



## Computing

Year group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Computer Science</b></p> <p><u>KS1</u> 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>Use logical reasoning to predict the behaviour of simple programs.</p> <p><u>KS2</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p>	<p>To understand that algorithms are a set of instructions used to solve a problem.</p> <p>To know that an algorithm written for a computer is called a program.</p> <p>To develop strategies to help find bugs in programs.</p> <p>To make very simple programs.</p> <p><b>Purple Mash Units:</b> <b>1.4 – Lego Builders</b> <b>1.5 - Maze Explorers</b> <b>1.7 - Coding</b></p>	<p>To use algorithms and know that they can be implemented as programs used to complete a task.</p> <p>To carefully plan an algorithm before creating it to ensure it will work when made into code.</p> <p>To design a simple program (Using 2code) that achieves a purpose.</p> <p>To know and use strategies to debug and find errors in their programs.</p> <p>To make predictions as to what will happen in a program. Ex. write a cause and effect sentence detailing what will happen.</p> <p><b>Purple Mash Units:</b> <b>2.1 - Coding</b></p>	<p>To plan and write algorithms and programs using sequence and repetition to simulate a real-life situation by deconstructing it into manageable parts.</p> <p>To solve (fix) problems and errors in their algorithms and programs.</p> <p>To have knowledge and experience of using a range of different inputs and outputs including timers and repetition effects.</p> <p>To start to use and understand 'if' statements.</p> <p>To describe some of components of a computer network and some of the ways in which computer networks can be used, including using 2Email to model appropriate email conventions when communicating.</p> <p><b>Purple Mash Units:</b></p>	<p>To design and write more complex algorithms and programs using sequence, selection and repetition.</p> <p>To further develop their computational thinking to help debug their programs and design and solve problems and tasks.</p> <p>To have a simple understanding of how search engines work.</p> <p>To use selection (decision) in their programming. Ex. using an 'if' statement for a question being asked and the program takes one of two paths.</p> <p>To develop their understanding of inputs and outputs further, demonstrating how they can use programs to control external devices.</p> <p>Ex. 'Print to screen'.</p> <p>To understand the difference between the internet and World Wide Web.</p>	<p>To design and write programs using sequence, repetition, selection, and variables.</p> <p>To develop a greater understanding of how to use selection and repetition in more complex programs.</p> <p>To understand how search engines work.</p> <p>To further develop their computational thinking showing they can plan and decompose tasks; explain how the algorithms they write work and correct errors in their programs.</p> <p>To plan and write programs to control external devices such as sensors and motors and explain about the inputs and outputs used.</p> <p>To have an understanding of how a computer</p>	<p>To design and create more complex programs using sequence, repetition, selection, and variables appropriately.</p> <p>To develop their computational thinking to demonstrate that they can decompose and evaluate their tasks and correct errors in their algorithms and programs.</p> <p>To identify a specific line of code that is causing a problem in my program and attempt a fix.</p> <p>To be confident in their knowledge of inputs and outputs and plan and write programs to solve tasks to control external devices such as sensors and motors.</p> <p>To know how different computer networks work, including the roles of the components and the opportunities and benefits that they offer</p>



<p>Use sequence, selection, and repetition in programs; work with variables and 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>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web.</p> <p>Appreciate how (search) results are selected and ranked.</p>			<p><b>3.1 – Coding</b></p> <p><b>3.5 - Email</b></p>	<p>To recognize the main component parts of hardware which allow computers to join and form a network.</p> <p>To use variables within their program and know how to change the value of the variable.</p> <p><b>Purple Mash Units:</b></p> <p><b>4.1 – Coding</b></p> <p><b>4.2 – Online safety</b></p> <p><b>4.5 – Logo</b></p> <p><b>4.7 – Effective Searching</b></p> <p><b>4.8 – Hardware investigations</b></p>	<p>network works and the opportunities that it offers for communication and collaboration.</p> <p>To recognise the main dangers that can be perpetuated via computer networks.</p> <p>I can use the most appropriate form of online communication according to the digital content.</p> <p><b>Purple Mash Units:</b></p> <p><b>5.1 – Coding</b></p> <p><b>5.2 – Online Safety</b></p> <p><b>5.5 – Game Creator</b></p>	<p>for communication and collaboration.</p> <p>To understand the difference between the internet and internet services (world wide web).</p> <p>To know how search engines work and what 'ranking' is when related to search engines.</p> <p>To explain what a LAN and WAN is and describe the process of how access to the internet in school is possible.</p> <p><b>Purple Mash Units:</b></p> <p><b>6.1 – Coding</b></p> <p><b>6.2 – Online safety</b></p> <p><b>6.4 – Blogging</b></p> <p><b>6.6 – Networks</b></p> <p><b>6.7 – Binary</b></p>
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<p><b>Information technology</b></p> <p><u><b>KS1</b></u></p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p><u><b>KS2</b></u></p> <p>Use search technologies effectively.</p> <p>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p>	<p>To use technology with support, to create, store (name) and retrieve digital content such as text and images.</p> <p>To use a simple search to find information or files and access online resources.</p> <p><u><b>Purple Mash Units:</b></u></p> <p><b>1.2 – Grouping and sorting.</b></p> <p><b>1.3 – Pictograms</b></p> <p><b>1.6 – Animated stories.</b></p> <p><b>1.7 – Coding</b></p> <p><b>1.8 – Spreadsheets.</b></p>	<p>To use technology with purpose to create, store (name), organise, retrieve and manipulate digital content.</p> <p>To learn to make a range of simple digital assets such as presentations, movies, audio files and graphs.</p> <p>To navigate the web and carry out simple searches using suitable search engines and begin to understand that not everything on the internet is true.</p> <p>To use simple simulations and understand how they work.</p> <p><u><b>Purple Mash Units:</b></u></p> <p><b>2.3 – Spreadsheets</b></p> <p><b>2.4 – Questioning</b></p> <p><b>2.5 – Effective searching</b></p> <p><b>2.6 – Creating pictures</b></p> <p><b>2.7 – Making music</b></p> <p><b>2.8 – Presenting ideas</b></p>	<p>To use a variety of software and devices to create digital assets such as programs, graphs and multimedia content for a defined purpose. This includes analysing data using features within software. (Excel)</p> <p>To develop their search strategies further by refining their use of keywords and starting to use appropriate key phrases and questions.</p> <p>To use more complex simulations and understand the effects of changing variables.</p> <p><u><b>Purple Mash Units:</b></u></p> <p><b>3.3 – Spreadsheets</b></p> <p><b>3.4 – Typing</b></p> <p><b>3.5 – Email</b></p> <p><b>3.6 – Branching data</b></p> <p><b>3.7 – Simulations</b></p> <p><b>3.8 – Graphing</b></p> <p><b>3.9 – Presenting</b></p>	<p>To use and combine a variety of software and devices with increasing independence, to create a range of digital assets such as programs, databases, systems and multimedia content.</p> <p>To understand the purpose of search engines and the main features within them.</p> <p>To look at information on a webpage and make predictions about the accuracy of information contained.</p> <p>To use models and simulations to produce graphs and explore patterns and relationships.</p> <p>To share digital content using a variety of applications such as: 2Blog, 2Email and Display Boards.</p> <p><u><b>Purple Mash Units:</b></u></p> <p><b>4.1 – Coding</b></p> <p><b>4.3 – Spreadsheets</b></p> <p><b>4.4 – Writing for different audiences.</b></p> <p><b>4.6 – Animation</b></p> <p><b>4.7 – Effective searching</b></p> <p><b>4.8 – Making music</b></p>	<p>To select, use and combine a range of software and use a wider range of devices to create a variety of digital assets such as programs, systems, databases, spreadsheets and multimedia content for a defined purpose.</p> <p>To understand about the use of operators in searching and continue developing their effective search techniques by using Boolean operators in their searches.</p> <p>To create simple spreadsheet models to investigate real life problems.</p> <p>I can explain in detail how accurate, safe and reliable the content is on a webpage.</p> <p><u><b>Purple Mash Units:</b></u></p> <p><b>5.1 – Coding</b></p> <p><b>5.2 – Online safety</b></p> <p><b>5.3 – Spreadsheets</b></p> <p><b>5.4 – Databases</b></p> <p><b>5.5 – Game creator</b></p> <p><b>5.6 – 3D modelling</b></p> <p><b>5.7 – Concept maps</b></p> <p><b>5.8 – Word processing</b></p>	<p>To independently select, use and combine a wide range of software on a variety of devices.</p> <p>To design and create a range of digital assets such as programs, systems and multimedia content for a defined purpose and audience.</p> <p>To use advanced searches including the use of operators.</p> <p>To create spreadsheet models to investigate real life problems, using their knowledge to make predictions.</p> <p>To design and create their own online blogs.</p> <p>To consider the intended audience carefully when designing and making digital content.</p> <p>To explain in detail how accurate and reliable a webpage and its content is.</p> <p><u><b>Purple Mash Units:</b></u></p> <p><b>6.1 – Coding</b></p> <p><b>6.2 – Online Safety</b></p> <p><b>6.3 – Spreadsheets</b></p> <p><b>6.4 – Blogging</b></p> <p><b>6.5 – Text adventures</b></p> <p><b>6.7 – Quizzing</b></p>
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## 6.9 – Spreadsheets (Excel)

<p><b>Digital Literacy</b></p> <p><b><u>KS1</u></b></p> <p>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><b><u>KS2</u></b></p> <p>Understand the opportunities (networks) offer for communication and collaboration.</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Be discerning in evaluating digital content.</p>	<p>To recognise common uses of information technology and identify a variety of examples both in and beyond school.</p> <p>To understand the rules and responsibilities outlined by the school's acceptable use policy and begin to understand where to go for help when they have concerns.</p> <p>To develop an understanding of how to keep their personal information, such as their usernames and passwords, private and understand they need to use technology safely and respectfully.</p> <p><b><u>Purple Mash Units:</u></b></p> <p><b>1.1 – Online Safety</b></p> <p><b>1.9 – Tech outside school</b></p>	<p>To know their responsibilities from their school's acceptable use policy and how to report any concerns they have to a trusted adult.</p> <p>To understand the consequences of not searching online safely, including uploading digital content (taught using 2Email and PM display boards).</p> <p>To begin to develop an understanding of the importance of computers and the internet to communicate.</p> <p>To develop their knowledge of the technology used in everyday life in a range of situations and be able to discuss their ideas. (Taught through use of 2Code to create an everyday program).</p> <p><b><u>Purple Mash Units:</u></b></p> <p><b>2.1 – Coding</b></p> <p><b>2.2 – Online Safety</b></p> <p><b>2.5 – Effective searching</b></p>	<p>To use technology safely and respectfully and have an understanding of how to keep information secure.</p> <p>To realise the importance of reporting any concerns they have using the internet and other communication technologies, and know some ways in which they can do it.</p> <p>To develop an understanding of what is unacceptable and unacceptable online behaviour, including internet safety.</p> <p>To realise that not all information on the internet is trustworthy and there is a need to verify its reliability</p> <p><b><u>Purple Mash Units:</u></b></p> <p><b>3.2 – Online Safety</b></p> <p><b>3.5 - Email</b></p>	<p>To use technology respectfully, responsibly and safely, knowing how to keep their information and passwords secure.</p> <p>To know different ways of reporting concerns about content and contact involving the internet and other communication technologies.</p> <p>To have a greater understanding of what is acceptable and unacceptable online behaviour.</p> <p>To start to develop strategies to verify the reliability and accuracy of information on the internet and develop an awareness of copyright.</p> <p>To recognize that my wellbeing can be affected by how I use technology.</p> <p><b><u>Purple Mash Units:</u></b></p> <p><b>4.2 - Online safety</b></p>	<p>To use technology safely, respectfully and responsibly and continue to develop skills to identify risks involved with contact and content including developing an understanding of digital footprints.</p> <p>To know a range of ways of reporting concerns about content and contact involving the internet and other communication technologies.</p> <p>To understand what acceptable and unacceptable online behaviour is and to have a secure knowledge of online safety rules taught at school.</p> <p>To use strategies to verify the reliability and accuracy of information on the internet and understand copyright.</p> <p>To know how to not let my mental wellbeing or others be affected by use of online technologies and services.</p> <p><b><u>Purple Mash Units:</u></b></p> <p><b>5.2 – Online safety</b></p>	<p>To be competent users of technology using it safely, respectfully and responsibly and know about digital footprints and 'strong' passwords.</p> <p>To demonstrate that they can identify the risks involved with content and contact and they know a wide range of ways of reporting any concerns they have.</p> <p>To understand what acceptable and unacceptable online behaviour is.</p> <p>To use strategies to verify and evaluate the reliability and accuracy of information on the internet and understand what copyright and plagiarism is and how it relates to their work.</p> <p>To understand the value of protecting their privacy and others online.</p> <p>To identify more discrete inappropriate behaviours online.</p> <p><b><u>Purple Mash Units:</u></b></p> <p><b>6.2 – Online safety</b></p> <p><b>6.4 – Blogging</b></p>
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