

Computing Long term plan

Scope:

- Computer Science - data representation, algorithms, data structures and programming
- Information Technology - use of computers within society
- Digital literacy - knowledge and ability to use technology confidently, competently and in a safe way

Computing	AU1	AU2	SP1	SP2	SU1	SU2
Reception	<p><u>Navigating simple programs</u> Vocabulary: Ipad, computer, keyboard, key, screen, mouse, program, app, click, drag, close/open *Know the names of some parts of the computer *Know that the mouse moves the pointer on the screen *Know how to 'click' the mouse button to make things happen *Know how to open or close an app/program</p> <p>Project Evolve: *Self-image & identity *Online Bullying</p>	<p><u>Online safety</u> Vocabulary: device, internet, online safety, passwords, trusted adult, screen time Key knowledge: *Why we use passwords to keep our information safe *Not to share passwords with anyone (other than a trusted adult) *To be kind when using technology *Know who to speak to if they are upset by something online</p> <p>Project Evolve: *Online Relationships *Online Reputation *Managing online information</p>	<p><u>Bee-bots</u> Vocabulary: Bee-Bot, program, instruction, forward, backward, turn right, turn left, Key knowledge: *Know how to turn the Bee-Bot on *know the functions of each button on the Bee-Bot *Know how to control a Bee-Bot by programming it</p> <p>Project Evolve: *Health, Well-being & Lifestyle *Privacy & Security *Copyright & Ownership</p>			
Year 1	<p>Name of unit: Logging on and Exploring Purple Mash</p> <p>Spend time learning to log on and exploring purple mash.</p> <p>Project Evolve: *Self-image & identity *Online Reputation</p>	<p>Name of unit: Online Safety</p> <p>Vocabulary: Alert, Avatar, Button, Device, File Name, Icon, Log in/out, Menu, Notification, Password, My Work Area, Private, Saving, Search, Tools</p> <p>Key knowledge: *To log in safely. X` *To learn how to find saved work in the Online Work area and find teacher comments.</p>	<p>Name of unit: Coding</p> <p>Vocabulary: Action, Algorithm, Background, Code, Coding, Command, Debug/Debugging, Event, Execute, Instruction, Object, Output, Plan, Programmer, Properties, Run</p> <p>Key knowledge: *To understand what instructions are and predict what might</p>	<p>Name of unit: Technology outside school</p> <p>Vocabulary: Computer, Technology</p> <p>Key knowledge: *To walk around the local community and find examples of where technology is used. *To record examples of technology outside school.</p> <p>Name of unit: Grouping and Sorting</p> <p>Vocabulary:</p>	<p>Name of unit: Maze Explorers</p> <p>Vocabulary: Algorithm, Challenge, Command, Direction, Instruction, Left and Right, Route, Undo, Unit</p> <p>Key knowledge: *To understand the functionality of the direction keys. *To understand how to create and debug a set of instructions (algorithm). *To use the additional</p>	<p>Name of unit: Animated Story books</p> <p>Vocabulary: Animation, Background, Clip art gallery, E-book, Edit, Font, Sound, Sound Effect, Text</p> <p>Key knowledge: *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</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 Purple Mash.</p> <p>*To learn how to open, save and print.</p> <p>*To understand the importance of logging out.</p> <p>Pictograms</p> <p>Vocabulary: Collect, Data, compare, Pictogram, Record, Results, Title</p> <p>Key knowledge:</p> <p>*To understand that data can be represented in picture format.</p> <p>*To contribute to a class pictogram.</p> <p>*To use a pictogram to record the results of an experiment.</p> <p>Project Evolve:</p> <p>*Online Relationships</p>	<p>happen when they are followed.</p> <p>*To use code to make a computer program.</p> <p>*To understand what object and actions are.</p> <p>*To understand what an event is.</p> <p>*To use an event to control an object.</p> <p>*To begin to understand how code executes when a program is run.</p> <p>*To understand what backgrounds and objects are.</p> <p>*To plan and make a computer program.</p> <p>Project Evolve:</p> <p>*Managing Online information</p> <p>*Online Bullying</p>	<p>Criteria, groups, sort</p> <p>Key knowledge:</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>Name of unit: Lego builders</p> <p>Vocabulary: Algorithm, Code, Computer, Debugging, Instructions, Program</p> <p>Key knowledge:</p> <p>*To compare the effects of adhering strictly to instructions to completing tasks without complete instructions.</p> <p>*To follow and create simple instructions on the computer.</p> <p>*To consider how the order of instructions affects the result.</p> <p>Project Evolve:</p> <p>* Privacy & Security</p>	<p>direction keys as part of an algorithm.</p> <p>*To understand how to change and extend the algorithm list.</p> <p>*To create a longer algorithm for an activity.</p> <p>*To set challenges for peers.</p> <p>*To access peer challenges set by the teacher as 2Dos.</p> <p>Project Evolve:</p> <p>*Health, well-being & Lifestyle</p>	<p>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> <p>Project Evolve:</p> <p>*Copyright & Ownership</p>
Year 2	<p>Name of unit: Coding</p> <p>Vocabulary: Action, Algorithm, Background, Bug, Button,</p>	<p>Name of unit: Spreadsheets</p> <p>Vocabulary: Block graph, Cell, Column, Copy, Count tool, Data, Drag, Equals, Equals tool,</p>	<p>Name of unit: Questioning</p> <p>Vocabulary: Binary tree, Data, Database, Field,</p>	<p>Name of unit: Effective Searching</p> <p>Vocabulary: Digital Footprint, Domain, Internet, Network, Search Engine, Web Address,</p>	<p>Name of unit: Presenting ideas</p> <p>Vocabulary: E-book, Fact File, Fiction, Mind Map, Node, Non-Fiction, Presentation, Quiz</p>	<p>Name of unit: Making Music</p> <p>Vocabulary: Beat, Compose, Note, Tune, Sound Effect,</p>

	<p>Click events, Collision detection, Command, Debug/debugging, Event, Execute, Implement, Instructions, Interaction, Interval, Object, Output, Properties, Run</p> <p>Key knowledge:</p> <ul style="list-style-type: none"> *To understand what an algorithm is. *To create a computer program using an algorithm. *To create a program using a given design. *To understand the collision detection event. *To understand that algorithms follow a sequence. *To design an algorithm that follows a timed sequence. *To understand that different objects have different properties. *To understand what different events do in code. *To understand the function of buttons in a program. *To understand and debug simple programs. <p>Project Evolve:</p> <ul style="list-style-type: none"> *Managing Online information 	<p>Label, Row, Speak tool, Table, Total</p> <p>Key knowledge:</p> <ul style="list-style-type: none"> *To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. *To learn how to copy and paste in 2Calculate. *To use the totalling tools. *To use a spreadsheet for money calculations. *To use the 2Calculate equals tool to check calculations. *To use 2Calculate to collect data and produce a graph. <p>Project Evolve:</p> <ul style="list-style-type: none"> *Online Relationships 	<p>Pictogram, Question, Record, Search, Sort</p> <p>Key knowledge:</p> <ul style="list-style-type: none"> *To learn about data handling tools that can give more information than pictograms. *To use yes/no questions to separate information. *To construct a binary tree to identify items. *To use 2Question (a binary tree database) to answer questions. *To use a database to answer more complex search questions. *To use the Search tool to find information. <p>Project Evolve:</p> <ul style="list-style-type: none"> *Online Reputation *Online Bullying 	<p>Web Page, World Wide Web, Web Site</p> <p>Key knowledge:</p> <ul style="list-style-type: none"> *To understand the terminology associated with searching. *To gain a better understanding of searching on the Internet. *To create a leaflet to help someone search for information on the Internet. <p>Creating Pictures</p> <p>Vocabulary:</p> <p>Art, Fill, Impressionism, Palette, Pointillism, Style, Surrealism</p> <p>Key knowledge:</p> <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. *To explore surrealism and eCollage. <p>Project Evolve:</p>	<p>Key knowledge:</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. *To make a fact file on a non-fiction topic. *To make a presentation to the class. <p>Project Evolve:</p> <ul style="list-style-type: none"> *Self-image & identity 	<p>Soundtrack, Speed, Tempo, Volume</p> <p>Key knowledge:</p> <ul style="list-style-type: none"> *To make music digitally using 2Sequence. *To explore, edit and combine sounds using 2Sequence. *To edit and refine composed music. *To think about how music can be used to express feelings and create tunes which depict feelings. *To upload a sound from a bank of sounds into the Sounds section. *To record and upload environmental sounds into Purple Mash. *To use these sounds to create tunes in 2Sequence. <p>Project Evolve:</p> <ul style="list-style-type: none"> *Privacy & Security
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				*Health, Well-being & Lifestyle *Copyright & Ownership		
Year 3	<p><i>Learning to log on using personal passwords and unit 1 Touch Typing combined.</i></p> <p>Name of unit: Touch typing</p> <p>Vocabulary: Posture, Keys, Space bar, Typing</p> <p>Key knowledge: *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.</p> <p>Name of unit: Graphing</p> <p>Vocabulary: Axis, Chart, Column, Data, Graph, Investigation, Row, Sorting, Tally Chart</p> <p>Key knowledge: *To enter data into a graph and answer questions. *To solve an investigation and present the results in graphic form.</p> <p>Project Evolve: *Managing Online information</p>	<p>Name of unit: Coding</p> <p>Vocabulary: Action, Alert, Algorithm, Background, Bug, Button, Click Event, Code, Collision Detection Event, Command, Debug/Debugging, Event, Flowchart, Implement, Input, Interval, Nesting, Object, Predict, Properties, Repeat, Run, Scene, Sequence, Test, Timer</p> <p>Key knowledge: *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.</p> <p>Project Evolve: *Online relationships</p>	<p>Name of unit: Spreadsheets</p> <p>Vocabulary: Advance mode, Bar graph, Equals, Data, Cell Address, Rows, Columns, More than, Less than, Pie Chart, Quiz tool, Spin tool, Spreadsheet, Table</p> <p>Key knowledge: *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.</p> <p>Project Evolve: *Health, Well-being & Lifestyle *Self-image & identity</p>	<p>Name of unit: Micro:bits</p> <p>Vocabulary: Accelerometer, Animation, Data, Gestures, Hardware, Image, Infinite Loop, Input, LED, Output, Program, Repeat</p> <p>Key Knowledge: *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 create code that generates sound outputs based on different movement gestures.</p> <p>Name of unit: Simulations</p> <p>Vocabulary: Analysis, Simulation, Evaluation, Decision, Modelling</p> <p>Key knowledge: *To consider what simulations are. *To explore a simulation. *To analyse and evaluate a simulation.</p>	<p>Name of unit: Branching Databases</p> <p>Vocabulary: Binary tree, Branching database, Data, Database, Debugging</p> <p>Key knowledge: *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.</p> <p>Project Evolve: *Privacy & Security</p>	<p>Name of unit: Email (including email safety)</p> <p>Vocabulary: Address book, Attachment, BCC, CC, Communication, Compose, Email, Inbox, Password, Personal Information, Save to draft, Trusted Contact</p> <p>Key knowledge: *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</p> <p>Project Evolve: *Online bullying *Copyright & Ownership</p>

				Project Evolve: *Online Reputation		
Year 4	Name of unit: Coding Vocabulary: Action, Alert, Algorithm, Background, Button, Code blocks, Command, Debug/Debugging, Design, Execute, Event, Flowchart, 'If' Statement, 'If/Else' statement, Input, Nest, Object, Prompt, Implement, Repeat, Repeat Until, Predict, Run, Properties, Selection, Sequence, Timer, Variable Key knowledge: *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.	Name of unit: Making Music Vocabulary: BPM, Dynamics, Harmonious, Melody, Pitch, Pulse, Tempo, Rhythm, Synths, Texture Key knowledge: *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. Name of unit: Hardware Investigators Vocabulary: Components, CPU, Graphics Card, Hard Drive, Input, Motherboard, Network Card, Output, Peripherals, RAM, Software Key knowledge: *To understand the different parts that make up a computer. *To recall the different parts that make up a computer	Name of unit: Animation Vocabulary: Animation, FPS (Frames Per Second), Frame, Onion Skinning, Pause, Stop Motion Key knowledge: *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. Name of unit: Effective Search Vocabulary: Balanced View, Easter Eggs, Internet, Key Words, Reliability, Results Page, Search Engine Key knowledge: *To locate information on the search results page.	Name of unit: Writing for different audiences Vocabulary: Campaign, Format, Font, Genre, Opinion, Reporter, Viewpoint Key knowledge: *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. Project Evolve: *Self-image & identity	Name of unit: Artificial Intelligence Vocabulary: Algorithm, Artificial Intelligence, Data Key knowledge: *To learn what the term artificial intelligence means *To have a clear understanding about ways that AI is used in our everyday lives *To consider the future of AI *To explore how AI is used in music and the arts to create things. Project Evolve: *Online Bullying *Health, Well-being & Lifestyle	Name of unit: Logo Vocabulary: Debugging, Grid, LOGO, LOGO Commands (FD, BK, RT, LT), Multi Line mode, Pen down/up, Prediction, Procedure, Repeat, Run Speed, SETPC, SETPS Key knowledge: *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. Project Evolve: *Copyright & Ownership

	<p>Project Evolve: *Managing online information</p>	<p>Project Evolve: *Privacy & Security</p>	<p>*To use search effectively to find out information. *To assess whether an information source is true and reliable.</p> <p>Project Evolve: *Online Reputation *Online Relationships</p>			
Year 5	<p>Name of unit: Coding</p> <p>Vocabulary: Abstraction, Action, Algorithm, Concatenation, Debug/Debugging, Decomposition, Efficient, Flowchart, Event, Function, Input, Nesting, Object, Output, Physical system, Properties, Repeat, Sequence, Selection, Simplify, Timer, Variable</p> <p>Key knowledge: *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.</p>	<p>Name of unit: Word Processing using Microsoft Word (1-7)</p> <p>Vocabulary: Bulleted Lists, Caps Lock, Captions, Copy and Paste, Copyright, Creative Commons, Cursor, Document, Font, Hyperlink, Formatting, Merge Cells, Page Orientation, Readability, Text Wrapping, Word Processing tool, Word Art</p> <p>Key knowledge: *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.</p>	<p>Name of unit: Spreadsheets</p> <p>Vocabulary: Rows, Spreadsheet, Columns, Data, Formula, Format, Formula Bar, Advance Mode, Formula Wizard, 'How Many?' tool, Totalling tool, Variable</p> <p>Key knowledge: *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.</p> <p>Project Evolve: *Online bullying</p>	<p>Name of unit: Game Creator</p> <p>Vocabulary: Evaluation, Feedback, Image, Instructions, Promotion, Quest, Scene, Screenshot, Texture, Theme</p> <p>Key knowledge: *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> <p>Project Evolve: *Health, Well-being & Lifestyle</p>	<p>Name of unit: Databases</p> <p>Vocabulary: Arrange, Avatar, Chart, Collaborative, Data, Database, Field, Group, Record, Search, Database Report, Statistics, Sort</p> <p>Key knowledge: *To learn how to search for information in a database. *To contribute to a class database. *To create a database around a chosen topic.</p> <p>Project Evolve: *Online Relationships</p>	<p>Name of unit: Using external devices (4 lessons)</p> <p>Vocabulary: Algorithm, Emulator/simulator, external device, host, input, output, QR code, sensor</p> <p>Key knowledge: *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</p> <p>Project Evolve: *Online Reputation (2 lessons) *Self-image & identity</p>

	<p>*To begin to understand what a function is and how functions work in code.</p> <p>*To understand what the different variables types are and how they are used differently.</p> <p>*To understand how to create a string.</p> <p>*To understand what concatenation is and how it works.</p> <p>Project Evolve:</p> <p>*Privacy & Security</p> <p>*Copyright & Ownership</p>	<p>Project Evolve:</p> <p>*Managing Online information</p>				
Year 6	<p>Name of unit:</p> <p>Coding</p> <p>(6 lessons)</p> <p>Vocabulary:</p> <p>Action, Algorithm, Command, Co-ordinates, Decomposition, Event, Execute/Run, Debug/Debugging, Flowchart, Function, Input, Launch Command, Output, Object, Properties, Predict, Procedure, Sequence, Repeat, Repeat Until, Selection, Simulation, Variable, Timer, Tab</p> <p>Key knowledge:</p> <p>*To design a playable game with a timer and a score.</p> <p>*To plan and use selection and variables.</p>	<p>Name of unit:</p> <p>Text Adventures</p> <p>(4 lessons)</p> <p>Vocabulary:</p> <p>Text-based Adventure, Debug/Debugging, Sprite, Selection, Function</p> <p>Key knowledge:</p> <p>*To find out what a text adventure is.</p> <p>*To use 2Connect to plan a story adventure.</p> <p>*To make a story-based adventure using 2Create a Story.</p> <p>*To introduce an alternative model for a text adventure which has a less sequential narrative.</p> <p>*To use written plans to code a map-based adventure in 2Code.</p> <p>Networks</p>	<p>Name of unit:</p> <p>Understanding Binary</p> <p>(4 lessons)</p> <p>Vocabulary:</p> <p>Base 2, Bit, Base 10, Digit, Integer, Switch, Transistor, Machine Code, Switch, Variable,</p> <p>Words used to describe numbers of bits and the computer memory space used:</p> <p>Nibble – 4 bits</p> <p>Byte – 8 bits</p> <p>Kilobyte (KB) – 1024 bytes</p> <p>Megabyte (MB) – 1024 KB</p> <p>Gigabyte (GB) – 1024 MB</p> <p>Terabyte (TB) – 1024 GB</p> <p>Key knowledge:</p> <p>*To examine how whole numbers are used as the basis for representing all types of data in digital systems.</p>	SATS PREP	SATS PREP	<p>Name of unit:</p> <p>Quizzing</p> <p>(6 lessons)</p> <p>Vocabulary:</p> <p>Audience, Audio, Case-Sensitive, Clone, Cloze, Preview, Quiz</p> <p>Key knowledge:</p> <p>*To create a picture-based quiz for young children.</p> <p>*To learn how to use the question types within 2Quiz.</p> <p>*To explore the grammar quizzes.</p> <p>*To make a quiz that requires the player to search a database.</p> <p>*To make a quiz to test your teachers or parents.</p> <p>Project Evolve:</p>

	<p>*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.</p> <p>Project Evolve: *Managing Online information (7 lessons)</p>	<p>(3 lessons) Vocabulary: Hub/Switch, Internet, Local Area Network (LAN), Network, Router, World Wide Web, Wi-Fi, Wide Area Network (WAN) Key knowledge: *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.</p> <p>Project Evolve: *Health, Well-being & Lifestyle (4 lessons) *Online Relationships (3 lessons)</p>	<p>*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.</p> <p>Project Evolve: *Privacy & Security (5 lessons) *Copyright & Ownership (1 lesson)</p>			<p>*Online Reputation (2 lessons) *Self-image & identity (2 lessons) *Online Bullying (2 lessons)</p>
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<p>SEND – Adaptive Teaching</p>	<ul style="list-style-type: none"> ➤ Adjust the level of challenge – e.g provide question prompts to support thinking, provide partially completed versions of work (code, spreadsheets etc. that the children have to finish) ➤ Targeted support from a TA ➤ Clarify/simplify a task or provide numbered steps with visual representations (objects, pictures, signs, photos) ➤ Provide worked (completed) and partially completed examples. ➤ Re-explain a concept or explain it in a different way ➤ Give additional (or revisit) examples ➤ Use peer tutoring/collaborative learning (everyone must participate – give them roles) ➤ Provide additional scaffolds e.g – pre-teach vocabulary, ‘I do, we do, you’, chunk learning into smaller chunks and break learning down into key knowledge, provide worked examples and hands on resources ➤ Set clear targets/expectations ➤ Improve accessibility e.g. proximity to speaker, visibility of whiteboard When researching, use child appropriate websites ➤ Consider pace - (extra time for responses to questions, contributing to class discussions and to complete activities)
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	<ul style="list-style-type: none"> ➤ Provide vocabulary with visual images e.g - explicitly teach vocabulary at the beginning of a unit alongside a picture of the key word, use photographs to represent the word when using it during the unit ➤ check understanding and reinforcing as needed through repetition, rephrasing, explaining and demonstration e.g use of mini-plenaries to check understanding (quick quizzes) ➤ Pre-teach vocabulary, key content etc.
Strategies to stretch and challenge	<ul style="list-style-type: none"> ➤ Identify and account for prior knowledge – a child who has extensive prior knowledge could be asked to present some of the knowledge they have to the class; explain something they understand easily to a child who doesn't 'get it' so quickly - peer modelling; more confident pupils could model how they created a code or inputted data on a spreadsheet to less confident pupils or give them the first section of code or data to 'get them started' ➤ Depth of content - consider what you can add to create depth, e.g. digging into an area more deeply, going laterally with a concept. Can the child take the learning a step further? Give them a different context to the rest of the class e.g In spreadsheets plan costs for a school dinner instead of a party or costs of baking 5 cakes instead of 1. ➤ Use questioning techniques to boost thinking – ask open-ended questions which require higher-order thinking e.g – How.....Why.....What does this data tell us? Why must we add code in using this order? Why is it important to keep personal information private? ➤ Mastery - more intensive teaching, tutoring, peer-assisted learning, small group discussions, or additional homework e.g. challenging them to create a more complex algorithm, including a wider range of variables. ➤ Feedback – framing feedback so pupils must take responsibility for improving their own learning e.g extend more able learners through open-ended questions when providing feedback