



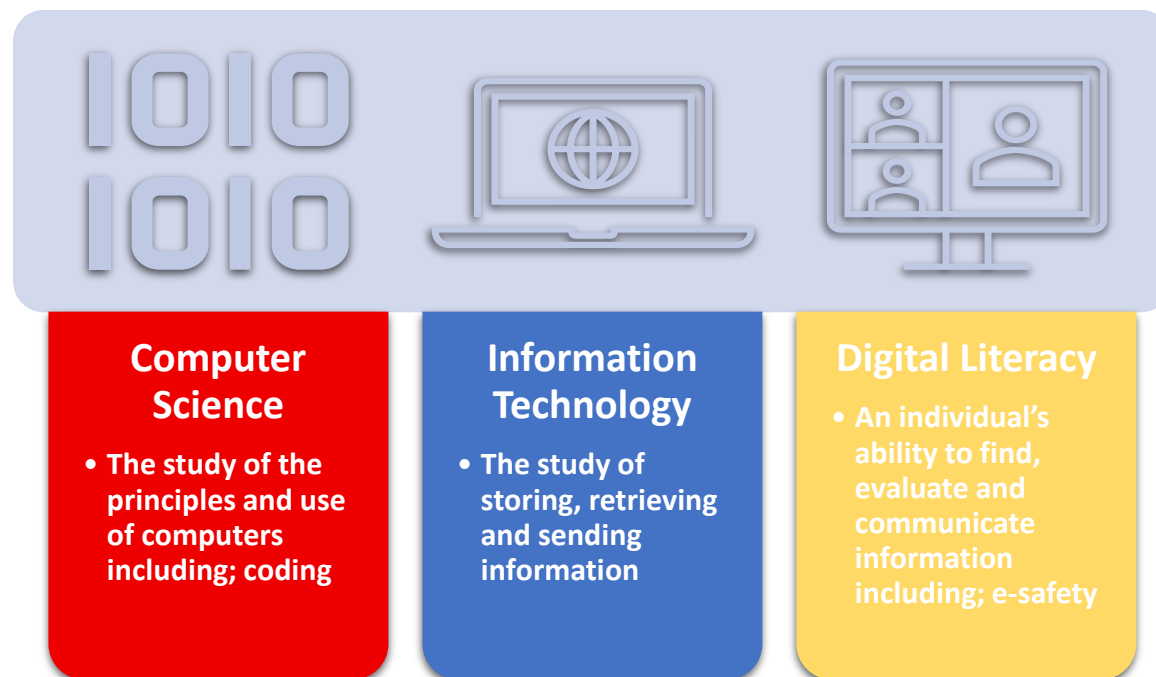
Computing Curriculum



“I have come so they may have life and have it to the full.”

Our Approach

We follow the **Purple Mash** computing framework as the basis of our curriculum and we also use the **UKCIS Education for a Connected World** as the basis of our **half termly e-safety** sessions. Our **cyclical** curriculum focuses on the 3 aspects below and our pupils develop their knowledge and understanding of **computational concepts** through exploring the different applications of them within real world contexts. Each time they revisit an aspect within a theme, it is with **increasing complexity** and **depth** to build on their **prior knowledge**. It is **taught weekly** in a discreet 50 minute session to develop our pupils key knowledge and skills and our **pupils apply their learning across the curriculum** through the products they create in different subject disciplines. Computing is currently evidenced within individual pupils folders within Purple Mash to document pupil, products for each aspect covered. In addition, each unit has its own **knowledge organiser** and **vocabulary overview**, which focuses on new vocabulary that will be introduced within the unit.



EYFS Class 1

EYFS	Autumn		Spring		Summer	
Key Skills & Knowledge	Introduction to use of the mouse/track pad & experimenting with drawing <ul style="list-style-type: none"> To know how to 'hold' a mouse. To be able to move the mouse purposefully. To be able to click the left-hand mouse button to perform an action. To be able to use click and drag to move objects purposefully. To be able to use the scroll roller on a mouse. To know how to use a laptop touchpad To be able to select colours. To be able to mark make purposefully on the screen. To be able to control the pencil width. To be able to choose tools to experiment with. To be able to use the undo button. To be able to erase parts of pictures. To be able to draw using a touch screen. To be able to draw using mouse control. 		Introduction to Online Safety & looking after Hardware <ul style="list-style-type: none"> To be able to explain what it means to own digital content. To be able to explain what 'private' means when using technology. To be able to express how it feels to be uncomfortable with something. To be able to name 5 people who can help with negative feelings. To be able to think about how to show kindness to others. To begin to be aware of the impact of a lot of screen time. To be able to take appropriate actions before using technology. To be able to understand why food should be kept away from devices. To be able to identify electrical safety as important. To know safe ways to transport portable devices. To be able to relate being gentle and sharing to the use of devices. To be able to understand what technology is. To be able to identify the main parts of a computer. 		Introduction to Programmable Toys <ul style="list-style-type: none"> To be able to describe a route that is in progress. To be able to describe a route taken by another person while it is being enacted. To be able to follow a route taken by another person after it has been enacted. To plan routes for toy vehicles. To follow a plan for a toy vehicle. To use the buttons on a floor robot to make it move. To purposefully use the buttons on a floor robot to make it move one step at a time. To be able to input a program of 2 or 3 steps into a floor robot and then run the program to make it move. To be able to interpret simple instructions to predict the outcome. To be able to plan and input instructions for a floor robot one step at a time. To be able to plan and input instructions for a floor robot more than one step at a time. 	
	E-SAFETY	Online Reputation/Self-image & identity I can identify ways that I can put information on the internet. I can recognise, online or offline, that anyone can say 'no' - 'please stop' - 'I'll tell' - 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset. Covered in - PSED	Managing Online Information I can talk about how to use the internet as a way of finding information online. I can identify devices I could use to access information on the internet.	Privacy & Security/Copyright & Ownership To identify some simple examples of my personal information (e.g. name, address, birthday, age, location). Covered in - LITERACY / PSED To describe who would be trustworthy to share this information with; I can explain why they are trusted. Covered in - PSED To know that work I create belongs to me. To name my work so that others know it belongs to me. Covered in - LITERACY	Online Relationships & Bullying I know and can give examples of how I (might) use technology to communicate with people I know. Covered in UNDERSTANDING THE WORLD & COMMUNICATION AND LANGUAGE	Health, Wellbeing & Lifestyle To identify rules that help keep us safe and healthy in and beyond the home when using technology. To give some simple examples of these rules. Covered in - UNDERSTANDING THE WORLD & PSED



VOCAB	Mouse, Scroll roller, Cursor , Screen, Touch pad, Keyboard, Keys , Delete key , Arrow keys, Enter key, Undo, Login	Private, Screen time, Safe	Up, down, left, right, path
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Continuous Provision
 To have role play opportunities for exploring technology around them:

- in the home such as toy microwave, cameras & clocks and use of Mash cams to talk about use of technology in role as a chef or refuse collector, in the outdoors such as traffic lights, walkie talkies and construction sites or magnifying tools and use of Mash cams to talk about outdoor technology such as a farmer or police officer, in the wider world such as a toy shopping till, calculator, barcode reader, QR code, spacecraft or doctors set and use Mash cams to talk

KS1 Class 2

Cycle A	Autumn		Spring		Summer	
Key Skills & Knowledge	Unit 1-1-Online Safety & Exploring Purple Mash 4 weeks	Unit 1.2 Grouping/Sorting 2 weeks	Unit 1.6-Animated Story Books 5 weeks	Unit 1.4-Lego Builders 3 weeks	Unit 1.7-Coding 6 weeks	Unit 2.1-Coding 6 weeks
	<ul style="list-style-type: none"> To understand what a program is. To learn how to open, save and print. To be able to type own username and password to log in and out. 	<ul style="list-style-type: none"> To sort items using a range of criteria. To sort items on the computer using the 'Grouping' activities in Purple Mash. 	<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. 	<ul style="list-style-type: none"> To emphasise the importance of following instructions. To follow and create simple instructions on the computer. To consider how the order of instructions affects the result. 	<ul style="list-style-type: none"> To understand what instructions are and predict what will happen when instructions are followed. To understand that computer programs work by following instructions called code. To use code to make a computer program. To understand what objects/actions are and understand what an event is. To use an event to control an object. To understand what an event is. To begin to understand how code executes when a program is run. To understand what backgrounds and objects are. To understand how to use the scale property. 	<ul style="list-style-type: none"> To understand what an algorithm is and that they follow a sequence. To create a computer program using an algorithm. To create a program using a given design. To understand the collision detection event. To design an algorithm that follows a timed sequence. To understand what different events do in code. To understand the function of buttons in a program. To understand and debug simple programs.
	Unit 2.5 Effective Searching 3 weeks	Unit 2.6-Creating Pictures 5 weeks				
	<ul style="list-style-type: none"> To know how to refine searches using the Search tool. To have some knowledge and understanding about sharing more globally on the Internet. To open and send simple online communications in the form of email. To understand that information put online leaves a digital footprint or trail. 	<ul style="list-style-type: none"> To learn the functions of the 2Paint a Picture tool. To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). To recreate Pointillist art and look at the work of pointillist artists such as Seurat To learn about the work of Piet Mondrian and recreate the style using the lines template. To learn about the work of William Morris and recreate the style using the patterns template. 				

		<ul style="list-style-type: none"> To explore surrealism and eCollage. 			<ul style="list-style-type: none"> To plan and make a computer program. 	
E-SAFETY	<p>Online Reputation/Self-image & identity</p> <p>To recognise that there may be people online who could make someone feel sad, embarrassed or upset.</p> <p>If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.</p> <p>To recognise that information can stay online and could be copied.</p> <p>To describe what information I should not put online without asking a trusted adult first.</p>	<p>Managing Online Information</p> <p>To know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke.</p> <p>To know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.</p>	<p>Privacy & Security/Copyright & Ownership</p> <p>To recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names).</p> <p>To explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.</p> <p>To explain why work I create using technology belongs to me.</p> <p>To save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content).</p>	<p>Online Relationships & Bullying</p> <p>To give examples of when I should ask permission to do something online and explain why this is important.</p> <p>To explain why it is important to be considerate and kind to people online and to respect their choices.</p> <p>To explain why things one person finds funny or sad online may not always be seen in the same way by others</p> <p>To describe how to behave online in ways that do not upset others and can give examples.</p>	<p>Health, Wellbeing & Lifestyle</p> <p>To explain rules to keep myself safe when using technology both in and beyond the home.</p>	<p>Review</p>
VOCAB	Login, log out, alert, avatar, file name, notification, private, button. Icon, menu, password Internet, web address, web site, web page, search engine, digital footprint, domain	Criteria, Sort , Groups, Art , Palette, Style, Fill	Animation , eBook, sound, edit, sound effect, clip- art gallery, font	Computer , Programme, Algorithm , Code , Debugging , Instructions	Action , Event, Background , Execute	Bug, Collision detection , Click events
Cycle B	Autumn		Spring		Summer	
Key Skills & Knowledge	<p>Unit 1.1/2.2-Online Safety & Exploring Purple Mash 9 weeks</p> <ul style="list-style-type: none"> To understand how we should talk to others in an online situation. 	<p>Unit 2.4-Questioning 5 weeks</p> <ul style="list-style-type: none"> To learn about data handling tools that can give more information than pictograms. 	<p>Unit 1.5- Maze Explorers 4 weeks</p> <ul style="list-style-type: none"> To understand the functionality of the basic direction keys in Challenges 1 and 2. 	<p>Unit 2.7 Making Music 5 weeks</p> <ul style="list-style-type: none"> To be introduced to making music digitally using 2Sequence. 	<p>Unit 2.8-Presenting Ideas 4 weeks</p> <ul style="list-style-type: none"> To explore how a story can be presented in different ways. To make a quiz about a story or class topic. 	<p>Unit 2.3-Spreadsheets 4 weeks</p> <ul style="list-style-type: none"> To understand the sorts of tasks that a spreadsheet program could be used for.

	<ul style="list-style-type: none"> To understand that information put online leaves a digital footprint or trail. To identify the steps that can be taken to keep personal data and hardware secure. To know how to refine searches using the Search tool. To use digital technology to share work on Purple Mash to communicate and connect with others locally. To have some knowledge and understanding about sharing more globally on the Internet. To introduce Email as a communication tool using 2Respond simulations. To understand how we should talk to others in an online situation. To open and send simple online communications in the form of email. To understand that information put online leaves a digital footprint or trail. To identify the steps that can be taken to keep personal data and hardware secure. <p>Unit 1.9-Technology Outside School 2 weeks</p> <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. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> To be able to use the direction keys to complete the challenges successfully. To understand the functionality of the basic direction keys in Challenges 3 and 4. To understand how to create and debug a set of instructions (algorithm). To use the additional direction keys as part of their algorithm. To understand how to change and extend the algorithm list. 	<ul style="list-style-type: none"> To explore, edit and combine sounds using 2Sequence. To add sounds to a tune to improve it. To think about how music can be used to express feelings and create tunes which depict feelings. To upload a sound from a bank of sounds into the Sounds section. To record their own sound and upload it into the Sounds section. To create their own tune using the sounds which they have added to the Sounds section. 	<ul style="list-style-type: none"> To make a fact file on a non-fiction topic. To make a presentation to the class 	<ul style="list-style-type: none"> To enter data into spreadsheet cells. To use 2Calculate image tools. 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. <p>Unit 1.3-Pictograms 3 weeks</p> <ul style="list-style-type: none"> To understand that data can be represented in picture format. To contribute to a class pictogram. And record results of an experiment.
<p>E-SAFETY</p>	<p>Online Reputation/Self-image & identity</p> <p>To explain how other people may look and act differently online and offline.</p>	<p>Managing Online Information</p> <p>To explain what voice activated searching is and how it might be</p>	<p>Privacy & Security/Copyright & Ownership</p> <p>To explain and give examples of what is meant by 'private' and 'keeping things private'</p>	<p>Online Relationships & Bullying</p> <p>To give examples of how someone might use technology to communicate with others they don't know offline and explain</p>	<p>Health, Wellbeing & Lifestyle</p> <p>To explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in</p>	<p>Review</p>

	<p>To give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help.</p> <p>To describe how anyone's online information could be seen by others.</p> <p>To know who to talk to if something has been put online without consent or if it is incorrect.</p>	<p>used, and know it is not a real person (e.g. Alexa, Google Now, Siri).</p> <p>To explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.</p> <p>To explain why some information I find online may not be real or true.</p>	<p>To describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords)</p> <p>To recognise that content on the internet may belong to other people.</p> <p>To describe why other people's work belongs to them.</p>	<p>why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).</p> <p>To explain who I should ask before sharing things about myself or others online / To explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online.</p> <p>To explain why I have a right to say 'no' or 'I will have to ask someone'.</p> <p>To explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do / To identify who can help me if something happens online without my consent. .</p> <p>To explain what bullying is, how people may bully others and how bullying can make someone feel.</p> <p>To talk about how anyone experiencing bullying can get help.</p>	<p>public places and the home environment</p> <p>To say how those rules / guides can help anyone accessing online technologies.</p>	
VOCABULARY	Internet, personal information, private information, secure, sharing, digital footprint, email	Binary tree, Field , Record , Pictogram, Database, Question	Direction, Route , Undo, Command, Left and right, unit	Beat, Tune, Speed, Compose, Tempo, Note , Soundtrack, Volume	Mind map, Presentation, Node, Quiz.	Spreadsheet, cell, Data, graph Pictogram, compare, record results.

KS2 Class 3 & 4

Cycle A	Autumn	Spring	Summer
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Key Skills & Knowledge	Unit 3.1-Coding Lesson 1, 2 & 4 3 weeks	Unit 3.2-Online Safety 2 weeks	Unit 3.3 & 3.4-Spreadsheets & Touch Typing 7 weeks	Unit 3.6-Branching Databases 4 weeks	Unit 3.5-Email-including email safety 6 weeks	Unit 3.7 & 3.8-Simulations & Graphing 6 weeks
	Unit 4.1-Coding lessons 1, 2 & 3 3 weeks	Unit 3.10 – Micro: bits 4 weeks				
	<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. 	<ul style="list-style-type: none"> To know what makes a safe password and how to keep it safe. To understand how the Internet can be used in 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 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 introduce typing terminology. To understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practise typing with the left and right hand. 	<ul style="list-style-type: none"> To sort objects using just 'yes' or 'no' questions. To complete a branching database using 2Question. To create a branching database of the children's choice. 	<ul style="list-style-type: none"> To 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 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 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. <p>Lesson order Unit 3.1, Lesson 1 Unit 3.1, Lesson 2 Unit 4.1, Lesson 2 Unit 4.1, Lesson 3 Unit 3.1, Lesson 4 Unit 4.1, Lesson 1</p>	<ul style="list-style-type: none"> To understand that the micro:bit is a tiny computer which needs code to make it work. To use Free code micro:bit to make code that the micro:bit can understand and then transfer it to the micro:bit. To code a micro:bit to show animations on its LEDs. To recognise the key inputs and outputs such as accelerometer and LED display. To create code that generates sound outputs based on different movement gestures. 				
E-SAFETY	Online Reputation/Self-image & identity To explain what is meant by the term 'identity'. To explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why.	Managing Online Information To explain the difference between a 'belief', an 'opinion' and a 'fact' and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc.	Privacy & Security/Copyright & Ownership To describe simple strategies for creating and keeping passwords private. To give reasons why someone should only share information with people they choose to and can trust.	Online Relationships & Bullying To explain what it means to 'know someone' online and why this might be different from knowing someone offline. To explain what is meant by 'trusting someone online', why this is different from 'liking	Health, Wellbeing & Lifestyle To explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged (e.g.	Review

	<p>To give examples of what anyone may or may not be willing to share about themselves online. To explain the need to be careful before sharing anything personal.</p> <p>To explain who someone can ask if they are unsure about putting something online</p>	<p>To explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed).</p> <p>To describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.</p> <p>To demonstrate how to use key phrases in search engines to gather accurate information online.</p>	<p>To explain that if they are not sure or feel pressured then they should tell a trusted adult.</p> <p>To explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.</p>	<p>someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.</p> <p>To explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried.</p> <p>To explain how someone's feelings can be hurt by what is said or written online.</p> <p>To describe appropriate ways to behave towards other people online and why this is important.</p> <p>To give examples of how bullying behaviour could appear online and how someone can get support.</p>	<p>doing homework, games, films, videos).</p> <p>To explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).</p>	
VOCAB	Flowchart, Run , Procedure, timer, interval , nesting, selection , 'if' statement , Coordinate ,	Appropriate, Spoof, Blog, vlog, Personal information, Reputable source, Reliable source, Permission , Verify Program, Input, Output, Data, Hardware, LED,	Pie chart, Cell address, Spin tool	Branching database	CC, Email, Attachment, Inbox, Save to draft, BCC	Analysis, simulation, axis
Cycle B	Autumn		Spring		Summer	
Key Skills & Knowledge	<p>Unit 3.1-Coding lessons 3, 5 & 6 3 weeks</p> <ul style="list-style-type: none"> To understand how to use the repeat command. To understand the importance of nesting. <p>Unit 4.1- Coding lessons 4, 5 & 6 3 weeks</p>	<p>Unit 4.2-Online Safety 4 weeks</p> <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. 	<p>Unit 4.4-Writing for Different Audiences 5 weeks</p> <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. 	<p>Unit 4.5 & 4.8-Logo & Hardware Investigators 6 weeks</p> <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. 	<p>Unit 4.6 & 4.7-Animation & Effective Searching 6 weeks</p> <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 	<p>Unit 3.9- Presenting 6 weeks</p> <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.

	<ul style="list-style-type: none"> To design and create an interactive scene. To begin to understand selection in computer programming. To understand what a variable is in programming. To use a number variable. To create a playable game. <p>Lesson order Unit 3.1, Lesson 3 Unit 4.1, Lesson 4 Unit 4.1, Lesson 5 Unit 3.1, Lesson 5-6 Unit 4.1, Lesson 6</p>	<ul style="list-style-type: none"> 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 use the Repeat function in Logo to create shapes. To use and build procedures in Logo. 		<ul style="list-style-type: none"> To add timings to a presentation. To use the skills learnt to design and create an engaging presentation.
E-SAFETY	<p>Online Reputation/Self-image & identity</p> <p>To explain how my online identity can be different to my offline identity.</p> <p>To describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.</p> <p>To explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.</p> <p>To describe how to find out information about others by searching online.</p> <p>To explain ways that some of the information about anyone online could have been created, copied or shared by others</p>	<p>Managing Online Information</p> <p>To analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.</p> <p>To explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.</p> <p>To explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be.</p> <p>To explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.</p>	<p>Privacy & Security/Copyright & Ownership</p> <p>To describe strategies for keeping personal information private, depending on context.</p> <p>To explain that internet use is never fully private and is monitored, e.g. adult supervision.</p> <p>To describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure.</p> <p>To give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images</p>	<p>Online Relationships & Bullying</p> <p>To describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms).</p> <p>To give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.</p> <p>To explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs.</p> <p>To explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).</p>	<p>Health, Wellbeing & Lifestyle</p> <p>To explain how using technology can be a distraction from other things, in both a positive and negative way.</p> <p>To identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.</p>	<p>Review</p>

				To describe ways people can be bullied through a range of media (e.g. image, video, text, chat)		
VOCAB	Repeat, repeat until , inputs, variable, prompt	Spam, cookies, malware, ransomware, virus, citation, copyright, phishing, SMART rules	Format	LOGO, multi line mode, components, CPU, graphics cards, hard drive, input, motherboard, network card, output, peripherals, RAM, software	Animation, Onion skinning, FPS (Frame per Second), pause, frame, stop motion, Easter eggs, results page, search engine,	Presentation, slide, slideshow, transition, textbox, media

KS2 Class 5 & 6

Cycle A	Autumn		Spring		Summer	
Key Skills & Knowledge	Unit 5.1-Coding lesson 1, 2, 4, 5 & 6 & Unit 6.1 lesson 5 6 weeks	Unit 5.2-Online Safety 2 weeks	Unit 5.3-Spreadsheets 6 weeks	Unit 5.4-Databases 4 weeks	Unit 5.5-Game Creator 5 weeks	Unit 5.6-3D Modelling 4 weeks
	<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 gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology. 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 	<ul style="list-style-type: none"> To use formulae within a spreadsheet to convert measurements of length and distance. To use the count tool to answer hypotheses about common letters in use. To use a spreadsheet to model a real life problem. To use formulae to calculate area and perimeter of shapes. To create formulae that use text variables. To use a spreadsheet to help plan a school cake sale. 	<ul style="list-style-type: none"> To learn how to search for information in a database. To contribute to a class database. To create a database around a chosen topic 	<ul style="list-style-type: none"> To plan a game. To design and create the game environment. To design and create the game quest. To finish and share the game. To self and peer evaluate. 	<ul style="list-style-type: none"> To be introduced to 2Design and Make and the skills of computer aided design. To explore the effect of moving points when designing. To design a 3D Model to fit certain criteria. To refine and print a model. <div style="background-color: #ff0000; color: white; text-align: center; padding: 2px;"> Unit 5.7-Concept Maps 4 weeks </div> <ul style="list-style-type: none"> To understand the need for visual representation when generating and discussing complex ideas. To understand the uses of a 'concept map'. To understand and use the correct vocabulary when creating a concept map. To create a concept map

	<p>Lesson order Unit 5.1, Lesson 1 Unit 5.1, Lesson 2 Unit 5.1, Lesson 4 Unit 5.1, Lesson 5 Unit 5.1, Lesson 6 Unit 6.1, Lesson 5</p>	<p>validity and understand the impact of incorrect information.</p> <ul style="list-style-type: none"> To ensure reliability through using different methods of communication. <p>Unit 5.8 - Word Processing (MS Word) 8 weeks</p> <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 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.
<p>E-SAFETY</p>	<p>Online Reputation/Self-image & identity</p> <p>To explain how identity online can be copied, modified or altered.</p> <p>To demonstrate how to make responsible choices about having an online identity, depending on context.</p> <p>To describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect.</p>	<p>Managing Online Information</p> <p>To evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.</p> <p>To describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers).</p> <p>To explain what is meant by the term ‘stereotype’, how ‘stereotypes’ are amplified and reinforced online, and why accepting ‘stereotypes’ may influence how people think about others.</p>	<p>Privacy & Security/Copyright & Ownership</p> <p>To explain what a strong password is and demonstrate how to create one.</p> <p>To explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</p> <p>To explain what app permissions are and can give some examples.</p> <p>To assess and justify when it is acceptable to use the work of others.</p>	<p>Online Relationships & Bullying</p> <p>To explain that there are some people I communicate with online who may want to do me or my friends harm.</p> <p>To describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups).</p> <p>To explain how someone can get help if they are having</p>	<p>Health, Wellbeing & Lifestyle</p> <p>To describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.</p> <p>To describe some strategies, tips or advice to promote health and well-being with regards to technology.</p> <p>To recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals.</p>	<p>Review</p>

		To describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.		<p>problems and identify when to tell a trusted adult.</p> <p>To recognise online bullying can be different to bullying in the physical world and can describe some of those differences.</p> <p>To describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying.</p> <p>To identify a range of ways to report concerns and access support both in school and at home about online bullying /To describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).</p>	To explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing.	
VOCAB	Simplify , efficient, computer generated variable, physical system, abstraction , function , tabs, concatenation , print to screen	Identity theft, PEGI rating, creative commons licence , malware, encrypt Copy and paste, cursor, hyperlink, document, merge cells, creative commons , page orientation	Formula, formula bar, formula wizard	Database report, statistics	Computer game, interactive, playability, texture , perspective	CAD – Computer Aided Design, pattern fill , 3D printing, story mode, concept map, connection , presentation mode
Cycle B	Autumn		Spring		Summer	
Key Skills & Knowledge	<p>Unit 6.1-Coding 6 weeks</p> <ul style="list-style-type: none"> To examine how whole numbers are used as the basis for representing all types of data in digital systems. To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). 	<p>Unit 6.2-Online Safety 3 weeks</p> <ul style="list-style-type: none"> To identify benefits and risks of mobile devices broadcasting the location of the user/device. To identify secure sites by looking for privacy seals of approval. To identify the benefits and risks of giving personal information. To review the meaning of a digital footprint. 	<p>Unit 6.9 Spreadsheets (MS Excel) 8 weeks</p> <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 	<p>Unit 6.4-Blogging 5 weeks</p> <ul style="list-style-type: none"> To identify the purpose of writing a blog. To identify the features of successful blog writing. To plan the theme and content for a blog. To understand how to write a blog and a blog post. 	<p>Unit 6.5 & 6.6-Text Adventures & Networks 8 weeks</p> <ul style="list-style-type: none"> To find out what a text adventure is. To use 2Connect to plan a story adventure. To make a story-based adventure using 2Create a Story. To introduce an alternative model for a text adventure 	<p>Unit 5.10 - Using External Devices MICROBIT 6 weeks</p> <ul style="list-style-type: none"> To use inputs from the accelerometer to execute programs. To incorporate conditional logic in programs using IF/THEN coding structures. To use the sensors of the micro:bit to set the values of variables and trigger action in the programs.

	<ul style="list-style-type: none"> To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics. <p>Lesson order Unit 6.1, Lessons 1 & 2 Unit 5.1, Lesson 3 Unit 6.1, Lesson 3 Unit 6.1, Lesson 4 Unit 6.1, Lesson 6</p>	<ul style="list-style-type: none"> 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. <p style="text-align: center;">Unit 6.7-Quizzing 5 weeks</p> <ul style="list-style-type: none"> To create a picture-based quiz for young children. To learn how to use the question types within 2Quiz. To explore the grammar quizzes. To make a quiz that requires the player to search a database. To make a quiz to test your teachers or parents. 	<p>effort when performing calculations.</p> <ul style="list-style-type: none"> To use a spreadsheet to model a reallife 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. 	<ul style="list-style-type: none"> To consider the effect upon the audience of changing the visual properties of the blog. To understand how to contribute to an existing blog. To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria. To understand how and why blog posts and comments are approved by the teacher. 	<p>which has a less sequential narrative.</p> <ul style="list-style-type: none"> To use written plans to code a map-based adventure in 2Code. 	<ul style="list-style-type: none"> To use the micro:bit to create simulations. To create devices that give input to the micro:bit via the pins
E-SAFETY	<p style="text-align: center;">Online Reputation/Self-image & identity</p> <p>To identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.</p> <p>To describe issues online that could make anyone feel sad, worried, uncomfortable or frightened.</p> <p>To know and can give examples of how to get help, both on and offline. To explain the importance of asking until I get the help needed.</p> <p>To explain the ways in which anyone can develop a positive online reputation.</p>	<p style="text-align: center;">Managing Online Information</p> <p>To explain how and why some people may present ‘opinions’ as ‘facts’; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.</p> <p>To define the terms ‘influence’, ‘manipulation’ and ‘persuasion’ and explain how someone might encounter these online (e.g. advertising and ‘ad targeting’ and targeting for fake news). I understand the concept of persuasive design and how it can be used to influences peoples’ choices.</p> <p>To demonstrate how to analyse and evaluate the validity of ‘facts’ and</p>	<p style="text-align: center;">Privacy & Security/Copyright & Ownership</p> <p>To explain what to do if a password is shared, lost or stolen.</p> <p>To describe simple ways to increase privacy on apps and services that provide privacy settings.</p> <p>To describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing).</p> <p>To demonstrate the use of search tools to find and access online content which can be reused by others.</p>	<p style="text-align: center;">Online Relationships & Bullying</p> <p>To explain how sharing something online may have an impact either positively or negatively.</p> <p>To describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not.</p> <p>* To describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.*</p>	<p style="text-align: center;">Health, Wellbeing & Lifestyle</p> <p>To describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.</p> <p>To recognise and can discuss the pressures that technology can place on someone and how / when they could manage this.</p> <p>To recognise features of persuasive design and how they are used to keep users engaged (current and future use).</p> <p>To assess and action different strategies to limit the impact of technology on health (e.g. night-</p>	<p>Review</p>

		<p>information and I can explain why using these strategies are important.</p> <p>To identify, flag and report inappropriate content.</p>		<p>To explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.</p> <p>To describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.</p> <p>To explain how someone would report online bullying in different contexts</p>	<p>shift mode, regular breaks, correct posture, sleep, diet and exercise).</p>	
VOCAB	<p>Launch command , flowchart , text adventure</p>	<p>Location sharing, print screen, secure websites, screen time,</p> <p>Audio , clone, cloze, preview</p>	<p>Auto fit, conditional formatting, cell reference, computational model, delimiter</p>	<p>Blog post, archive</p>	<p>Hub/switch, Wide area network (WAN), Local area network (LAN), Router, WI-FI</p>	<p>Gestures, IF/THEN, Input, LED, output, Pins, selection, sensor, simulation, variable</p>