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|  | **Autumn Term** | | | | | |
|  | **KS1** | | **LKS2** | | **UKS2** | |
| **Key Stage 1**  **N.C Objectives:**  Recognise common uses of information technology beyond school. (Digital Literacy)  Use technology purposefully to create, organise, store, manipulate and retrieve digital content. (IT) | Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.  Children can save and retrieve work. | Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. 2Publish example template.  Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs. | Children recognise input and output devices and understand computer networks and the internet.  Use simple search technologies and recognise acceptable and unacceptable behaviour.  Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. | Children understand what servers are and how they provide a service.  Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level.  Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving. | Children use filters in search technology effectively and appreciate how results are selected and ranked.  Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog,  Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. | Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the internet in school.  Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication. |
| **Key Stage 2**  **N.C Objectives:**  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.  (Computer Science)  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. (IT)  Use technology safely, respectfully and responsibly (Digital Literacy) |

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|  | **Spring Term** | | | | | |
|  | **KS1** | | **LKS2** | | **UKS2** | |
| **Key Stage 1**  **N.C Objectives:**  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.  (Digital Literacy)  Use technology purposefully to create, organise, store, manipulate and retrieve digital content. (IT) | Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons.  They understand where to go for help and support if they have concern about content or contact online.  Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash. | Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult. | Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.  IT – Present online safety information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. | Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.  IT – Present online safety information using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | Children recognise what personal information is and can explain how this can be kept safe. They have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.  IT – Present online safety information using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email. | Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in preserving their privacy when online for their own and other people’s safety.  IT – Present online safety information using clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet, e.g. 2Blog. |
| **Key Stage 2**  **N.C Objectives:**  Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.  (Digital Literacy)  Select, use and combine a variety of software (including internet services) on a range of digital devices….(IT) |

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|  | **Summer Term** | | | | | |
|  | **KS1** | | **LKS2** | | **UKS2** | |
| **Key Stage 1**  **N.C Objectives:**  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. (Computer Science)  Create and debug simple programs.  (Computer Science)  Use logical reasoning to predict the behaviour of simple programs.  (Computer Science) | Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. Know that an algorithm written for a computer is called a program.  Write their own simple algorithm.  Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code.  Work out what is wrong with a simple algorithm when the steps are out of order. | Explain that an algorithm is a set of instructions to complete a task.  Show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.  Create a simple program that achieves a specific purpose.  Identify and correct some errors using a growing awareness of the need for logical, programmable steps.  Create and Debug a range of different programs. | Turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts.  Design and code a program that follows a simple sequence.  Understand how variables can be used.  Identify an error within their program that prevents it following the desired algorithm and then fix it. | Turn a real-life situation into an algorithm, showing coding structures for selection and repetition.  Design and code a program logically using repetition effects.  Use and manipulate variables.  Debug their own programs using logical reasoning.  Decompose programs into smaller parts. | Attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts.  Test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug.  Translate algorithms that include sequence, selection and repetition into code with increasing ease.  Combine sequence, selection and repetition with other coding structures to achieve their algorithm design. | Turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way.  Test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.  Translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. |
| **Key Stage 2**  **N.C Objectives:**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. (Computer Science)  Use sequence, selection and repetition in programs; work with variables and various forms of input and output. (Computer Science)  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. (Computer Science) |