

AUTUMN TERM Year 1

Unit/Weeks	Online Safety and Exploring Purple Mash 1.1 (4 Weeks)	Grouping and Sorting 1.2 (2 Weeks)	Animated Story Books 1.6 (5 Weeks)
National Curriculum Objective	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Objectives	<p>To log in safely.</p> <p>To learn how to find saved work in the Online Work area and find teacher comments.</p> <p>To learn how to search Purple Mash to find resources.</p> <p>To become familiar with the icons and types of resources available in the Topics section.</p> <p>To start to add pictures and text to work.</p> <p>To explore the Tools and Games section of PM</p> <p>To learn how to open, save and print.</p> <p>To understand the importance of logging out.</p>	<p>To sort items using a range of criteria.</p> <p>To sort items on the computer using the 'Grouping' activities in Purple Mash.</p>	<p>To introduce e-books and the 2Create a Story tool.</p> <p>To add animation to a story.</p> <p>To add sound to a story, including voice recording and music the children have composed.</p> <p>To work on a more complex story, including adding backgrounds and copying and pasting pages.</p> <p>To share e-books on a class display board.</p>
Learning Outcomes	<p>Children:</p> <ul style="list-style-type: none"> • can log in to Purple Mash using their own login. • have created their own avatar and understand why they are used. • add their name to a picture created on the computer. • are beginning to develop an understanding of ownership of work online. • can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work. • can find their saved work in the Online Work area of PM. • can find messages that their teacher has left for them on PM. • can search Purple Mash to find resources. • will be able to use the different types of topic templates in the Topics section confidently. Children will be confident with the functionality of the icons in the topic templates. • will know how to use the different icons and writing cues to add pictures and text to their work. • have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. Children have explored the Games section and looked at Table Toons (2x tables). • can log out of Purple Mash when they have finished using it and know why that is important. 	<ul style="list-style-type: none"> • Children have sorted items using a range of criteria on the carpet as a class and in pairs. • Children have used Purple Mash activities to sort various items online using a variety of criteria. 	<ul style="list-style-type: none"> • Children know the difference between a traditional book and an e-book. • Children can use the different drawing tools to create a picture on the page. • Children can add text to a page and change the colour, font and size of the text. • Children can save their work. • Children can open work that they saved in their last lesson. • Children can add an animation to their picture. • Children can play the pages they have created. • Children can save their changes and overwrite the file. Children can add a sound to the page. • Children can add their own voice recording to the page. • Children can create their own music and add it to their page. • Children can add a background to the page. • Children can copy and paste a page in the book. • Children can enhance the features of their story book by adding additional pages and animations. • Children can share their story book on a class story book display board.
Vocabulary	Log in, username, password, avatar, My Work, log out, save, notification, topics, tools.	Sort, criteria.	Animation, E-Book, font, file, around effect, display board.
Key Questions	<p>What is a password and why should we keep them safe?</p> <p>What is a digital avatar?</p> <p>Where is my work stored on Purple Mash?</p>	In what ways can we sort objects?	<p>What is 2Create a Story?</p> <p>What is an animated story?</p> <p>How can I make my story better?</p>

SPRING TERM Year 1

Unit/Weeks	Coding 1.7 (6 Weeks)	Pictograms 1.3 (3 Weeks)	Technology Outside School 1.9 (2 Weeks)
National Curriculum Objective	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. 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 programs Use logical reasoning to predict the behaviour of simple programs. Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Recognise common uses of information technology beyond school
Objectives	<ul style="list-style-type: none"> • To understand what coding means. • To use design mode to set up a scene. • To add characters. • To use code blocks to make the character perform actions. • To use collision detection. • To save and share work. • To know the save, print, open and new icon. 	<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 pictogram to record the results of an experiment. 	<ul style="list-style-type: none"> • To walk around the local community and find examples of where technology is used. • To record examples of technology outside school.
Learning Outcomes	<ul style="list-style-type: none"> • Children can explain what coding means. • Children know that for the computer to make something happen, it needs to follow clear instructions. • Children can explain what a block of code is. Children can read through combined blocks of code. • Children can make a background using Design Mode. • Children can add characters using Design Mode. • Children can use the drop-down menu to change backgrounds and characters. • Children can design a simple program and then create the program using 2Code. • Children can write a program that controls how a character will move. • Children can make a character move when clicked. • Children can program a character to move given a variety of input events. • Children can use collision detection to make objects interact. • Children can program a sound to play when objects collide. 	<ul style="list-style-type: none"> • Children can discuss and illustrate the transport used to travel to school. • Children can contribute to the collection of class data. • Children have used these illustrations to create a simple pictogram. • Children can contribute to a class pictogram. • Children can discuss what the pictogram shows. • Children can collect data from rolling a die 20 times and recording the results. • Children can represent the results as a pictogram. 	<ul style="list-style-type: none"> • Children understand what is meant by 'technology'. • Children have considered types of technology used in school and out of school. • Children have recorded 4 examples of where technology is used away from school.
Vocabulary	Action, background, button, character, code block, code design, coder, coding, collision detection, command, design mode, input, object, program, properties, scale, stop command, sound, when clicked, when key.	Pictogram, data, collate.	Technology.
Key Questions	What is coding? How can you make characters move in a 2Code program? Why is it useful to design before coding?	What is a pictogram? How can we make a pictogram?	What is technology? How does technology make our lives easier?

SUMMER TERM Year 1

Unit/Weeks	Lego Builders 1.4 (3 Weeks)	Maze Explorers 1.5 (3 Weeks)	Spreadsheets 1.8 (3 Weeks)
National Curriculum Objective	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	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 programs. Use logical reasoning to predict the behaviour of simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Objectives	To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. To follow and create simple instructions on the computer. To consider how the order of instructions affects the result.	To understand the functionality of the direction keys. To understand how to create and debug a set of instructions (algorithm). 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.	To know what a spreadsheet program looks like. How to open 2Calculate in Purple Mash. How 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.
Learning Outcomes	<ul style="list-style-type: none"> Children know that to achieve the effect they want when building something, they need to follow accurate instructions. Children know that by following the instructions correctly, they will get the correct result. Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective. Children can follow instructions in a computer program. Children can explain the effect of carrying out a task with no instructions. Children know that computers need precise instructions to follow. Children know that an algorithm written for a computer to follow is called a program. Children understand how the order in which the steps of a recipe are presented affects the outcome. Children can organise instructions for a simple recipe. Children know that correcting errors in an algorithm or program is called 'debugging'. 	<ul style="list-style-type: none"> Children know how to use the direction keys in 2Go to move forwards, backwards, left and right. Children know how to add a unit of measurement to the direction in 2Go Challenge 2. Children know how to undo their last move. Children know how to move their character back to the starting point Children can use diagonal direction keys to move the characters in the right direction. Children know how to create a simple algorithm. Children know how to debug their algorithm. Children can use the additional direction keys to create a new algorithm. Children can challenge themselves by using the longer algorithm to complete challenges. Children can change the background images in their chosen challenge and save their new challenge. Children have tried each other's challenges as 2Dos. 	<ul style="list-style-type: none"> Children can navigate around a spreadsheet. Children can explain what rows and columns are. Children can save and open sheets. Children can enter data into cells. Children can open the Image toolbox and find and add clipart. Children can use the 'move cell' tool so that images can be dragged around the spreadsheet. Children can use the 'lock' tool to prevent changes to cells Children can give images a value that the spreadsheet can use to count them. Children can add the count tool to count items. Children can add the speak tool so that the items are counted out loud. Children can use a spreadsheet to help work out a fair way to share items.
Vocabulary	Instruction, algorithm, computer, program, debug.	Direction, challenge, undo, rewind, forward, backwards, right turn, left turn, instruction, algorithm.	Arrow keys, backspace key, cursor, columns, cells, clipart, count tool, delete key, Image Toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet.
Key Questions	What is an instruction? Why do we need to debug code?	What is 2Go? How do I undo a mistake on 2Go?	What does a spreadsheet look like? How could you use a spreadsheet to add up values? How could you use the count and speak tools?

AUTUMN TERM Year 2 Cherry

Unit/Weeks	Unit 2.2 Online Safety (2 weeks)	Unit 2.5 Effective Searching (3 weeks)	Unit 2.6 Creating Pictures (5 weeks)
National Curriculum Objective	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.		
	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Objectives	<p>To know how to refine searches using the Search tool.</p> <p>To use digital technology to share work on Purple Mash to communicate and connect with others locally.</p> <p>To have some knowledge and understanding about sharing more globally on the Internet.</p> <p>To introduce Email as a communication tool using 2Respond simulations.</p> <p>To understand how we should talk to others in an online situation.</p> <p>To open and send simple online communications in the form of email.</p> <p>To understand that information put online leaves a digital footprint or trail.</p> <p>To identify the steps that can be taken to keep personal data and hardware secure.</p>	<p>To understand the terminology associated with searching.</p> <p>To gain a better understanding of searching on the Internet.</p> <p>To create a leaflet to help someone search for information on the Internet.</p>	<p>To learn the functions of the 2Paint a Picture tool.</p> <p>To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir).</p> <p>To recreate Pointillist art and look at the work of pointillist artists such as Seurat.</p> <p>To learn about the work of Piet Mondrian and recreate the style using the lines template.</p> <p>To learn about the work of William Morris and recreate the style using the patterns template.</p>
Learning Outcomes	<p>Children:</p> <ul style="list-style-type: none"> • can use the search facility to refine searches on Purple Mash by year group and subject. • can share the work they have created to a display board. • understand that the teacher approves work before it is displayed. • are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet. • understand how 2Repond can teach about how to use email. • can open and send an email to a 2Respond character. • have discussed their own experiences and understanding of what email is used for. • have discussed what makes us feel happy and what makes us feel sad. • can explain what a digital footprint is. • can give examples of things that they wouldn't want to be in their digital footprint. 	<p>Children:</p> <ul style="list-style-type: none"> • can recall the meaning of key Internet terms. • have completed a quiz about the Internet. • can identify the basic parts of a web search engine search page. • have learnt to read a web search results page. • can search for answers to a quiz on the Internet. • have created a leaflet to consolidate their knowledge of effective Internet searching. 	<p>Children:</p> <ul style="list-style-type: none"> • can explain what is meant by impressionist art. • can use 2Paint a Picture to create their own art based upon this style. • can explain what pointillism is. • can use 2Paint a Picture to create their own art based upon this style. • can describe the main features of Piet Mondrian's work. • can use 2Paint a Picture to create their own art based upon his style. • can describe the main features of art that uses repeating patterns. • can use 2Paint a Picture to create their own art by repeating patterns in a variety of ways. • can combine more than one effect in 2Paint a Picture to enhance their patterns. • can describe surrealist art. • can use the eCollage function in 2Paint a Picture to create their own surrealist art using drawing and clipart.
Vocabulary	search, displayboard, Internet, sharing, email, attachment, digital footprint	Internet, search, search engine	Impressionism, palette, Pointillism, share, Surrealism, template
Key Questions	<p>Why is a search bar useful?</p> <p>Why is an e-mail?</p> <p>What is meant by my Digital Footprint?</p>	How can I search the Internet?	<p>What are the main features of Impressionism?</p> <p>What are the main features of Pointillism?</p> <p>What are the main features of Surrealism?</p>

SPRING TERM Year 2 Cherry

Unit/Weeks	Unit 2.4 Questioning (5 weeks)	Unit 2.1 Coding (5 weeks)
National Curriculum Objective	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	
	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	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 programs. Use logical reasoning to predict the behaviour of simple programs.
Objectives	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. To use the Search tool to find information.	To understand what an algorithm is. To design algorithms and then code them. To compare different object types. To use the repeat command. To use the timer command. To know what debugging is and debug programs.
Learning Outcomes	Children: <ul style="list-style-type: none"> • understand that the information on pictograms cannot be used to answer more complicated questions. • have used a range of yes/no questions to separate different items. • understand what is meant by a binary tree. • have designed a binary tree to sort pictures of children • understand that questions are limited to 'yes' and 'no' in a binary tree. • understand that the user cannot use 2Question to find out answers to more complicated questions. • have matched the 2Simple Avatar pictures to names using a binary tree • understand what is meant by a database. • have used a database to answer simple and more complex search questions 	Children: <ul style="list-style-type: none"> • can explain that an algorithm is a set of instructions. • can describe the algorithms they created. • can explain that for the computer to make something happen, it needs to follow clear instructions. • know that the Turtle and Character objects have different properties and move in different ways. They can begin to make choices about which object type to use. • are beginning to understand that the Repeat and Timer commands both make objects repeat actions but function differently and the type of object can affect which is the best command to use. • can include a button in their programs. • can explain what debug (debugging) means. • have a clear idea of how to use a design document to start debugging a program. • can debug simple programs. • can explain why it is important to save their work after each functioning iteration of the program they are making. • can create a computer program using different objects. • can predict what the objects in classmates' programs will do, based on my knowledge of the objects' limitations, e.g. a turtle can only move in specific ways. • can explain how they know that certain objects can only move in certain ways • can plan and use algorithms in programs successfully to achieve a result. • can plan and use algorithms in programs successfully to achieve the desired result. • can code a program using a variety of objects, actions, events and outputs successfully
Vocabulary	pictogram, question, data, collate, binary tree, avatar, database	action, algorithm, bug, character, code block, code design, command, debug/debugging, design mode, input, object, properties, repeat, scale, timer, when clicked, when key.
Key Questions	How does a Pictogram show information? How is information organised in a binary tree? How can a database help organise information?	What is an algorithm? Why is it useful in coding? What is an algorithm? Why is it useful in coding? If you are good at coding, you don't need to debug. Is this true?

SUMMER TERM Year 2 Cherry

Unit/Weeks	Unit 2.7 Making Music (3 weeks)	Unit 2.3 Spreadsheets (4 weeks)	Unit 2.8 Presenting Ideas (4 weeks)
National Curriculum Objective	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.		
	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Objectives	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. To use these sounds to create tunes in 2Sequence.	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. To use 2Calculate to collect data and produce a graph.	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.
Learning Outcomes	Children: <ul style="list-style-type: none"> • understand what 2Sequence is and how it works. • have used the different sounds within 2Sequence to create a tune. • have explored how to speed up and slow down tunes. • understand what happens to the tune when sounds are moved. • have added sounds to a tune they've already created to change it. • have considered how music can be used to express feelings. • can change the volume of the background sounds. • have created two tunes which depict two feelings. • have uploaded and used their own sound chosen from a bank of sounds. • have created, uploaded and used their own recorded sound. • have created their own tune using some of the chosen sounds 	Children: <ul style="list-style-type: none"> • can explain what rows and columns are in a spreadsheet. • can open, save and edit a spreadsheet. • can add images from the image toolbox and allocate them a value. • can add the count tool to count items • can use copying a pasting to help make spreadsheets. • can use tools in a spreadsheet to automatically total rows and columns. • can use a spreadsheet to solve a mathematical puzzle. • can use images in a spreadsheet. • can work out how much they need to pay using coins by using a spreadsheet to help calculate. • can create a table of data on a spreadsheet. • can use the data to create a block graph manually 	Children: <ul style="list-style-type: none"> • have examined a traditional tale presented as a mind map, as a quiz, as an e-book and as a fact file. • know that digital content can be represented in many forms. • have made a quiz about a story using 2Quiz. • can talk about their work and make improvements to solutions based on feedback received. • have extracted information from a 2Connect file to make a publisher fact file on a non-fiction topic. • have added appropriate clipart. • have added an appropriate photo. • know that data can be structured in tables to make it useful. • can use a variety of software to manipulate and present digital content and information. • can collect, organise and present data and information in digital content. • can create digital content to achieve a given goal by combining software packages.
Vocabulary	Bpm, composition, digitally, instrument, music, sound effects (Sfx), soundtrack, tempo, volume	backspace key, copy and paste, columns, cells, count tool, delete key, equals tool, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet,	concept map (mind map), node, animated, quiz, non-fiction, presentation, narrative, audience
Key Questions	What is meant by digital music? How can I change how my music sounds? How can I change how my music sounds?	Why would you copy and paste when using a spreadsheet? How could a spreadsheet help you when you are planning some shopping? Look at the graph made in 2Calculate showing the class' favourite pets. Which is the most popular?	What do we need to think about when planning a presentation? What do we need to think about when planning a presentation?

AUTUMN TERM Year 3 Redwood

Unit/Weeks	3.2 Online Safety (3 weeks)	3.4 Touch Typing (4 weeks)	3.1 Coding (6 Weeks)
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
Objectives	To know what makes a safe password. 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 digital media and devices.	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 typing with the left and right hand.	To design algorithms using flowcharts. To design an algorithm that represents a physical system and code this representation. To use selection in coding with the 'if' command. To understand and use variables in 2Code. To deepen understanding of the difference between timers and repeat commands.
Learning Outcomes	<ul style="list-style-type: none"> Children understand what makes a good password for use on the Internet. Children are beginning to realise the outcomes of not keeping passwords safe. Children can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. Children have contributed to a class blog with clear and appropriate messages. Children understand that some information held on websites may not be accurate or true. Children are beginning to understand how to search the Internet and how to think critically about the results that are returned. Children have accessed and assessed a 'spoof' website. Children have created their own 'spoof' webpage mock-up. Children have shared their 'spoof' web page on a class display board. Children can identify some physical and emotional effects of playing/watching inappropriate content/games. Children relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting. 	<ul style="list-style-type: none"> Children understand the names of the fingers Children understand what is meant by – top row, home row, bottom row and space bar Children can use two hands to type the letters on the keyboard. Children can type full words using the correct fingering. Children can type a series of words with speed and accuracy. 	<ul style="list-style-type: none"> Children can create a design that represents a sequential algorithm. Children can use a flowchart design to create the code. Children can explain what Object, Action, Output, Control and Event are in computer programming. Children can explain how their program simulates a physical system, i.e. my vehicles move at different speeds and angles. Children can describe what they did to make their vehicle change angle. Children can show that their vehicles move at different speeds Children can make use of the X and Y properties of objects in their coding. Children can create an if statement in their program. Children can use a timer and if statement to introduce selection in their program. Children can explain what a variable is in programming. Children can explain why variables need to be named. Children can create a variable in a program. Children can set/change the variable values appropriately to create a timer. Children can show how their character repeats an action and explain how they caused it to do so. Children are beginning to understand how the use of the timer differs from the repeat command and can experiment with the different methods of repeating blocks of code. Children can explain how they made objects repeat actions. Children can explain what debug (debugging) means. Children have a clear idea of how to use a design document to start debugging a program. Children can debug simple programs.
Vocabulary	Password, Internet, Blog, Concept Map, Username, Website, Webpage, Spoof Website, PEGI Rating	Posture, Top row keys, Home row keys, Bottom row keys, Space Bar	<>=, Advance Mode, Copy and Paste, Columns, Cells, Delete Key, Equals Tool, Move Cell Tool, Rows, Spin Tool, Spreadsheet
Key Questions	What is a password and why should we keep them safe? Is everything I read on the internet true? How do I know if I am old enough to play a computer game?	Why should I have good posture at a computer? Why should I type certain keys with certain fingers?	What is the difference between the different object types in 2Code Gibbon Level? What does selection mean in coding and how can you achieve this in 2Code? Give an example of how you could use a variable in coding?

SPRING TERM Year 3 Redwood

Unit/Weeks	3.3 Spreadsheets (3 Weeks)	3.8 Graphing (3 Weeks)	3.6 Branching Databases (4 Weeks)
National Curriculum Objective	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.		
Objectives	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.	To enter data into a graph and answer questions. To solve an investigation and present the results in graphic form.	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.
Learning Outcomes	<ul style="list-style-type: none"> Children can create a table of data on a spreadsheet. Children can use a spreadsheet program to automatically create charts and graphs from data. Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and help to work out solutions to sums. Children can use the 'spin' tool to count through times tables Children can describe a cell location in a spreadsheet using the notation of a letter for the column followed by a number for the row. Children can find specified locations in a spreadsheet. 	<ul style="list-style-type: none"> Children can set up a graph with a given number of fields. Children can enter data for a graph. Children can produce and share graphs made on the computer. Children have solved a maths investigation. Children can present the results in a range of graphical formats. 	<ul style="list-style-type: none"> Children understand how YES / NO questions are structured and answered. Children have used YES/NO questioning to play a simple game with a friend. Children have contributed to a class branching database about fruit. Children have completed a branching database about vegetables Children can choose a suitable topic for a branching database. Children can select and save appropriate images. Children can create a branching database. Children know how to use and debug their own branching database.
Vocabulary	Communication, Email, Compose, Send, Report to the Teacher, Attachment, Address Book, Save to Draft, Password, CC, Formatting	Graph, Field, Data, Bar Chart, Block Graph, Line Graph	Branching Database, Data, Database, Question
Key Questions	<p>Explain how you would collect data to find out children's favourite school subjects. What sort of graph would you create?</p> <p>How can you make a 3 times table machine using the spin tool? Could you use the equals tool to check your answer?</p> <p>Explain how you would locate a cell in the advance mode?</p>	<p>What is a graph?</p> <p>What are frame lines on a graph called?</p> <p>What different kind of graphs are there?</p>	<p>What is meant by data?</p> <p>What is a database?</p> <p>What is a branching database?</p>

SUMMER TERM Year 3 Redwood

Unit/Weeks	3.5 Email (6 Weeks)	3.7 Simulations (3 Weeks)	
National Curriculum Objective	Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	
Objectives	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.	To consider what simulations are. To explore a simulation. To analyse and evaluate a simulation.	
Learning Outcomes	<ul style="list-style-type: none"> • Children can list a range of different ways to communicate. • Children can use 2Connect to highlight strengths and weaknesses of each method. • Children can open an email and respond to it. • Children have sent emails to other children in the class. • Children have written rules about how to stay safe using email. • Children have contributed to classmates' rules. • Children have created a quiz about email safety that explores scenarios that I could come across in the future • Children can attach work to an email. • Children know what CC means and how to use it. • Children can read and respond to a series of email communications. • Children can attach files appropriately and use email communication to explore ideas 	<ul style="list-style-type: none"> • Children can give some examples of simulations used for fun and for work. • Children can give suggestions of advantages and problems of simulations. • Children know that a computer simulation can represent real and imaginary situations • Children can use a simulation to try out different options and to test predictions. • Children can begin to evaluate simulations by comparing them with real situations and considering their usefulness. • Children can recognise patterns within simulations and make and test predictions. • Children can identify the relationships and rules on which the simulations are based and test their predictions. • Children can evaluate a simulation to determine its usefulness for purpose. 	
Vocabulary	Action, Algorithm, Bug, Code Block, Code Design, Command, Control, Debug, Design Mode, Event, If, Input, Output, Object, Properties, Repeat, Computer Simulation, Selection, Timer, Variable	Simulation	
Key Questions	What is an email? What should I do if I receive an email that makes me upset or scared? What information can I send in an email?	What is a computer simulation? What kind of simulations are there? Are there any problems with simulations?	

AUTUMN TERM Year 4 Elm

Unit/Weeks	4.8 Hardware Investigators (2 Weeks)	4.7 Effective Searching (3 Weeks)	4.1 Coding (6 Weeks)
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.	Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Objectives	To understand the different parts that make up a computer. To recall the different parts that make up a computer.	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.	To use selection in coding with the 'if/else' command. To understand and use variables in 2Code. To use flowcharts for design of algorithms including selection. To use the 'repeat until' with variables to determine the repeat. To learn about and use computational thinking terms decomposition and abstraction.
Learning Outcomes	<ul style="list-style-type: none"> Children can name the different parts of a desktop computer. Children know what the function of the different parts of a computer is Children have created a leaflet to show the function of computer parts. 	<ul style="list-style-type: none"> Children can structure search queries to locate specific information. Children have used search to answer a series of questions. Children have written search questions for a friend to solve. Children can analyse the contents of a web page for clues about the credibility of the information. 	<p>Children can:</p> <ul style="list-style-type: none"> use sketching to design a program and reflect upon their design. create code that conforms to their design. create an 'If/else' statement. understand what a variable is in programming. set/change the variable values appropriately. interpret a flowchart that depicts an if/else flowchart. show how a character repeats an action and explain how they caused it to do so. make a character respond to user keyboard input. explain what a variable is when used in create a timer that prints a new number to Children can explain how they made their program change the number every second create an algorithm modelling the sequence of a simple event. manipulate graphics in the design view to achieve the desired look for the program. use an algorithm when making a simulation of an event on the computer. make good attempts to break down their aims for a coding task into smaller achievable steps. recognise the need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task.
Vocabulary	Motherboard, CPU, RAM, Graphics card, Network card, Monitor, Speakers, Keyboard, mouse.	Easter Egg, Internet, Internet Browser, Search, Search engine, Spoof website, website.	Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/Debugging, Design Mode, Event, Get Input, If, If/Else, Input, Output, Object, Repeat, Selection, Simulation, Timer, Variable.
Key Questions	What is the difference between hardware and software?	What is a search engine?	Can you explain the stages of the design, code, test, debug coding process? How can variables and if/else statements be useful when coding programs with selection? What do the terms decomposition and abstraction mean?

SPRING TERM Year 4 Elm

Unit + Weeks	4.2 Online Safety (4 Weeks)	4.5 Logo (4 Weeks)	4.6 Animation (3 Weeks)
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Objectives	To understand how children can protect themselves from online identity theft. 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	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.	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 board and by blogging.
Learning Outcomes	<ul style="list-style-type: none"> • Children know that security symbols such as a padlock protect their identity online. • Children know the meaning of the term 'phishing' and are aware of the existence of scam websites. • Children can explain what a digital footprint is and how it relates to identity theft. • Children can give examples of things that they wouldn't want to be in their digital footprint. • Children can identify possible risks of installing free and paid for software. • Children know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer. • Children know what a computer virus is. • Children are able to determine whether activities that they undertake online, infringe another's' copyright. They know the difference between researching and using information and copying it • Children know about citing sources that they have used. • Children consider the reliability of the source of information when looking online. • Children are able to take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. • Children can give reasons for limiting screen time. 	<ul style="list-style-type: none"> • Children know what the different instructions are in Logo and how to type them. • Children can follow simple Logo instructions to create shapes on paper. • Children can follow simple instructions to create shapes in Logo. • Children can create Logo instructions to draw letters of increasing complexity. • Children can write Logo instructions for a word of four letters. • Children can predict what shapes will be made from Logo instructions. • Children can create shapes using the Repeat function. • Children can find the most efficient way to draw shapes. • Children can use the Build feature. • Children can create 'flowers' using Logo. 	<ul style="list-style-type: none"> • Children have put together a simple animation using paper to create a flick book. • Children have an understanding of animation frames. • Children have made a simple animation using 2Animate. • Children know what the Onion Skin tool does in animation. • Children can use the Onion Skin tool to create an animated image. • Children can use backgrounds and sounds to make more complex and imaginative animations • Children know what 'stop motion' animation is and how it is created. • Children have used ideas from existing 'stop motion' films to recreate their own animation. • Children have shared their animations and commented on each other's work using display boards and blogs in Purple Mash.
Vocabulary	Computer virus, cookies, copyright, digital footprint, email, identity theft, Malaware, phishing, plagiarism, spam	Logo, BK, FD, RT, LT, REPEAT, SETPC, SETPS, PU, PD.	Animation. Flipbook, frame, onion skinning, background, play, sound, stop motion, video clip.
Key Questions	What is meant by a digital footprint? WHAT IS spam? What is meant by plagiarism?	What is logo?	What is an animation? What is meant by onion skinning? What is meant by stop frame animation?

SUMMER TERM Year 4 Elm

Unit + Weeks	4.3 Spreadsheets (5 Weeks)	4.4 Writing for different audiences (5 Weeks)	
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		
	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Objectives	<p>Formatting cells as currency, percentage, decimal to different decimal places or fraction.</p> <p>Using the formula wizard to calculate averages.</p> <p>Combining tools to make spreadsheet activities such as timed times tables tests.</p> <p>Using a spreadsheet to model a real-life situation.</p> <p>To add a formula to a cell to automatically make a calculation in that cell.</p>	<p>To explore how font size and style can affect the impact of a text.</p> <p>To use a simulated scenario to produce a news report.</p> <p>To use a simulated scenario to write for a community campaign.</p>	<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.
Learning Outcomes	<ul style="list-style-type: none"> • Children can use the number formatting tools within 2Calculate to appropriately format numbers. • Children can add a formula to a cell to automatically make a calculation in that cell. • Children can use the timer, random number and spin button tools. • Children can combine tools to make fun ways to explore number. • Children can use a series of data in a spreadsheet to create a line graph. • Children can use a line graph to find out when the temperature in the playground will reach 20°C. • Children can make practical use of a spreadsheet to help them plan actions. • Children can use the currency formatting in 2Calculate. • Children can allocate values to images and use these to explore place value. • Children can use a spreadsheet made in 2Calculate to check their understanding of a mathematical concept. 	<ul style="list-style-type: none"> • Children have looked at and discussed a variety of written material where the font size and type are tailored to the purpose of the text. • Children have used text formatting to make a piece of writing fit for its audience and purpose • Children have role-played the job of a journalist in a newsroom. • Children have interpreted a variety of incoming communications and used these to build up the details of a story. • Children have used the incoming information to write their own newspaper report. • Children have used 2Connect to mind-map ideas for a community campaign. • Children have used these ideas to write a persuasive letter or poster as part of the campaign. • Children have assessed their texts using criteria to judge their suitability for the intended audience. 	<ul style="list-style-type: none"> • Children can use appropriate musical language to discuss a piece of music. • Children can identify sounds in a piece of music. • Children can explain how a piece of music makes them feel. • Children can identify and recall a simple rhythm. • Children can explain what tempo is, and how changing it can change the mood of a piece of music. • Children can create their own simple rhythm using Busy Beats • Children can show an understanding of melody. • Children can create a simple melodic pattern using 2Sequence and Busy Beats. • Children can use a variety of notes, experimenting with pitch. • Children can explore and understand how music is created. • Children can experiment with pitch, rhythm, and melody to create a piece of house music on Busy Beats.
Vocabulary	Average, advance mode, copy and paste, columns, cells, chart, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin toll, spreadsheet, timer	Font, bold, italic, underline	Pitch, temp-o, melody, rhythm, dynamics, rippler, pulse, texture, house music.
Key Questions	<p>How would you add a formula so that the cell shows the percentage score for a test?</p> <p>Which tools would you use to create a timed times tables test in 2Calculate?</p> <p>Give an example of the data that could be best represented by a line graph?</p> <p>Explain what a spreadsheet model of a real-life situation and what can it be used for?</p>	Why should I change the font when I'm writing?	What is the difference between melody and rhythm?

AUTUMN TERM Year 5

Unit/Weeks	Coding 5.1 (6 Weeks)	Online Safety 5.2 (3 weeks)	Databases 5.4 (4 Weeks)
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Objectives	To represent a program design and algorithm. To create a program that simulates a physical system using decomposition. To explore string and text variable types so that the most appropriate can be used in programs. To use the Launch command in 2Code Gorilla To program a playable game with timers and scorepad.	To gain a greater understanding of the impact that sharing digital content has 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. 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.	To learn how to search for information in a database. To contribute to a class database. To create a database around a chosen topic.
Learning Outcomes	Children: <ul style="list-style-type: none"> • can use sketching to design a program and reflect upon their design. • can create code that conforms to their design. • can explain how their program simulates a physical system. • can select the relevant features of a situation to incorporate into their simulation by using decomposition and abstraction. • can reflect upon the effectiveness of their simulation • can explain what a variable is in programming. • can set/change the variable values appropriately. • know some ways that text variables can be used in coding. • can create a game which has a timer and score pad. • can use variables to control the objects in the game. • can create loops using the timer and If/else statements. • can include buttons and objects that launch windows to websites and programs. • can code a program that informs others 	<ul style="list-style-type: none"> • I think critically about the information that I share online both about myself and others and to tell if I am upset by something that happens online. • I can use the SMART rules as a source of guidance when online. • Children think critically about what they share online, even when asked by a usually reliable person to share something. • Children have clear ideas about good passwords. • Children can see how they can use images and digital technology to create effects not possible without technology. • Children have experienced how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge. • Children are able to cite all sources when researching and explain the importance of this. • Children select keywords and search techniques to find relevant information and increase reliability • Children show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each. 	<ul style="list-style-type: none"> • Children understand the different ways to search a database. • Children can search a database in order • Children have designed an avatar for a class database. • Children have successfully entered information into a class database. • Children can create their own database. • Children can add records to a database. • Children know what a database field is and can correctly add field information. • Children understand how to word questions so that they can be effectively answered using a search of their database.
Vocabulary	Action, Alert, algorithm, bug, code design, command, control, debug, debugging, design mode, event, Get Input, If, If/ Else, Input, output, object, repeat, sequence, selection, simulation, timer, variable	Online safety, SMART rules, reputable, password, encryption, identity theft, shared image, plagiarism, citations, reference, bibliography	Avatar, Binary tree (branching database), charts, collaborative, data,, find, record, sort, group and arrange, statistics, reports, table

Key Questions	What does simulating a physical system mean? How would you use variables to make a timer countdown and a scorepad for a game? How could you use the launch command in 2Code?	Who do I tell if I see anything online that makes me upset or scared? Why are passwords so important? Why is it important to reference sources in my work?	What is a database? Why is the collaborative feature important? In what ways can I sort information in a database?
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SPRING TERM Year 5		
Unit/Weeks	Spreadsheets 5.3 6 weeks	3d Modelling 5.6 4 weeks
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	
	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Objectives	Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. To copy and paste within 2Calculate. Using 2Calculate tools to test a hypothesis. To add a formula to a cell to automatically make a calculation in that cell. Using a spreadsheet to model a real-life situation and answer questions.	To be introduced to 2Design and Make and the skills of computer aided design. To explore the effect of moving points when designing. To understand designing for a purpose. To understand printing and making.
Learning Outcomes	<ul style="list-style-type: none">• Children can create a formula in a spreadsheet to convert m to cm.• Children can apply this to creating a spreadsheet that converts miles to km and vice versa.• Children can use a spreadsheet to work out which letters appear most often.• Children can use the 'how many' tool.• Children can use a spreadsheet to work out the area and perimeter of rectangles.• Children can use these calculations to solve a real-life problem• Children can create simple formulae that use different variables.• Children can create a formula that will work out how many days there are in x number of weeks or years.	<ul style="list-style-type: none">• Children know what the 2Design and Make tool is for.• Children have explored the different viewpoints in 2Design and Make whilst designing a building.• Children have adapted one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form• Children have explored how to edit the polygon 3D models to design a 3D model for a purpose.• Children have refined one of their designs to prepare it for printing.• Children have printed their design as a 2D net and then created a 3D model.• Children have explored the possibilities of 3D printing.
Vocabulary	Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cells tool, random tool, rows, spin tool, spreadsheet, timer	CAD, modelling, 3d, viewpoint, polygon, 2d, net, 3d printing, points, template
Key Questions	How would you add a formula so that the cell shows the product of two other cells? What would you use in 2Calculate to have a cell that automatically calculates the number of days since a certain date? Explain what a spreadsheet model of a real-life situation is and what it can be used for?	What are the different views of an object available in 2Design and Make? How can the objects designed in 2Design and Make be turned into 3D objects? How is CAD software used in industry?

SUMMER TERM Year 5

Unit/Weeks	Game Creator 5.5 5 weeks	Concept maps 5.7 4 weeks
National Curriculum Objective	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p>	<p>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p>
Objectives	<p>To set the scene.</p> <p>To create the game environment.</p> <p>To create the game quest.</p> <p>To finish and share the game.</p> <p>To evaluate their and peers' games.</p>	<p>To understand the need for visual representation when generating and discussing complex ideas.</p> <p>To understand and use the correct vocabulary when creating a concept map.</p> <p>To create a concept map.</p> <p>To understand how a concept map can be used to retell stories and present information.</p> <p>To create a collaborative concept map and present this to an audience.</p>
Learning Outcomes	<ul style="list-style-type: none"> • Children can review and analyse a computer game. • Children can describe some of the elements that make a successful game. • Children can begin the process of designing their own game. • Children can design the setting for their game so that it fits with the selected theme. • Children can upload images or use the drawing tools to create the walls, floor and roof. • Children can design characters for their game. • Children can decide upon, and change, the animations and sounds that the characters make. • Children can make their game more unique by selecting the appropriate options to maximise the playability. • Children can write informative instructions for their game so that other people can play it • Children can evaluate their own and peers' games to help improve their design for the future. 	<ul style="list-style-type: none"> • Children can make connections between thoughts and ideas. • Children can see the importance of recording concept maps visually. • Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections'. • Children can create a basic concept map. • Children have used 2Connect Story Mode to create an informative text. • Children have used 2Connect collaboratively to create a concept map. • Children have used Presentation Mode to present their concept maps to an audience.
Vocabulary	Animation, computer game, customise, evaluation, image, customise, interactive, screen shot, texture, perspective, playability	Audience, collaboratively, concept, concept map, connection, idea, node, thought, visual.
Key Questions	<p>What is the 2DIY3D tool on Purple Mash?</p> <p>What makes a good computer game?</p> <p>Why is it important to continually evaluate your game?</p>	<p>What is a concept map?</p> <p>How is information arranged on a concept map?</p> <p>How does a concept map help share ideas?</p>

AUTUMN TERM Year 6 Oak

Unit/Weeks	6.1 Coding Unit (6 Weeks)	6.2 Online Safety(3 Weeks)	6.7 Quizzing (4-6 Weeks) <small>(Link to Science – Electricity: Making an electronic quiz)</small>
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		
	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact*.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Objectives	To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. To code, test and debug from these designs. To use functions and tabs in 2Code to improve the quality of the code. To code user interactivity using input functions.	Identify benefits and risks of mobile devices broadcasting the location of the user/device. Identify secure sites by looking for privacy seals of approval. 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 information online can persist. 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.	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.

Learning Outcomes	<ul style="list-style-type: none"> • Children can plan a program before coding to anticipate the variables that will be required to achieve the desired effect. • Children can follow through plans to create the program. • Children can debug when things do not run as expected. • Children can explain what functions are and how they can be created and labelled in 2Code. • Children can explain how to move code from one tab to another in 2Code. • Children can explain how they organised code in a program into functions to make it easier to read. • Children can code programs that take text input from the user and use this in the program. • Children can attribute variables to user input. • Children are aware of the need to code for all possibilities when using user input. • Children can follow flowcharts to create and debug code. • Children can create flowcharts for algorithms using 2Chart. • Children can be creative with the way they code to generate novel visual effects. • Children can follow through the code of how a text adventure can be programmed in 2Code. • Children can adapt an existing text adventure to make it unique to their requirements. 	<ul style="list-style-type: none"> • Children have used the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing and other email scams. • Children have used the example game and further research to refresh their memories about the steps they can take to protect themselves including protecting their digital footprint, where to go for help, smart rules and security software. 	<ul style="list-style-type: none"> • Children have used the 2DIY activities to create a picture-based quiz. • Children have considered the audience's ability level and interests when setting the quiz. • Children have shared their quiz and responded to feedback. • Children understand the different question types within 2Quiz. • Children have ideas about what sort of questions are best suited to the different question types. • Children have used 2Quiz to make and share a science quiz. • Children have considered the audience's ability level and interests when setting the quiz. • Children have shared their quiz with peers. • Children have given and responded to feedback. • As a class, children have collaborated on a quiz. • Children have tried out the different types of Text Toolkit grammar games. • Children have chosen an appropriate Text Toolkit tool to make their own grammar game. • Children have used a 2Investigate quiz to answer quiz questions. • Children have designed their own quiz based on one of the 2Investigate example databases. • Children have used their knowledge of quiz types to create a quiz show quiz based on a curriculum area.
Vocabulary	Action, Alert, Algorithm, Bug, Code design, command, control, Debug/Debugging, Event, Function, Get input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Simulation, Tabs, Timer, Variable.	Digital footprint, Password, PEGI rating, Phishing, Screen time, Spoof Website.	Audience, Collaboration, Concept Map, Database, Quiz.
Key Questions	<p>How can you use Tabs in 2Code Gorilla?</p> <p>What is a function in coding? Give an example that you have used in 2Code Gorilla.</p> <p>In 2Code Gorilla, how can a program receive user input?</p>	<p>Why do I need to be aware of the dangers of being online?</p> <p>What is meant by my digital footprint?</p> <p>Why is it important to think about how much time use a screen for?</p>	<p>What factors do you need to consider when creating a quiz?</p> <p>Name three question types in 2Quiz.</p> <p>Apart from the questions, what else does a quiz need to contain?</p>

SPRING TERM Year 6

Unit/Weeks	6.4 Blogging (4 Weeks) (Link to English – A Midsummer Night’s Dream: King Oberon Blogs)	6.5 Text Adventures (5 Weeks) (Link to English: Spiderwick story)
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Objectives	To identify the purpose of writing a blog and its key features. To plan the theme and content for a blog and write the content. To consider the effect upon the audience of changing the visual properties of the blog. To understand the importance of regularly updating the content of a blog. To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher.	To find out what a text adventure is. To plan a story adventure. To make a story-based adventure. To introduce map-based text adventures. To code a map-based text adventure.
Learning Outcomes	<ul style="list-style-type: none"> • Children understand how a blog can be used as an informative text. • Children understand the key features of a blog. • Children can work collaboratively to plan a blog. • Children can create a blog with a specific purpose. • Children understand that the way in which information is presented has an impact upon the audience. • Children understand that blogs need to be updated regularly to maintain the audience’s interest and engagement. • Children can post comments and blog posts to an existing class blog. • Children understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. • Children can comment on and respond to other blogs. • Children can assess the effectiveness and impact of a blog. 	<ul style="list-style-type: none"> • Children can describe what a text adventure is. • Children can map out a story-based text adventure. • Children can use 2Connect to record their ideas. • Children can use the full functionality of 2Create a Story Adventure mode to create, test and debug using their plan. • Children can split their adventure-game design into appropriate sections to facilitate creating it. • Children can map out an existing text adventure. • Children can contrast a map-based game with a sequential story-based game. • Children can create their own text-based adventure based upon a map. • Children can use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game. • Children make logical attempts to debug their code when it does not work correctly.
Vocabulary	Audience, Blog, Blog Page, Blog Post, Collaborative, Icon.	Text-Based Adventure, Concept Map, Debug, Sprite, Function.
Key Questions	What is a blog? What can a blog be about? How are the audience involved in a blog?	What is a text based adventure? Why is it important to plan a text based adventure?

SUMMER TERM Year 6

Unit/Weeks	6.3 Spreadsheets (6 Weeks)	6.6 Networks (4 Weeks)
National Curriculum Objective	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.
Objectives	To use a spreadsheet to investigate the probability of the results of throwing many dice. Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. To create graphs showing the data collected. To type in a formula for a cell to automatically make a calculation in that cell. Using a spreadsheet to create computational models and answer questions.	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.
Learning Outcomes	<ul style="list-style-type: none"> Children can create a spreadsheet to answer a mathematical question relating to probability. Children can take copy and paste shortcuts. Children can problem solve using the count tool. Children can create a machine to help work out the price of different items in a sale. Children can use the formula wizard to create formulae. Children can use a spreadsheet to solve a problem. Children can use a spreadsheet to model a real-life situation and come up with solutions. Children can make practical use of a spreadsheet to help plan actions. Children can use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life. 	<ul style="list-style-type: none"> Children know the difference between the World Wide Web and the internet. Children know about their school network. Children have researched and found out about Tim Berners-Lee. Children have considered some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult.
Vocabulary	Average, Advance Mode, Copy and Paste, Columns, Cells, Charts, Count (how many) tool, Dice, Equals tool, Formula, Formula wizard, Move cell tool, Random tool, Rows, Spin tool, Spreadsheet, Timer.	Internet, World Wide Web, Network, Local Area Network (LAN), Wider Area Network (WAN), Router, Network cables, Wireless.
Key Questions	How would you add a formula so that the cell shows the total of a column of cells? What is a computational model and what it can be used for? If you were going to use a spreadsheet to plan your dream holiday. What data would you collect to cost the trip?	What is the difference between the Internet and the World Wide Web? What is the difference between a LAN and a WAN? Who is Tim Berners-Lee?

Coding and Computational Thinking	Spreadsheets	Internet and Email	Art and Design
Music	Databases and graphing	Writing and Presenting	Communication and Networks