




Computing Progression Overview 2021-2022

Predominant Area of Computing (Most units will include aspects of all strands)		
 Computer Science	 Spreadsheets	 Internet and Email

On-Line Safety: At the start of every academic year, each year group will teach on-line safety and at regular intervals throughout the year this is revisited. The school will also take part in the annual Safer Internet Day, Tuesday 8th February 2022.

Year 1

Unit	Unit 1.1	Unit 1.2	Unit 1.3	Unit 1.4	Unit 1.5	Unit 1.6	Unit 1.7	Unit 1.8	Unit 1.9
Number of Lessons	4	2	3	3	3	5	6	3	2
	Online Safety	Grouping & Sorting	Pictograms	Lego Builders	Maze Explorers	Animated Story Books	Coding	Spreadsheets	Technology Outside School
Main Tool	Paint Projects / 2Connect / 2Count / 2Explore	2Do It Yourself	2Connect 2Count	Paint Projects	2Go	2Create A Story	2Code 2Dos / Tools Free code chimp	2Calculate	2Publish Plus
	<ul style="list-style-type: none"> To log in safely. To learn how to find saved work in the Online Work area and find teacher comments. To learn how to search Purple 	<ul style="list-style-type: none"> To sort items using a range of criteria. To sort items on the computer using the 'Grouping' activities in 	<ul style="list-style-type: none"> To understand that data can be represented in picture format. To contribute to a class pictogram. To use a 	<ul style="list-style-type: none"> To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. 	<ul style="list-style-type: none"> To understand the functionality of the direction keys. To understand how to create and debug a set of instructions (algorithm). 	<ul style="list-style-type: none"> To introduce e-books and the 2Create a Story tool. To add animation to a story. To add sound 	<ul style="list-style-type: none"> To understand what instructions are and predict what might happen when they are followed. To use code to 	<ul style="list-style-type: none"> To know what a spreadsheet program looks like. To locate 2Calculate in Purple Mash. 	<ul style="list-style-type: none"> To walk around the local community and find examples of where technology is used. To record

	<p>Mash to find resources.</p> <ul style="list-style-type: none"> • To become familiar with the icons and types of resources available in the Topics section. • To start to add pictures and text to work. • To explore the Tools and Games section of Purple Mash. • To learn how to open, save and print. Key Resources Paint Projects 2Connect Tools 2Count 2Explore • To understand the importance of logging out. 	Purple Mash.	pictogram to record the results of an experiment.	<ul style="list-style-type: none"> • To follow and create simple instructions on the computer. • To consider how the order of instructions affects the result. 	<ul style="list-style-type: none"> • To use the additional direction keys as part of an algorithm. • To understand how to change and extend the algorithm list. • To create a longer algorithm for an activity. • To set challenges for peers. • To access peer challenges set by the teacher as 2Dos. 	<p>to a story, including voice recording and music the children have composed.</p> <ul style="list-style-type: none"> • To work on a more complex story, including adding backgrounds and copying and pasting pages. • To share e-books on a class display board. 	<p>make a computer program.</p> <ul style="list-style-type: none"> • To understand what object and actions are. • To understand what an event is. • To use an event to control an object. • 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. 	<ul style="list-style-type: none"> • To enter data into spreadsheet cells. • To use 2Calculate image tools to add clipart to cells. • To use 2Calculate control tools: lock, move cell, speak and count. 	examples of technology outside school.
Curriculum Links	Keeping safe at home PSHE Link	Science identifying different groups of animals. E.g Mammals, Fish, Amphibians etc)	Maths – Arrays, shape and positional language.	English – Non-Fiction instructions.	Geography – locations of areas in the world (Directions)	English – Narrative Writing.	Maths – Word Problems/ Reasoning	Maths – Place Value/ Fractions.	Science/ History/ Geography

Year 2

Unit	Unit 2.1	Unit 2.2	Unit 2.3	Unit 2.4	Unit 2.5	Unit 2.6	Unit 2.7	Unit 2.8
Number of Lessons	5	3	4	5	3	5	3	4
	Coding	Online-Safety	Spreadsheet	Questioning	Effective Research	Creating Pictures	Making Music	Presenting Ideas
Main Tool	2Code 2Dos / Tools . Free code chimp	Sharing 2Email	2Calculate	2Question 2Investigate 2Count	Google Chrome (Browser)	2Paint A Picture	2Sequence	2Create a Story / 2Connect / 2Quiz/ 2Publish
	<ul style="list-style-type: none"> •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. Key Resources • To understand what different events do in code. • To understand the 	<ul style="list-style-type: none"> •To know how to refine searches using the Search tool. • 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 should talk to others in an online situation. • To open and 	<ul style="list-style-type: none"> •To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. • To learn how to copy and paste in 2Calculate. • To use the totalling tools. • To use a spreadsheet for money calculations. • To use the 2Calculate equals tool to check calculations. Key Resources • To use 2Calculate to collect data and produce a graph. 	<ul style="list-style-type: none"> • 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 2Question (a binary tree database) to answer questions. • To use a database to answer more complex search questions. Key Resources 2Count • To use the Search tool to find information. 	<ul style="list-style-type: none"> •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. 	<ul style="list-style-type: none"> • To learn the functions of the 2Paint a Picture tool. • To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). • To recreate Pointillist art and look at the work of pointillist artists such as Seurat. • To learn about the work of Piet Mondrian and recreate the style using the lines template. Key Resources • To learn about the work of William Morris and recreate the style using the patterns template. • To explore 	<ul style="list-style-type: none"> • To make music digitally using 2Sequence. • To explore, edit and combine sounds using 2Sequence. • To edit and refine composed music. • 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 and upload environmental sounds into Purple Mash. Key Resources • To use these sounds to create 	<ul style="list-style-type: none"> -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.

	<p>function of buttons in a program.</p> <ul style="list-style-type: none"> • To understand and debug simple programs. 	<p>send simple online communications in the form of email.</p> <ul style="list-style-type: none"> • 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. 				surrealism and eCollage.	tunes in 2Sequence.	
Curriculum Links	Maths – Place Value/ Addition/ Subtract	PSHE - Getting to know you and setting rules	Curriculum Links: Maths – Addition and subtraction/ Statistics	History and communication of the ages. (Research)	PSHE – Using research skills to look at the Environment	ART – Great fire of London	Music – Friendship Song	Geography – Fact Files for Australia.

Year 3

Unit	Unit 3.1	Unit 3.2	Unit 3.3	Unit 3.4	Unit 3.5	Unit 3.6	Unit 3.7	Unit 3.8	Unit 3.9
Number of Lessons	6	3	3	4	6	4	3	3	6
	Coding	Online Safety	Spreadsheets	Touch Typing	Email (incl email Safety)	Branching Databases	Simulations	Graphing	Presenting
Main Tool	2Code / Tools 2Dos / 2Chart	2Dos / 2Connect 2Publish Plus / 2Blog / 2Write	2Calculate	2Type	2Email (2Connect, 2DIY)	2Question	2Simulate	2Graph	Google Slide
	<ul style="list-style-type: none"> To understand what a flowchart is and how flowcharts are used in computer programming. To understand that there are different types of timers and select the right type for purpose. To understand how to use the repeat command. To understand the importance of nesting. Key Resources To design and create an interactive scene. 	<ul style="list-style-type: none"> To know what makes a safe password. To learn methods for keeping passwords safe. To understand how the Internet can be used in effective communication. To understand how a blog can be used to communicate with a wider audience. To consider the truth of the content of websites. To learn about the meaning of age restrictions symbols on 	<ul style="list-style-type: none"> To use the symbols more than, less than and equal to, to compare values. To use 2Calculate to collect data and produce a variety of graphs. To use the advanced mode of 2Calculate to learn about cell references. 	<ul style="list-style-type: none"> 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 practise typing with the left and right hand. 	<ul style="list-style-type: none"> To think about different methods of communication. To open and respond to an email using an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario. 	<ul style="list-style-type: none"> To sort objects using just 'yes' or 'no' questions. To complete a branching database using 2Question. To create a branching database of the children's choice. 	<ul style="list-style-type: none"> To consider what simulations are. To explore a simulation. To analyse and evaluate a simulation. 	<ul style="list-style-type: none"> To enter data into a graph and answer questions. To solve an investigation and present the results in graphic form. 	<ul style="list-style-type: none"> To understand the purpose of the Slides tool. To add slides to presentations. To add media to presentations. To format text appropriately. To add shapes and lines to enhance a presentation. Key Resources To use the skills learnt to design and create an engaging presentation.

		digital media and devices.							
Curriculum Links	Maths – Addition and subtraction	Getting to know you and setting rules -Our class -Rules -Respect	Maths – Multiplication and division		Linking back to previous Unit on online safety. PSHE – Relationships	Science - Fair test-conditions for a plant. Different locations for different plants- what factors will need to stay the same? What factors can change?			

Unit	Unit 4.1	Unit 4.2	Unit 4.3	Unit 4.4	Unit 4.5	Unit 4.6	Unit 4.7	Unit 4.8	Unit 4.9
Number of Lessons	6	4	6	5	4	3	3	2	4
	Coding	Online Safety	Spreadsheets	Writing for Different Audiences	Logo	Animation	Effective Searching	Hardware Investigation	Making Music
Main Tool	2Code / Tools / 2Do / 2Chart	2Connect / 2Investigate / SPAM	2Calculate (Google Slides)	2Publish Plus 2Simulate Google Docs	2Logo	2Animate	2Publish Plus Google Chrome Google Docs	2Connect 2Quiz	Beasy Beats
	<ul style="list-style-type: none"> To begin to understand selection in computer programming. To understand how an IF statement works. To understand how to use co-ordinates in computer programming. To understand the 'repeat until' command. To understand how an IF/ELSE statement works. To understand what a variable is in programming. To use a 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> To format cells as currency, percentage, decimal to different decimal places or fraction. To use the formula wizard to calculate averages. To combine tools to make spreadsheet activities such as timed times tables tests. To use a spreadsheet to model a real life situation. Key Resources To add a formula to a cell to automatically make a 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To learn the structure of the coding language of Logo. To input simple instructions in Logo. Using 2Logo to create letter shapes. To use the Repeat function in Logo to create shapes. To use and build procedures in Logo. 	<ul style="list-style-type: none"> To discuss what makes a good animated film or cartoon. To learn how animations are created by hand. To find out how 2Animate can be created in a similar way using the computer. To learn about onion skinning in animation. To add backgrounds and sounds to animations. To be introduced to 'stop motion' animation. To share animation on the class display 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To understand the different parts that make up a computer. To recall the different parts that make up a computer. 	<ul style="list-style-type: none"> To identify and discuss the main elements of music. To understand and experiment with rhythm and tempo. To create a melodic phrase. To electronically compose a piece of music.

	<p>number variable. Key Resources Tools 2Dos 2Chart Free code gibbon</p> <ul style="list-style-type: none"> • To create a playable game. 	<p>‘plagiarism’ and to consider the consequences of plagiarism.</p> <ul style="list-style-type: none"> • 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. 	<p>calculation in that cell.</p>			<p>board and by blogging.</p>			
Curriculum Links	<p>Maths – Subtraction and Addition</p>	<p>PSHE – Go Givers Media and Setting Rules.</p>	<p>Maths – Multiplication and division</p>	<p>Information texts and news reports based on Demon Dentist.</p>	<p>English – Writing instructions on how to build a circuit.</p>	<p>Topic- Build an animation on electric appliances working.</p>	<p>Research Topic – Vikings research. Sutton Hoo.</p>		

Year 5

Unit	Unit 5.1	Unit 5.2	Unit 5.3	Unit 5.4	Unit 5.5	Unit 5.6	Unit 5.7	Unit 5.8
Number of Lessons	6	3	6	4	5	4	4	8
	Coding	Online Safety	Spreadsheets	Databases	Game Creator	3D Modelling	Concept Maps	Hardware Investigation
Main Tool	2Code / Tools /Dos /2Chart /Free code gorilla	Display Boards / 2Paint a Picture / 2Connect / 2Publish Plus	2Calculate	2Investigate Avatar builder	2DIY 3D	2Design & make	2Connect	2Coonect Google
	<ul style="list-style-type: none"> • To begin to simplify code. • 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 a take a real-life situation, decompose it and think about the level of abstraction. • To understand how to use friction in code • To begin to understand what a 	<ul style="list-style-type: none"> • To gain a greater understanding of the impact that sharing digital content can have. • To review sources of support when using technology and children’s 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. • Key Resources 	<p>To use formulae within a spreadsheet to convert measurements of length and distance.</p> <ul style="list-style-type: none"> • To use the count tool to answer hypotheses about common letters in use. • To use a spreadsheet to model a real life problem. • To use formulae to calculate area and perimeter of shapes. • To create formulae that use text variables. Key Resources <p>2Calculate</p>	<ul style="list-style-type: none"> • To learn how to search for information in a database. • To contribute to a class database. • To create a database around a chosen topic. 	<ul style="list-style-type: none"> • To plan a game. • To design and create the game environment. • To design and create the game quest. • To finish and share the game. • To self and peer evaluate. 	<ul style="list-style-type: none"> • To be introduced to 2Design and Make and the skills of computer aided design. • To explore the effect of moving points when designing. • To design a 3D Model to fit certain criteria. • To refine and print a model. 	<ul style="list-style-type: none"> • To understand the need for visual representation when generating and discussing complex ideas. • To understand the uses of a 'concept map'. • To understand and use the correct vocabulary when creating a concept map. • To create a concept map. • To understand how a concept map can be used to retell stories and information. • To create a collaborative concept map and present this to an audience. 	<ul style="list-style-type: none"> • To know what a word processing tool is for. • To add and edit images to a word 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 to present information. • To introduce children to tempates

	<p>function is and how functions work in code.</p> <ul style="list-style-type: none"> • To understand what the different variables types are and how they are used differently. • To understand how to create a string. Key Resources Tools 2Dos 2Chart Free code gorilla • To understand what concatenation is and how it works. 	<p>Display Boards 2Paint a Picture 2Connect Key Questions</p> <ul style="list-style-type: none"> • To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. 2Publish Plus Who do I tell if I see anything online that makes me upset or scared? • 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. To ensure reliability through using different methods of communication. 	<ul style="list-style-type: none"> • To use a spreadsheet to help plan a school cake sale. 					
<p>Curriculum Links</p>	<p>Maths – Addition and Subtraction</p>							

Unit	Unit 6.1	Unit 6.2	Unit 6.3	Unit 6.4	Unit 6.5	Unit 6.6	Unit 6.7	Unit 6.8	Unit 6.9
Number of Lessons	6	2	5	4	5	3	6	4	8
	Coding	Online Safety	Spreadsheets	Blogging	Text Adventure	Networks	Quizzing	Understanding Binary	Spreadsheets
Main Tool	2Code / Tools / 2Dos / 2Chart / Free code gorilla	2Investigate / 2DIY / 2DIY3D / Free code gorilla	2Calculate	2Blog 2connect	2Create a Story 2connect	Tim Berners-Lee Profile / Communication Questionnaire	2Quiz / 2DIY Text Toolkt / 2Connect / 2Investigate	2Dos / 2Connect / 2Question / Free code gorilla	Google Sheets
	<ul style="list-style-type: none"> 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 use functions and understand why they are useful. To understand how functions are created and called. To use flowcharts to create and debug code. To create a simulation of a room in which devices can be controlled. Key 	<ul style="list-style-type: none"> To identify benefits and risks of mobile devices broadcasting the location of the user/device. To identify secure sites by looking for privacy seals of approval. To identify the benefits and risks of giving personal information. To review the meaning of a digital footprint. To have a clear idea of appropriate online behaviour. To begin to understand how 	<ul style="list-style-type: none"> To use a spreadsheet to investigate the probability of the results of throwing many dice. To use a spreadsheet to calculate the discount and final prices in a sale. To use a spreadsheet to plan how to spend pocket money and the effect of saving money. To use a spreadsheet to plan a school charity day to maximise the money donated to charity. 	<ul style="list-style-type: none"> To identify the purpose of writing a blog. To identify the features of a successful blog. To plan the theme and content for a blog. To understand how to write a blog and a blog post. To consider the effect upon the audience of changing the visual properties of the blog. To understand how to contribute to an existing blog. To understand how and why blog posts are 	<ul style="list-style-type: none"> To find out what a text adventure is. To use 2Connect to plan a story adventure. To make a story-based adventure using 2Create a Story. To introduce an alternative model for a text adventure which has a less sequential narrative. To use written plans to code a mapbased adventure in 2Code. 	<ul style="list-style-type: none"> To learn about what the Internet consists of. To find out what a LAN and a WAN are. To find out how the Internet is accessed in school. To research and find out about the age of the Internet. To think about what the future might hold. 	<ul style="list-style-type: none"> 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 make a quiz to test your teachers or parents. 	<ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). To understand that binary represents numbers using 1s and 0s and 	<ul style="list-style-type: none"> To know what a spreadsheet looks like. To navigate and enter data into cells. To introduce some basic data formulae for percentages, averages and max and min numbers. To demonstrate how the use of spreadsheets can save time and effort when performing calculations. To use a spreadsheet to model a situation. To demonstrate

	Resources Tools 2Dos 2Chart Free code gorilla <ul style="list-style-type: none"> • To understand how user input can be used in a program. • To understand how 2Code can be used to make a text-adventure game.. 	information online can persist. <ul style="list-style-type: none"> • To understand the importance of balancing game and screen time with other parts of their lives. • To identify the positive and negative influences of technology on health and the environment 		approved by the teacher. <ul style="list-style-type: none"> • To understand the importance of commenting on blogs. 				these represent the on and off electrical states respectively in hardware and robotics.	how a spreadsheet can make complex data clear by manipulating the way it is presented. <ul style="list-style-type: none"> • To create a variety of graphs in sheets. • To apply spreadsheet skills to solving problems.
Curriculum Links									

Foundation



Foundation Stage:

Refer to DFE Statutory Framework for early years foundation stage: (published March 2021/effective September 2021)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974907/EYFS_framework_-_March_2021.pdf