




Cycle B: Computing Knowledge Coverage

	Autumn Term	Spring Term	Summer Term
EYFS / Rec	<p>Area of Computing: Digital Literacy</p> <p>Concept: Using a Computer for the First Time</p> <p>Intent / Purpose of Autumn Sequence of Learning Children at Milton Abbot Primary School will start their Computing journey with a key focus on learning about the main parts of a computer. This will include learning about the keyboard and the mouse as well as basic computing skills such as how to log in and out.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Learn what a keyboard is and where relevant keys are. Learn how to log in and out of a computer. Learn what a mouse is and developing control when using a mouse. Developing basic mouse skills including moving and clicking and using an online paint tool. <p>Early Years Learning Goals / National Curriculum Link (NC): Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for purposes.</p> <p>Interacts with age-appropriate computer software.</p> <p>Concept: Using a Computer for the First Time</p> <p>Lesson 1 – To learn what a keyboard is and how to locate relevant keys. Lesson 2 – To learn how to log in and log out. Lesson 3 – To learn what a mouse is and to develop basic mouse skills such as moving and clicking. Lesson 4 – To move and use the mouse with increasing accuracy, including clicking, releasing, and dragging. Lesson 5 – To use a simple online paint tool to create digital art (mouse skills practice)</p> <p>Vocabulary Computer, mouse, login, log out, click, drag, drop, paint.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> No hardware / software required for this sequence. 	<p>Area of Computing: Computer Science (Programming)</p> <p>Concept: All about Instructions</p> <p>Intent / Purpose of Spring Sequence of Learning The children learn to receive and give instructions and understand the importance of precise instructions.</p> <p>Skills Learnt / Knowledge Gained To follow (and give) instructions as part of practical activities. To learn that an algorithm is a set of instructions that performs a specific task. To learn what debugging is</p> <p>Early Years Learning Goals / National Curriculum Link (NC): Orders and sequences familiar events. Creating and thinking critically Maintain attention and concentrate during appropriate activity. Responding to instructions involving a two-part sequence. Use everyday language to talk about size, position, and distance to solve problems.</p> <p>Concept: Lesson 1 – To follow instructions as part of practical activities and games. Lesson 2 – To follow instructions as part of practical activities and games (guide a partner). Lesson 3 – To learn to give simple instructions. (Dressing Up Activity) Lesson 4 – To follow instructions as part of practical activities and games and to learn to debug when things go wrong (Washing Hands Activity). Lesson 5 – To learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary.</p> <p>Vocabulary Algorithm, instruction, debugging.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> No hardware / software required for this sequence 	<p>Area of Computing: Computer Science (Programming)</p> <p>Concept: Programming Bee-bots</p> <p>Intent / Purpose of Summer Sequence of Learning Children learn about directions, experiment with programming Bee-bots/Blue-bots and tinker with hardware.</p> <p>Skills Learnt / Knowledge Gained To learn the meaning of directional arrows and follow simple instructions. To further experiment with programming. To further experiment with debugging</p> <p>Early Years Learning Goals / National Curriculum Link (NC): Playing and exploring Active learning Creating and thinking critically Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for purposes. Children to explore characteristics of everyday shapes and use mathematical language to describe them.</p> <p>Concept: Lesson 1 – To follow a simple sequence of instructions and understand the meaning of directional arrows. Lesson 2 – To experiment with programming a Bee-bot/Blue-bot. Lesson 3 – To further learn to debug instructions, with the help of an adult and when things go wrong. Lesson 4 – To further learn to debug instructions with greater independence. Lesson 5 – To further learn to debug instructions with greater independence.</p> <p>Vocabulary Beebot, algorithm, instruction, debugging, sequence, direction, forward, backwards, left, right, movement.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> Beebot Robots (at least a set of 6).

Cycle B: Computing Knowledge Coverage

	Autumn Term	Spring Term	Summer Term
Year 1 / 2	<p>Area of Computing: Digital Literacy</p> <p>Concept: Getting Started</p> <p>Intent / Purpose of Autumn Sequence of Learning Children to learn that computer can be used more purposefully. This will include learning and remembering how to login and navigate around a computer (including where keys are on the keyboard), developing mouse skills, learning how to drag and drop, click, and control a cursor to create artwork.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Logging in and out of a computer Using a mouse to navigate around a computer. Drag and drop image skills. Saving work to their own account. Understand the importance of a password. When using the internet to search for images, learning what to do if they come across something online that worries them or makes them feel uncomfortable. <p>National Curriculum Link (NC): Use Technology purposefully to create, organise, store, and manipulate and retrieve digital content.</p> <p>Use Technology safely and respectfully, keeping personal information private, identify where you go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <p>Recognise common uses of information technology beyond school.</p> <p>Concept: Getting Started Lesson 1 – To log onto a computer and access a website. Lesson 2 – To develop mouse skills. Lesson 3 – To use mouse skills to draw and manipulate shapes. Lesson 4 – To use a range of tools to create a desired effect. Lesson 5 – To understand how to layer shapes to create an image.</p> <p>Vocabulary Account, clipart, computer, log on/off, password, resize, screen (monitor), software, tools, username.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> Laptops and/or desktops Sketchpad is free and can be accessed through an internet browser such as Google Chrome or Safari. A mouse or touchpad is recommended if using Sketchpad with a tablet. Flash enabling may be required. 	<p>Area of Computing: Computer Science (Programming)</p> <p>Concept: Algorithms Unplugged</p> <p>Intent / Purpose of Spring Sequence of Learning The children will learn what algorithms, decomposition and debugging is in relation to computers and Computer Science. This will be made relatable to familiar contexts, such as dressing up, following directions, or making a sandwich, while learning why instructions need to be specific and unambiguous.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Learning that an algorithm is a set of step-by-step instructions used to carry out a task, in a specific order. Learning that decomposition means breaking a problem down into smaller parts. Using decomposition to solve challenges. Using logical reasoning to predict the behaviour of simple program. Developing the skills associated with sequencing in unplugged activities. Follow a basic set of instructions. Assembling instructions into a simple algorithm. <p>National Curriculum Link (NC): Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Concept: Algorithms Unplugged Lesson 1 – To understand what an algorithm is. Lesson 2 – To follow instructions precisely to carry out an action. Lesson 3 – To understand that computer around us use input and outputs. Lesson 4 – To understand and explain what decomposition is. Lesson 5 – To know how to debug an algorithm.</p> <p>Vocabulary Algorithm, bug, computer, debug, decompose, device, input, instructions, output, solution.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> No hardware / software required for this sequence 	<p>Area of Computing: Online Safety (with links to Relation and Health Education)</p> <p>Concept: Online Safety</p> <p>Intent / Purpose of Summer Sequence of Learning As an introduction to online safety, the children will learn about tips for staying safe online, how to manage feelings and emotions when someone or something has upset them online, learning about the responsibility we have as online users and exploring the idea of having a digital footprint.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Recognising when someone has been unkind online. Learning some top tips for staying safe online Understanding how we 'share' information on the internet <p>National Curriculum Link (NC): Recognise common uses of information technology beyond school.</p> <p>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <p>Concept: Online Safety Lesson 1 – To know what the internet is and how to use it safely. Lesson 2 – To understand different feelings when using the internet. Lesson 3 – To understand how to treat others, both online and in-person Lesson 4 – To understand the importance of being careful about what we post and share online. Lesson 5 –</p> <p>Vocabulary Internet safety, online safety, kind / unkind behaviour, staying safe, online, posting, reporting.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> Computers

	Autumn Term	Summer Term	Summer Term
Year 3 /4	<p>Area of Computing: Digital Literacy</p> <p>Concept: Word Processing</p> <p>Intent / Purpose of Autumn Sequence of Learning Following on from Year 1 / 2 Digit Literacy learning, children within Year 3 and 4 are to learn about word processing and how to stay safe online as well developing touch-typing skills. Introduce important keyboard shortcuts, as well as simple editing tools within a word processor including: bold, italics, underline and font colour as well as how to import images</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts Using word processing software to type and reformat text. Understanding that personal information should not be shared on the internet. Learning how to be respectful to others when sharing content online. Creating and labelling images <p>National Curriculum Link (NC): Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Concept: Word Processing Lesson 1 – To learn how to touch type. Lesson 2 – To understand how to use a word processor. Lesson 3 – To understand how to add images to a text document. Lesson 4 – To learn how to copy and paste work (also a focus on referencing copied work) Lesson 5 – To understand what happens to images posted online.</p> <p>Vocabulary Backspace, copyright, , , image, , import, keyboard character, paste, undo / redo, touch typing.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> Laptops and/or desktops Word processing software such as Google Docs, Microsoft Office, Busy Things and Purple available through an internet browser or by installing their app/program. Typing Club is free and accessed through an internet browser such as Google Chrome or Safari. [Link] A plug-in keyboard is recommended if using with a tablet. 	<p>Area of Computing: Computational Thinking (Programming)</p> <p>Concept: Scratch</p> <p>Intent / Purpose of Spring Sequence of Learning Building on prior knowledge / skills (and previous work on Scratch), the coding program of Scratch is explored by revisiting its key features and introducing the children to the crucial concept and execution of using 'variables' in code scripts.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Solving problems by decomposing them into smaller parts. Using decomposition to understand the purpose of a script of code. Using decomposition to help solve problems. Using past experiences to help solve new problems. Creating algorithms for a specific purpose. Incorporating variables to make code more efficient. <p>National Curriculum Link (NC): Using logical reasoning to explain how simple algorithms work.</p> <p>Designing, writing, and debugging programs that accomplish specific goals, including controlling or simulating physical systems.</p> <p>Solving problems by decomposing them into smaller parts. Using sequence, selection, and repetition in programs.</p> <p>Working with variables and various forms of input and output.</p> <p>Concept: Scratch Lesson 1 – To recall key features of Scratch. Lesson 2 – To understand how a Scratch game work by using decomposition to identify key features. Lesson 3 – To understand what a variable is and how to make one. Lesson 4 – To understand how to make a variable in Scratch. Lesson 5 – To use knowledge of variable to make a quiz.</p> <p>Vocabulary Code, code block, conditional statement, decompose, direction, feature, variable, icon, orientation, position, program verb, project, stage, icon, tinker</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> Laptops, desktops and/or tablets (keyboard recommended) Scratch can be accessed via an internet browser such as Google Chrome or Safari. [Link] Scratch is also available as an app from the Apple [Link] or Google Play [Link] store. You can add Scratch as a Google Chrome extension. [Link] 	<p>Area of Computing: Online Safety (with links to Relation and Health Education)</p> <p>Concept: Online Safety</p> <p>Intent / Purpose of Summer Sequence of Learning Building on prior knowledge, the children's learning will include what happens to information when posted online, how to keep things safe and private online, who we should ask before sharing things online, describing different ways to ask for help and giving / denying permission online.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Understanding that personal information should not be shared on the internet. Learning how to be respectful to others when sharing content online. Recognising when someone has been unkind online. Learning some top tips for staying safe online Understanding how we 'share' information on the internet. <p>National Curriculum Link (NC): Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Concept: Online Safety Lesson 1 – To know what happens to information when you post it online. Lesson 2 – To know how to keep things private and safe online. Lesson 3 – To explain what should be done before sharing information online. Lesson 4 – To explain what should be done before sharing information online. Lesson 5 – To learn strategies that will help me decide if something I see online is true or not.</p> <p>Vocabulary Acceptable / unacceptable behaviour, content, concern, reporting, sharing information, personal information.</p> <p>Resources (Please visit Required Software Document for links)</p> <ul style="list-style-type: none"> Computers

	Autumn Term	Spring Term	Summer Term
Year 5 / 6	<p>Area of Computing: Digital Literacy</p> <p>Concept: Search Engines</p> <p>Intent / Purpose of Autumn Sequence of Learning Following on from prior Digit Literacy learning / gained skills (as detailed above), the children will learn how to find relevant and accurate information quickly. This sequence will teach pupils how to use key words and phrases, to identify inaccurate information, how page rank works as well as how to credit their sources appropriately.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Developing searching skills to help find relevant information on the internet. Understanding how search engines work. <p>National Curriculum Link (NC): Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>Select, use and combine a variety of software (including internet services) to create content that accomplish given goals, including collecting data and information.</p> <p>Concept: Search Engines Lesson 1 – To learn what a search engine is and how to use it. Lesson 2 – To be aware that everything online is not true. Lesson 3 – To effectively use a search engine to quickly find information. Lesson 4 – To collate information gathered from the use of a search engine and credit images used. Lesson 5 – To understand what affects page rank and what a web crawler is.</p> <p>Vocabulary Algorithm, company logo, data leak, data privacy, inaccurate information, index, keywords, network, online, page rank, TASK, web crawler, website, www.</p> <p>Resources</p> <ul style="list-style-type: none"> Laptops, desktops and/or tablet Canva for Education, register your school for free through an internet browser. Pupils will then be able to access all of the tools and features. [Link] Sketchpad is free and can be accessed through an internet browser such as Google Chrome or Safari. [Link] Socrative can be accessed as an app on tablets on the Google Play [Link] and Apple store [Link], and as an extension for Google Chrome/Chromebooks [Link]. 	<p>Area of Computing: Computational Thinking (Programming)</p> <p>Concept: Microbit</p> <p>Intent / Purpose of Spring Sequence of Learning Building on prior knowledge / skills the pupils will create algorithms and programs that are used in the real world. They predict, test and evaluate to create and debug programs with specific aims: a simple animation, a polling program, pedometer and scoreboard.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Iterating and developing their programming as they work Beginning to use nested loops (loops within loops) Debugging their own code Writing code to create a desired effect. Using a range of programming commands Using repetition within a program Amending code within a live scenario. <p>National Curriculum Link (NC): Design, write and debug programs that accomplish specific goals.</p> <p>Solve problems by decomposing them into smaller parts.</p> <p>Use sequence and repetition in programs, work with various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>Concept: Microbit Lesson 1 – To explore the functions of a BBC Micro:bit. Lesson 2 – To programme an animation. Lesson 3 – To recognise a coding structure. Lesson 4 – To create a programme. Lesson 5 – To create a programme (continued)</p> <p>Vocabulary hex file, zip file, Bluetooth, code blocks, decompose, emulator, feature, loop, pedometer, predict, systematic, tinker, variable.</p> <p>Resources</p> <ul style="list-style-type: none"> Laptops, desktops and/or tablets BBC Micro:bits (if unavailable, use the online emulator) Micro:bit make code software can be accessed via an internet browser such as Google Chrome or Safari. [Link] Micro:bit make code is also available as an app from the Apple [Link] or Google Play [Link] store. 	<p>Area of Computing: Online Safety (with links to Relation and Health Education)</p> <p>Concept: Online Safety</p> <p>Intent / Purpose of Summer Sequence of Learning Building on prior knowledge, the children will learn: how to alter application permissions, consider positive and negative aspects of online communication, understand that online information is not always factual as well as how to deal with online bullying and thinking about the effects that technology has on our health and wellbeing.</p> <p>Skills Learnt / Knowledge Gained</p> <ul style="list-style-type: none"> Learning about how permissions work and how to change them. Identifying possible issues with online communication Considering the effects of screen-time on physical and mental wellbeing Learning about online bullying and where to seek advice. <p>National Curriculum Link (NC):</p> <ul style="list-style-type: none"> Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. <p>Concept: Online Safety Lesson 1 – To understand how apps can access our personal information and how to alter the permissions. Lesson 2 – To be aware of the positive and negative aspects of online communication. Lesson 3 – To understand how online information can be used to form judgements. Lesson 4 – To discover ways to overcome bullying. Lesson 5 – To understand how technology can affect health and wellbeing.</p> <p>Vocabulary Online, bullying, health, wellbeing, digital content, respect, information, permission, seeking advice.</p> <p>Resources</p> <ul style="list-style-type: none"> Computers