explain the tools and choices I made to change the text. - To compare typing on a computer to writing on paper. <i>Revisit parts of a computer, text tool and spacebar.</i> Programming: Introduction to Animation - To choose a command for a given purpose and understand that these commands can be joined together. - To add commands, including values, for more than one sprite. - To design a project using Scratch. - To use an algorithm to create a program. <i>Revisit vocabulary: e.g. algorithm, direction, program, command and instruction.</i>

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Ash Year 2	Computing systems and networks: IT Around Us - To recognise the uses and features of information technology. - To identify the uses of information technology and how it helps us. - To explain how to use information technology safely. - To recognise that choices are made when using information technology. <i>Revisit parts of a computer and technology definition.</i> Data and Information: Pictograms - To recognise that objects can be counted and compared using tally charts. - To recognise that objects can be described by attributes and represented by pictures to produce a pictogram or block graph. - To collect data and present the information for others to answer questions about it. - To answer questions from information presented in a pictogram or block graph.	Creating Media: Digital Photography - To use a digital device to take a photograph. - To make informed choices about taking a photograph landscape or portrait. - To describe what makes a good photograph and how light can affect it. - To use tools to change an image and recognise that photos can be changed. <i>Landscape/portrait link to art.</i> Programming: Robot Algorithms - To describe a series of instructions (algorithms) as a sequence and what happens when the order is changed. - To follow, compare and predict the outcome of a series of commands (program). - To design a mat and test routes around it. - To plan, test and debug algorithms within a program. <i>Revisit BeeBot command buttons and use of an algorithm.</i>	Creating Media: Digital Music - To listen to music and identify patterns and instruments within it. - To make a musical sequence of notes using a computer. - To create music for a purpose and explain choices. - To review and refine my work. Programming: An Introduction to Quizzes - To explain that a sequence of commands has a start and an outcome. - To create a program using a given design, including the blocks and actions required for the sprites. - To change designs, including backgrounds and characters. - To debug a program and improve it by adding features. <i>Revisit Scratch commands and creating an algorithm.</i>

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Oak	Computing systems and networks: Connecting Computers - To explain how digital devices function and recognise input and output devices. - To recognise how digital devices can change the way that we work and know some differences between using digital devices and using non-digital tools. - To explain how a computer network can be used to share information and how devices support this to work. - To recognise the physical components of a network and identify the devices within it. Maths – function machines Creating Media: Animation - To explain that animation is a sequence of drawings or photographs with little changes for each frame. - To plan an animation using a storyboard. - To review and improve an animation by looking through the frames and explaining ways to make it better. - To evaluate the impact of adding other media to an animation.	Creating Media: Desktop Publishing - To recognise how text and images provide information in different ways. - To recognise that text and layout can be edited, including by choosing appropriate page settings. - To add content including text and images appreciating the layout needs to suit the purpose. - To compare work made on desktop publishing to work created by hand and consider the benefits of both. Data and Information: Branching Databases - To create and investigate questions with yes/no answers so objects can be separated by one attribute. - To identify the object attributes needed to create a branching database. - To explain why it is helpful for a database (and its questions) to be ordered carefully and to use one to identify objects. - To compare the information shown in a pictogram with a branching database and how both can be used to answer questions.	Programming: Sequencing in Music - To identify objects/attributes in Scratch including sprites, backgrounds and blocks. - To produce a number of commands and join them in a sequence. - To develop and explore sequence implementation and whether order is important. To use motion, sound, costumes and backdrops in a designed sequence. - To create, test and debug a musical algorithm. Programming: Events and Actions - To explain how a sprite moves in an existing project and program to move it in all four directions. - To adapt a program to a new context (using Pen extension) and to develop it by adding features including features and sequences of commands. - To identify and fix bugs in a program including matching a piece of code to outcome and modifying the program linked to the design. - To design, create, implement and evaluate a maze-based challenge.

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Beech	Computing systems and networks: The Internet - To describe the internet as a network of networks that physically connect to each other. - To recognise how networked devices make up the internet which provides many services. - To understand the World Wide Web. To describe and explain how websites can be accessed, stored and created. - To understand and evaluate content on the internet and appreciate the consequences of unreliable content. Creating Media: Vector Drawing - To identify that drawing tools can be used to produce different outcomes. - To create a vector drawing by combining shapes. - To recognise that vector drawings consist of layers. - To group objects to make them easier to work with.	Data and Information: Flat File Databases - To use a form to record information. - To outline how grouping and sorting data allows us to answer questions. - To explain that computer programs can select and compare data visually. - To apply own knowledge of a database to ask and answer real world questions. Programming: Repetition in Games - To develop the use of count controlled loops in a programming environment. - To develop a design that includes two or more loops that run at the same time. - To modify an infinite loop in a given program. - To design and create a project that includes repetition.	Creating Media: Photo Editing - To explain that digital images can be changed and why this is sometimes done. - To recognise and use a number of tools to alter an image. - To recognise that not all images are real and help identify them. - To understand how changes can improve an image and evaluate the impact of this. <i>Revisit from Digital Photography in Year 2.</i> Programming: Selection in Quizzes - To explain how selection is used in computer programs. - To understand that a conditional statement connects a condition to an outcome. - To explain how selection directs the flow of a program. - To design, create and evaluate a program that uses selection.

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Willow	Computing systems and networks: Communication - To learn how to use a search engine and describe how they select results. - To explain how search results are ranked and why the order of the results is important. - To recognise how we communicate using technology and to be able to choose a method to suit a particular purpose. - To understand and evaluate the different methods of online communication, knowing when to share (or not) and that it may not be private. Creating Media: 3D Modelling - Use a computer to create and manipulate 3D objects. - To construct a digital 3D model of a physical object. - To design a digital model by combining 3D objects. - To develop and improve a digital 3D model.	Creating Media: Web Page Creation - To review an existing website and consider its structure. - To plan the features of a web page. - To recognise the need to preview pages and the need for a navigation path. - To recognise the need to preview pages and the need for a navigation path. Data and Information: Spreadsheets - To identify questions that can be answered using data. - Apply formulas to produce calculated data. - To choose suitable ways to present data. - To use spreadsheets and data to present specific information.	Programming: Variables in Games - To define a variable as something that is changeable. - To explain why a variable is used in a program. - To design a project and improve a game using variables. - To use own design to create and evaluate own project. Programming: Sensing - To create a program to run on a controllable device. - To update a variable with a user input. - To use a conditional statement to compare a variable to a value. - To design and develop a project that uses inputs and outputs on a controllable device.