

Computing Curriculum Map



LADBROOKE JMI SCHOOL

Computing and the Foundation Stage

In Nursery and Reception computing links appear mainly in **Communication and Language: Listening, Attention and Understanding, Literacy: Comprehension and Maths: Numerical Patterns**. The complete progression ladder can be found in the EYFS curriculum document and on the EYFS website page.

Communication and Language: Listening, Attention and Understanding

Nursery	Reception
LAU4: Can follow simple instruction when given visual clues or gestures LAU5: Understand Simple Instructions LAU8: Follows instructions without visual clues	LAU9: Can follow longer, more complex instructions LAU10: Can respond to instructions with two or more parts LAU11: Follows a series of instructions involving several ideas and Actions LAU12: Carries our instructions which contain several parts in a sequence

Literacy: Comprehension

Nursery	Reception
C7: uses their own illustrations or props to retell a story	C10: Will retell stories and poems in their play using vocabulary acquired from their reading experiences

Maths: Numerical Patterns

Nursery	Reception
NP6: Children explore pattern, using manipulatives and puzzles in their independent play. NP6: Recognises the pattern of everyday familiar routines , begins to notice that there is an order and sequence to familiar events.	NP10: Creates patterns by lining, placing, building and arranging. Orders three or more measures (size, weight and capacity) whilst playing, for example with sand, water or in the mud kitchen. NP12: Estimates, measures, weighs, and can compare and order objects. Talks about properties, position and the sequence of time.

Within the Nursery and Reception classroom, during continuous provision, the children have access to, among other things, the interactive smart board, the light box, tablets and remote controlled toys. The children learn how to use recording devices and cameras. The Smartboard is used to play age-appropriate games linked to phonics and maths, plus they navigate various features on the drawing, painting and whiteboard apps.

National Curriculum Computing Curriculum

Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world

Aims

The national curriculum for computing aims to ensure that all pupils:

- ♣ can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- ♣ can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- ♣ can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- ♣ are responsible, competent, confident and creative users of information and communication technology..


Computing at Ladbrooke

From KS1 to KS2, our curriculum is taught using Purple Mash. The curriculum is divided into 3 main areas: computer science, information technology and digital literacy. Internet safety is woven through our curriculum and also taught in PSHE session and is highlighted through whole school assemblies.




YEAR 1 CURRICULUM MAP

1	Autumn		Spring		Summer	
	Logging on/Shutting Down	Online Safety Tech Outside School	Grouping Pictograms	Lego Builders Maze Explorers	Coding	Animated Story Books
Key Learning	<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 Mash to find resources. • 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. • To understand the importance of logging out. 	<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. • What is a password and why must I keep it safe. 	<ul style="list-style-type: none"> • To sort items using a range of criteria. • To begin to think logically about the steps of a process. • To sort items on the computer using the 'Grouping' activities in Purple Mash. • To introduce the term 'algorithm' to describe logically following a process. • 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 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. 	<ul style="list-style-type: none"> • To understand what instructions are and predict what might happen when they are followed. • To use code to make a computer program. • To understand what 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 introduce e-books and the 2Create a Story tool. • To add animation to a story. • To add sound to a story, including voice recording and music the children have composed. • 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>Touch Type Focus</p>	<p>Home Row Keys To understand where the home keys are found on a keyboard and why they are important.</p>	<p>Bottom Row Keys To be able to identify keys on the bottom row of a keyboard. • To be able to use the correct fingers when selecting keys on the bottom row of a keyboard.</p>	<p>Top Row Keys To be able to identify keys on the top row of a keyboard. • To be able to use the correct fingers when selecting keys on the top row of a keyboard.</p>	<p>Left Keys To understand which keys on a keyboard are used with the left hand.</p>	<p>Right Keys To understand which keys on a keyboard are used with the right hand.</p>	<p>Space Bar To be able to use the space bar on a keyboard</p>
<p>Vocabulary</p>	<p>Alert, avatar, button, device, file name, icon, log in, log out, menu, notification, my work area, private, password</p>	<p>Computer, technology</p>	<p>Criteria, groups, sort, algorithm Collect data, compare, data, pictogram, record results, title</p>	<p>Algorithm, code computer, debugging, instructions, program Algorithm, challenge, command, direction, instruction, left and right, route, undo, unit</p>	<p>Action, algorithm, background, code, coding, command, debug/debugging, event, execute, instruction object, output, plan, programmer, properties, run</p>	<p>Animation, background, clip-art gallery, e-book, edit, font, sound, sound effect, text</p>
<p>Skills</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 ♣ recognise common uses of information technology beyond school ♣ 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. 					


YEAR 2 CURRICULUM MAP

2	Autumn		Spring		Summer	
	Creating Pictures	Online Safety & Effective Searching	Questioning	Making Music & Presenting Ideas	Coding	Spreadsheets
Key Learning	<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> <p>To explore surrealism and eCollage.</p>	<p>To know how to refine searches using the Search tool.</p> <p>To use digital technology to share work and 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</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</p> <p>To identify the steps that can be taken to keep personal data secure.</p> <p>To understand words 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 about data handling tools that can give more information than pictograms.</p> <p>To use yes/no questions to separate information.</p> <p>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.</p> <p>To use the Search tool to find information.</p>	<p>To make music digitally using 2Sequence.</p> <p>To explore, edit and combine sounds using 2Sequence.</p> <p>To edit and refine composed music.</p> <p>To think about how music can be used to express feelings and create tunes which depict feelings.</p> <p>To upload a sound from a bank of sounds into the Sounds section.</p> <p>To record and upload environmental sounds into Purple Mash.</p> <p>To use these sounds to create tunes in 2Sequence</p> <p>To explore how a story can be presented in different ways.</p> <p>To make a quiz about a story or class topic.</p> <p>To make a fact file on a non-fiction topic.</p> <p>To make a presentation to the class</p>	<p>To understand what an algorithm is.</p> <p>To create a computer program using an algorithm.</p> <p>To create a program using a given design.</p> <p>To understand the collision detection event.</p> <p>To understand that algorithms follow a sequence.</p> <p>To design an algorithm that follows a timed sequence.</p> <p>To understand that different objects have different properties.</p> <p>To understand what different events do in code.</p> <p>To understand the function of buttons in a program.</p> <p>To understand and debug simple programs.</p>	<p>To understand the sorts of tasks that a spreadsheet program could be used for.</p> <p>To enter data into spreadsheet cells.</p> <p>To use 2Calculate image tools.</p> <p>To use the totalling tools.</p> <p>To use a spreadsheet for money calculations.</p> <p>To use the 2Calculate equals tool to check calculations.</p> <p>To use 2Calculate to collect data and produce a graph.</p>

<p>Touch Type Focus</p>	<p>Shift To develop the use of the shift key to capitalise letters on a keyboard.</p>	<p>Vowels and Consonants To be able to locate both the vowel and consonant keys on a keyboard.</p>	<p>Letters and Numbers To be able to select all keys across the keyboard, including letters and numbers. • To use knowledge of keys to form basic words</p>	<p>2Pop To be able to locate letters and numbers on a keyboard in a timely manner.</p>	<p>High Frequency Words 1 To be able to type various high frequency words using a keyboard.</p>	<p>High Frequency Words 2 To be able to type various high frequency words using a keyboard.</p>
<p>Vocabulary</p>	<p>Art, palette, fill, style, pointillism, impressionism, surrealism</p>	<p>Attachment, digital footprint, email, filter, internet, personal information, internet, secure, private information, search, sharing,</p>	<p>Binary tree, data, database, field, pictogram, question, record, search, sort</p>	<p>Bpm, instrument, soundtrack, composition, music, tempo, digitally, music, tempo, sound affects, volume, concept map, quiz, narrative, node, non-fiction, audience, animated, presentation</p>	<p>Beat, compose, note, tune, sound effect, soundtrack, speed, tempo, volume</p>	<p>Action, algorithm. Background, bug, button., click events, command, collision detections, event, debug, execute, implement, instructions, interaction, interval, object, output, properties, run</p>
<p>Skills</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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 • recognise common uses of information technology beyond school • 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 					


YEAR 3 CURRICULUM MAP

3	Autumn		Spring		Summer	
	Coding	Online Safety	Graphing Branched Databases	Presenting	Email	Simulations
Key Learning	<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. • 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 digital media and devices. 	<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. • 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 uses of PowerPoint. • To create a page in a presentation. • To add media to a presentation. • To add animations to a presentation. • To add timings to a presentation. • To use the skills learnt to design and create an engaging presentation. 	<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 consider what simulations are. • To explore a simulation. • To analyse and evaluate a simulation.
Touch Type	<p>Punctuation and Symbols 1</p> <ul style="list-style-type: none"> • To develop use of punctuation when using a keyboard. • To understand that the shift key needs to be used to access some parts of a keyboard. 	<p>Punctuation and Symbols 2</p> <ul style="list-style-type: none"> • To develop use of punctuation when using a keyboard. • To understand that the shift key needs to be used to access some parts of a keyboard. 	<p>Words (A and E)</p> <p>To use increasing knowledge of a keyboard to be able to type out words beginning with a variety of letters.</p>	<p>Words (I and O)</p> <p>To use increasing knowledge of a keyboard to be able to type out words beginning with a variety of letters.</p>	<p>Words (U and Q)</p> <p>To use increasing knowledge of a keyboard to be able to type out words beginning with a variety of letters.</p>	<p>Words (B and Z)</p> <p>To use increasing knowledge of a keyboard to be able to type out words beginning with a variety of letters.</p>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Vocabulary</p>	<p>Action, alert, algorithm, background, bug, button, click event, code, collision detection event, command, debug/debugging</p>	<p>Appropriate, blog, inappropriate, password, personal information, internet, spoof, reputable source, permission, reliable source, verify, website, vlog</p>	<p>Binary tree, branching database, data, database, debugging</p> <p>Axis, chart, column, data, graph, investigation, row, sorting, tally chart</p>	<p>Animation, border properties, font formatting, layer, media, presentation, slide, slideshow, text box, transition, word art</p>	<p>Address book, attachment, BCC, CC, communication, compose, email, inbox, password, personal information, save to draft, trusted contact,</p>	<p>Analysis, simulation, evaluation, modelling, decision</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Skills</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 ♣ 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 ♣ 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. 					


YEAR 4 CURRICULUM MAP

4	Autumn		Spring		Summer	
	Coding	Online Safety & Databases	Effective Searching Intro to AI	Animation Making Music	Logo Hardware Investigators	Writing for Different Audiences
Key Learning	<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 number variable. • To create a playable game. 	<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 '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. 	<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 • To learn what is meant by the term artificial intelligence. • To be clear about ways artificial intelligence is used in our everyday lives. • To consider the future of artificial intelligence • To look at how artificial intelligence is used in music and the arts to create things. 	<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 animation 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. • 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 	<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. • 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 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.

Touch Type Focus	Words starting C and Y To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.	Words starting D and X To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.	Words starting F and W To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.	Words starting G and V To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.	Words starting H and T To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.	Words starting J and S To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.
Vocabulary	Action, alert, algorithm, background, button, code blocks, command, debug/debugging, design, execute, event, flowchart, if statements, if/else statement, input, nest, object, prompt, implement, repeat until, predict, repeat, run, properties, selection, sequence, timer, variable	Adfly, attachment, citation, collaborate, cookies, copyright, digital footprint, malware, phishing, plagiarism, ransomware, SMART rules, spam, virus, watermark	Balanced view, easter eggs, internet, key words, reliability, results page, search engine Algorithm Artificial intelligence, data	Animation, Frames per second FPS, frame, onion skinning, pause, stop motion BPM, dynamics, harmonious, melody, pitch, tempo, pulse, tempo, texture, rhythm, synths	Debugging, grid, LOGO, LOGO commands e.g. FD, BK, RT, LT), multi-line mode, pen down, prediction, Pen Up, Procedure, repeat, run speed, SETPC, SETPS Components, CPU, graphics card, hard drive, input, motherboard, network card, output, peripherals, RAM, software	Campaign, format, font, genre, opinion, reporter, viewpoint
Skills	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 ♣ 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 ♣ 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. 					

YEAR 5 CURRICULUM MAP

5	Autumn		Spring		Summer	
	Coding	Online Safety & Databases	Word Processing	3D modelling Concept Maps	External Devices	Game Creator
Key Learning	<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 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 function is and how functions work in code. • To understand what the different variables types are and how they are used differently. • To understand how to create a string. • To understand what concatenation is and how it works. 	<ul style="list-style-type: none"> • To understand the impact that sharing digital content can have. • To review sources of when using technology and children's responsibility to one another when online • 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 the appropriateness of text, photographs and videos and the impact of sharing these online. • To learn how to reference sources in their work. • To search the Internet with a consideration for the reliability of the results • To ensure reliability through using different methods of communication. • 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 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 tables within MS Word to present information. • To introduce children to templates. • To consider page layout including heading and columns. 	<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 • 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 understand how a device can be programmed to be used as a game controller. • To explore the functions available for the Purple Chip and appraise their uses. • To create a simple quiz program that can be answered using an external device. • To create a program in which an external device can be used to monitor real world conditions. 	<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.

<p>Touch Type Focus</p>	<p>Words Starting with K & R To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.</p>	<p>Words Starting with L & P To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.</p>	<p>Words Starting with M & N To use increasing knowledge of a keyboard to be able to type out words beginning with and including a variety of letters.</p>	<p>Paragraphs 1 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.</p>	<p>Paragraphs 2 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.</p>	<p>Paragraphs 3 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.</p>
<p>Vocabulary</p>	<p>Abstraction, Action, Algorithm, concatenation, debug/debugging, decomposition, efficient, flowchart, event, function, input, object, output, nesting, repeat, properties, physical systems, properties, sequence, selection, simplify</p>	<p>Citation, collaborate, communicate, copyright, creative commons licence, encrypt, identity theft, ownership, PEGI ratings, Malware, Phishing, Password, Personal information, spoof, SMART rules, validity, reliable source</p> <p>Arrange, avatar, chart, collaborative, data, database, field, group, record, database report, group, search, sort, statistics</p>	<p>Bulleted lists, caps lock, captions, copy and paste, copyright, creative commons, cursor, document, font, hyperlink, merge cells, page orientation, formatting, readability, text wrapping, word processing tool</p>	<p>2D, 3D, 3D printing, CAD – computer aided design, design brief, points, net, pattern fill, template</p> <p>Concept, concept map, connection, collaborate, node, presentation mode, story mode</p>	<p>Algorithm, Emulator/Simulator, external device, host, input, QR Code, output, sensor</p>	<p>Evaluation, feedback, image, promotion, quest, instructions, texture, screenshot, scene, theme</p>
<p>Skills</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 ♣ 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 ♣ 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. 					

YEAR 6 CURRICULUM MAP

6	Autumn		Spring		Summer	
	Coding	Online Safety & Blogging	Quizzing	Text Adventures	Networks – Understanding Binary	Spreadsheet – MS Excel
Key Learning	<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. • To understand how user input can be used in a program. • To understand how 2Code can be used to make a text-adventure game. 	<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 • 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 information online can persist. • To understand the importance of balancing game and screen time • To identify the influences of technology on health and the environment. • To identify the purpose of writing a successful 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 and why blog posts are approved by the teacher. 	<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 survey and analyse the responses. 	<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 read and understand given code for a text adventure game. • To debug and improve a text adventure game. 	<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. • 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 these represent the on and off electrical states respectively in hardware and robotics. 	<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 in Excel for percentages, averages and max and min numbers. • To demonstrate how the use of Excel can save time and effort when performing calculations. • To use a spreadsheet to model a real-life situation. • To demonstrate how Excel can make complex data clear by manipulating the way it is presented. • To create a variety of graphs in Excel. • To apply spreadsheet skills to solving problems.

Touch Type Focus	Paragraphs 1 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.	Paragraphs 2 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.	Paragraphs 3 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.	Paragraphs 5 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.	Paragraphs 6 To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.	Quiz To use a secure knowledge of the keyboard, including the position of letters, numbers and pieces of punctuation to type out various paragraphs of text.
Vocabulary	Action, algorithm, command, coordinates, event, decomposition, debug, execute/run, flowchart, function, input, launch, object, output, predict, properties, procedure, sequence, repeat, variable, selection, simulation, tab, timer	Ata analysis, digital footprint, inappropriate, location sharing, password, PEGI rating, Phishing, print screen, screen time, secure websites, spoof Approval, archive, blog, blog post, collaborate, commenting, vlog	Audience, audio, case-sensitive, cloze, participants, preview, quiz, survey	Text-based adventure, debug, sprite, selection, function, flow of control, step through	Hub/Switch, internet, Local area network LAN, network, world wide web WWW, router, Wi-Fi, Wide area Network WAN Bae 2, Bit, Bae 10, Digit, Transistor, Integer, Switch, nibble, byte, kilobyte, megabyte, gigabyte, Terabyte	Auto fit, cell, cell reference, chart, column, computational model, conditional formatting, data, delimiter, formula€, formula bar, graph, horizontal axis, range, row, spreadsheet, vertical axis, text wrapping
Skills	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 ♣ 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 ♣ 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. 					