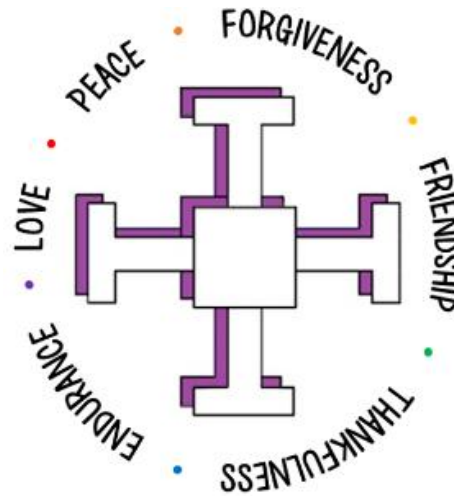


# Christ Church CE Primary School



## Computing Long Term Planning

'We value all children as unique 'Children of God' and welcome them into our safe, loving and supportive Christ Church family. We endeavour to use nurture to encourage individuals to flourish and aspire to reach their God given potential. We rejoice in our rich diversity and our broad, balanced curriculum provides opportunities for all to achieve excellence, open minds and inspire dreams both now and the future'.

**Achieving excellence, opening minds, inspiring dreams, creating futures.**

## Christ Church CE Primary School

‘Train up a child in the way they should go and when they are old, they will not depart from it.’ Proverbs 22:6



### Early Years (Reception)

Rather than a scheme with set lessons, the early years resources are designed to integrate into the day-to-day routine and set-up of an early years setting with opportunities for using Mini Mash or Purple Mash as part of the Early Years curriculum to support children in working towards early learning goals.

In addition, there are units of suggested ideas that focus on computing skills specifically, that can also be provided as opportunities for learning as part of the topics in other areas to give children a sound basis to explore topics using technology and to be ready for progressing through the Computing curriculum.

These are as follows and are designed to be integrated and linked to wider early years curriculum areas. These have been loosely classified into the three streams but there is overlap between all three streams.

EYFS: Reception Curriculum Overview					
<b>Mouse and trackpad skills</b>	<b>Keyboard skills</b>	<b>Drawing skills</b>	<b>Robots</b>	<b>Sounds</b>	<b>Photography</b>
<b>Technology around us</b>	<b>Hardware</b>	<b>Safety and privacy</b>	<b>Quizzes</b>	<b>Using Purple Mash with an individual login</b>	

Predominant Area of Computing*		
	Computer Science	
	Information Technology	
	Digital Literacy	

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KS1: Year One Curriculum Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Unit 1.1 - Online Safety &amp; Exploring PM (4 weeks)</b></p> <p>Various programs</p> <ol style="list-style-type: none"> <li>1. I can log in safely and save my work.</li> <li>2. I can find saved work in the online work area and use the search function.</li> <li>3. I can become familiar with the types of resources available in the Topics section.</li> <li>4. I can explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New.</li> </ol> <p><b>Unit 1.2 - Grouping and Sorting (2 weeks)</b></p> <p>2DIY</p> <ol style="list-style-type: none"> <li>1. I can sort items using a range of criteria.</li> <li>2. I can sort items on the computer using the 'Grouping' activities in Purple Mash.</li> </ol>	<p><b>Unit 1.3 - Pictograms (3 weeks)</b></p> <p>2Count</p> <ol style="list-style-type: none"> <li>1. I can understand that data can be represented in picture format.</li> <li>2. I can contribute to a class pictogram</li> <li>3. I can use a pictogram to record the results of an experiment.</li> </ol> <p><b>Unit 1.4 - Lego Builders (3 weeks)</b></p> <p>2Diy</p> <ol style="list-style-type: none"> <li>1. I can understand the importance of following instructions.</li> <li>2. I can follow and create simple instructions on the computer.</li> <li>3. I can consider how the order of instructions affects the result.</li> </ol>	<p><b>Unit 1.5 - Maze Explorers (3 weeks)</b></p> <p>2Go</p> <ol style="list-style-type: none"> <li>1. I can use the direction keys to complete the challenges successfully.</li> <li>2. I can understand how to create and debug a set of instructions (algorithm).</li> <li>3. I can use the additional direction keys as part of my algorithm, understand how to change and extend the algorithm list and create a longer algorithm for an activity.</li> </ol> <p><b>Unit 1.6 - Animated Story Books (5 weeks)</b></p> <p>2Create A Story</p> <ol style="list-style-type: none"> <li>1. I can explore the tools of 2Create a Story's My Simple Story level.</li> <li>2. I can add animation to a picture.</li> <li>3. I can add a sound effect and a voice recording to a picture</li> </ol>	<p><b>Unit 1.7 - Coding (4 weeks)</b></p> <p>2Code</p> <ol style="list-style-type: none"> <li>1. I can understand what instructions are and predict what will happen when instructions are followed.</li> <li>2. I can use code to make a computer program and understand what objects and actions are.</li> <li>3. I can understand what an event is and use an event to control an object.</li> <li>4. I can begin to understand how code executes when a program is run.</li> </ol>	<p><b>Unit 1.7 - Coding cont. (4 weeks)</b></p> <p>2Code</p> <ol style="list-style-type: none"> <li>5. I can understand what backgrounds and objects are and how to use the scale property.</li> <li>6. I can plan and make a computer program.</li> </ol>	<p><b>Unit 1.8 - Spreadsheets (3 weeks)</b></p> <p>2Calculate</p> <ol style="list-style-type: none"> <li>1. I can understand what a spreadsheet looks like and be able to navigate around and enter data.</li> <li>2. I can add clipart images to a spreadsheet and use the 'move cell' and 'lock' tools.</li> <li>3. I can use the 'speak' and 'count' tools in 2Calculate to count items.</li> </ol> <p><b>Unit 1.9 - Technology Outside School (2 weeks)</b></p> <p>Various programs</p> <ol style="list-style-type: none"> <li>1. I can find and understand examples of where technology is used in the local community.</li> <li>2. I can record examples of technology outside school.</li> </ol>

Predominant Area of Computing*		
<span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span> Computer Science	<span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span> Information Technology	<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span> Digital Literacy

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KS1: Year Two Curriculum Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Unit 2.1 - Coding (6 weeks)</b> 2Code</p> <p>1. I can understand what an algorithm is and create a computer program using an algorithm. 2. I can create a program using a given design and understand the collision detection event. 3. I can understand that algorithms follow a sequence. 4. I can understand that different objects have different properties. 5. I can create a program using a given design and understand the function of buttons in a program. 6. I can debug a simple program.</p> <p><b>Unit 2.2 - Online Safety (3 weeks)</b> Various programs</p> <p>1. I can refine searches using the Search tool. 2. I can open and send simple online communications in the form of email. 3. I understand that information put online leaves a digital footprint or trail.</p>	<p><b>Unit 2.3 - Spreadsheets (4 weeks)</b> 2Calculate</p> <p>1. I can use some 2Calculate tools that were introduced in year 1. 2. I can use copying, cutting and pasting shortcuts in 2Calculate. 3. I can explore the capabilities of a spreadsheet 4. I can add and edit data in a table layout and use the data to manually create a block graph.</p> <p><b>Unit 2.4 - Questioning (5 weeks)</b> 2Question, 2Investigate</p> <p>1. I can show that the information provided on pictograms is of limited use beyond answering simple questions. 2. I can use yes/no questions to separate information</p>	<p><b>Unit 2.4 - Questioning cont. (5 weeks)</b> 2Question, 2Investigate</p> <p>3. I can construct a binary tree to separate different items. 4. I can use a binary tree to answer questions. 5. I can use a database to answer more complex search questions.</p> <p><b>Unit 2.5 - Effective Searching (2 – 3 weeks)</b> Browser</p> <p>1. I can understand the terminology associated with the Internet and searching 2. I can gain a better understanding of searching the Internet. 3. I can create a leaflet to help someone search for information on the Internet</p>	<p><b>Unit 2.6 - Creating Pictures (5 weeks)</b> 2PaintAPicture</p> <p>1. I can explore 2Paint A Picture. 2. I can look at the work of pointillist artists such as Seurat and recreate pointillist art using a template. 3. I can look at the work of Piet Mondrian and recreate it using the Lines template. 4. I can look at the work of William Morris and recreate it using the Patterns template. 5. I can look at some surrealist art and create my own using the eCollage function in 2Paint A Picture.</p>	<p><b>Unit 2.7 - Making Music (3 weeks)</b> 2Sequence</p> <p>1. I can explore, edit and combine sounds using 2Sequence. 2. I can think about how music can be used to express feelings and create tunes which depict feelings. 3. I can create my own tune using the sounds which I've added to the Sounds section</p>	<p><b>Unit 2.8 - Presenting Ideas (4 weeks)</b> Various programs</p> <p>1. I can explore how a story can be presented in different ways 2. I can make a quiz about a story or class topic. 3. I can make a fact file on a non-fiction topic. 4. I can make a presentation to the class.</p>

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KS2: Year Three Curriculum Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Unit 3.1 - Coding (6 weeks)</b> 2Code</p> <p>1. I can understand what a flowchart is and how flowcharts are used in computer programming. 2. I can understand that there are different types of timers and can select the right type of timer for a purpose. 3. I can understand how to use the repeat command. 4. I can use coding knowledge to create a range of programs 5. I can design and create an interactive scene 6. I can design and create an interactive scene</p>	<p><b>Unit 3.2 - Online Safety (3 weeks)</b> Various programs</p> <p>1. I know what makes a safe password, how to keep passwords safe and the consequences of giving a password away. 2. I can consider if what can be read on websites is always true. 3. I can learn about the meaning of age restrictions symbols on digital media and devices and know where to turn for help if I see inappropriate content or have inappropriate contact from others.</p> <p><b>Unit 3.3 - Spreadsheets (3 weeks)</b> 2Calculate</p> <p>1. I can add and edit data in a table layout. 2. I can introduce the 'more than', 'less than' and 'equals' tools. 3. I can learn about describing cells using their addresses.</p>	<p><b>Unit 3.4 - Touch Typing (4 weeks)</b> 2Type</p> <p>1. I understand the correct way to sit at the keyboard and how to use the home, top and bottom row keys. 2. I can practice and improve typing for home, bottom, and top rows. 3. I can practice the keys typed with the left hand. 4. I can practice the keys typed with the right hand.</p>	<p><b>Unit 3.5 - Email (inc. email safety) (6 weeks)</b> 2Email, 2Connect, 2DIY</p> <p>1. I can think about the different methods of communication 2. I can open and respond to an email. 3. I can learn how to use email safely. 4. I can learn how to use email safely. 5. I can add an attachment to an email 6. I can explore a simulated email scenario</p>	<p><b>Unit 3.6 - Branching Databases (4 weeks)</b> 2Question</p> <p>1. I can sort objects using just YES/NO questions. 2. I can complete a branching database using 2Question 3. I can create a branching database of my own choice 4. I can create a branching database of my own choice</p>	<p><b>Unit 3.7 - Simulations (3 weeks)</b> 2Simulate, 2Publish</p> <p>1. I can find out what a simulation is and understand the purpose of simulations. 2. I can explore a simulation, making choices and discussing their effects. 3. I can work through and evaluate a more complex simulation.</p> <p><b>Unit 3.8 - Graphing (2 weeks)</b> 2Graph</p> <p>1. I can enter data into a graph and answer questions. 2. I can solve an investigation and present the results in graphic form.</p>

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KS2: Year Four Curriculum Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Unit 4.1 - Coding (6 weeks)</b> 2Code</p> <ol style="list-style-type: none"> <li>1. I can create a simple computer program.</li> <li>2. I can understand how an IF statement works.</li> <li>3. I can understand how to use co-ordinates in computer programming.</li> <li>4. I can understand how an IF/ ELSE/ repeat until statement works.</li> <li>5. I can understand what a variable is in programming.</li> <li>6. I can create a playable game.</li> </ol> <p><b>Unit 4.2 - Online Safety (4 weeks)</b> Various programs</p> <ol style="list-style-type: none"> <li>1. I understand that information online leaves a digital footprint.</li> <li>2. I can identify the risks and benefits of installing software including apps.</li> <li>3. I can identify appropriate behaviour when participating or contributing to collaborative online projects for learning.</li> <li>4. I can understand the importance of balancing game and screen time with other parts of their lives.</li> </ol>	<p><b>Unit 4.4 - Writing for different audiences (5 weeks)</b> 2Email, 2Connect, 2DIY</p> <ol style="list-style-type: none"> <li>1. I can explore how font size and style can affect the impact of a text.</li> <li>2. I can use a simulated scenario to produce a news report.</li> <li>3. I can use a simulated scenario to produce a news report.</li> <li>4. I can use a simulated scenario to write for a community campaign.</li> <li>5. I can use a simulated scenario to write for a community campaign.</li> </ol>	<p><b>Unit 4.5 - Logo (4 weeks)</b> 2Logo</p> <ol style="list-style-type: none"> <li>1. I can input simple instructions in 2Logo.</li> <li>2. I can use 2Logo to create letter shapes.</li> <li>3. I can use the Repeat command in 2Logo to create shapes.</li> <li>4. I can use and build procedures in 2Logo.</li> </ol>	<p><b>Unit 4.6 - Animation (3 weeks)</b> 2Animate</p> <ol style="list-style-type: none"> <li>1. I can learn how animations are created by hand.</li> <li>2. I can learn about 'onion skinning' in animations, and add backgrounds and sounds to animations.</li> <li>3. I can use 'stop motion' animation.</li> </ol> <p><b>Unit 4.7 - Effective Searching (3 weeks)</b> Browser</p> <ol style="list-style-type: none"> <li>1. I can locate information on the search results page.</li> <li>2. I can use search effectively to find out information.</li> <li>3. I can assess whether an information source is true and reliable.</li> </ol>	<p><b>Unit 4.8 - Hardware Investigators (2 weeks)</b></p> <ol style="list-style-type: none"> <li>1. I can understand the different parts that make up a desktop computer.</li> <li>2. I can recall the different parts that make up a computer.</li> </ol> <p><b>Unit 4.9 - Making Music (4 weeks)</b> 2Sequence, Busy Beats</p> <ol style="list-style-type: none"> <li>1. I can identify and discuss the main elements of music (pulse, rhythm, tempo, pitch, texture).</li> <li>2. I can understand and experiment with rhythm and tempo.</li> <li>3. I can create a melodic phrase.</li> <li>4. I can compose a piece of electronic music.</li> </ol>	<p><b>Unit 4.10 - Artificial Intelligence (4 weeks)</b></p> <ol style="list-style-type: none"> <li>1. What is artificial intelligence?</li> <li>2. How Artificial Intelligence can help us</li> <li>3. The future of Artificial Intelligence</li> <li>4. Artificial Intelligence in action</li> </ol>

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KS2: Year Five Curriculum Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Unit 5.1 - Coding (6 weeks)</b> 2Code</p> <ol style="list-style-type: none"> <li>1. I can begin to simplify code.</li> <li>2. I can program a simulation using 2Code.</li> <li>3. I know what decomposition and abstraction are in Computer Science</li> <li>4. I can understand how to use friction in code.</li> <li>5. I can understand what the different variable types are and how they are used differently.</li> <li>6. I can begin to explore text variables when coding and understand what concatenation is and how it works.</li> </ol>	<p><b>Unit 5.2 - Online Safety (3 weeks)</b> Various programs</p> <ol style="list-style-type: none"> <li>1. I can gain a greater understanding of the impact that sharing digital content can have</li> <li>2. I am aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.</li> <li>3. I can learn about how to reference sources in their work.</li> <li>4. I can ensure reliability through using different methods of communication.</li> </ol> <p><b>Unit 5.3 - Spreadsheets (5 weeks)</b> 2Calculate</p> <ol style="list-style-type: none"> <li>1. I can use formulae within a spreadsheet.</li> <li>2. I can use the count tool to answer hypotheses.</li> <li>3. I can use a spreadsheet to model a real-life problem.</li> <li>4. I can create formulae that use text variables.</li> <li>5. I can use a spreadsheet to help plan a school cake sale.</li> </ol>	<p><b>Unit 5.4 - Databases (4 weeks)</b> 2Question, 2Investigate</p> <ol style="list-style-type: none"> <li>1. I can learn how to search for information in a database.</li> <li>2. I can contribute to a class database</li> <li>3. I can create a database around a chosen topic.</li> <li>4. I can create a database around a chosen topic.</li> </ol>	<p><b>Unit 5.5 - Game Creator (5 weeks)</b> 2DIY 3D</p> <ol style="list-style-type: none"> <li>1. I can begin planning a game.</li> <li>2. I can design the game environment.</li> <li>3. I can design the game quest to make it a playable game.</li> <li>4. I can finish and share the game.</li> <li>5. I can self- and peer-evaluate.</li> </ol>	<p><b>Unit 5.6 - 3D Modelling (4 weeks)</b> 2Design and Make</p> <ol style="list-style-type: none"> <li>1. I can explore the 2Design and Make tool.</li> <li>2. I can explore the effect of moving points when designing.</li> <li>3. I can design a 3D model to fit certain criteria.</li> <li>4. I can refine and print a model.</li> </ol> <p><b>Unit 5.7 - Concept Maps (4 weeks)</b> 2Connect</p> <ol style="list-style-type: none"> <li>1. I can understand the uses of a 'concept map'.</li> <li>2. I can create a concept map.</li> <li>3. I can understand how a concept map can be used to retell stories and information.</li> <li>4. I can create a collaborative concept map and present this to an audience.</li> </ol>	<p><b>Unit 5.8 – Word Processing (optional unit – 8 lessons)</b> Google Docs</p> <ol style="list-style-type: none"> <li>1. I know what a word processing tool is for.</li> <li>2. I can add and edit images to a document.</li> <li>3. I know how to use word wrap with images and text.</li> <li>4. I can change the look of text within a document.</li> <li>5. I can add features to a document to enhance its look and usability.</li> <li>6. I can use the sharing capabilities in Google docs.</li> <li>7. I can use tables within Google Docs to present information.</li> <li>8. I can write a letter using a template.</li> </ol>

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KS2: Year Six Curriculum Overview					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Unit 6.1 - Coding (6 weeks)</b> 2Code</p> <p>1. I can design a playable game with a timer and a score. 2. I can plan and use selection and variables. 3. I can understand how functions are created and called. 4. I can use flowcharts to test and debug a program. 5. I can understand the different options of generating user input in 2Code. 6. I can understand how 2Code can be used to make a text-based adventure game.</p>	<p><b>Unit 6.2 - Online Safety (3 weeks)</b> Various programs</p> <p>1. I can identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location. 2. I can have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. 3. I can identify the positive and negative influences of technology on health and the environment.</p> <p><b>Unit 6.3 - Spreadsheets (5 weeks)</b> 2Calculate</p> <p>1. I can use a spreadsheet to investigate probability. 2. I can create a formula to help work out the prices of items in the sale. 3. I can use a spreadsheet to see effect of saving money. 4&amp;5. I can use a spreadsheet to plan a school charity day to maximise the money donated to charity.</p>	<p><b>Unit 6.4 - Blogging (4 weeks)</b> 2Blog</p> <p>1. I can identify the purpose of writing a blog. 2. I can plan the theme and content for a blog. 3. I can consider the effect upon the audience of changing the visual properties of the blog. 4. I can peer-assess blogs against the agreed success criteria.</p>	<p><b>Unit 6.5 - Text Adventures (4 weeks)</b> 2Code, 2Connect</p> <p>1. I can find out what a text-based adventure game is. 2. I can use 2Connect plans for a story adventure to make the adventure using 2Create a Story. 3. I can introduce an alternative model for a text adventure that has a less sequential narrative. 4. I can use written plans to code a map-based adventure in 2Code.</p>	<p><b>Unit 6.6 Networks (3 weeks)</b></p> <p>1. I can explore what I already know about the Internet. 2. I can find out what a LAN and WAN are and find out how we access the internet in school. 3. I can research and find out about the age of the internet</p> <p><b>Unit 6.7 Quizzing (6 weeks)</b> 2Quiz, 2DIY, Text Toolkit, 2Investigate</p> <p>1. I can create a picture-based quiz for young children. 2&amp;3. I can learn how to use the question types within 2Quiz. 4. I can explore the grammar quizzes. 5. I can make a quiz that requires the player to search a database. 6. I can make a quiz to test your teachers or parents.</p>	<p><b>Unit 6.9 Spreadsheets (optional – 8 lessons)</b> MS Excel or Google Sheets</p> <p>1. I can navigate and enter data into cells. 2. I can introduce some basic data formulae in Sheets. 3. I can use a spreadsheet to model a situation. 4. I can demonstrate how spreadsheets can make complex data clearer by manipulating the way it is presented. 5. I can use formulae for percentages, averages, max and min into spreadsheets. 6. I can create a variety of charts and graphs to understand data. 7. I can use a spreadsheet to model a real-life situation. 8. I can apply spreadsheet skills to solving problems.</p>

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