Computing Progression Guide

Developing Together for Tomorrow's World

Purple Mash Program of work

Computer Science

Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute. Create and debug simple programs. Use logical reasoning to predict the behavior of simple programs.		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs, work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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.			
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. • Understand that an algorithm, written for a computer, is called a program. • Work out what is wrong with a simple algorithm when the steps are out of order, • Know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code. • Read a code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.	• Explain that an algorithm is a set of instructions to complete a task. • Understanding for the need for logical, programmable steps. • Have a precise awareness with algorithms so that they can be converted into code. • Create a simple program that achieves a specific purpose. • Identify and correct errors. • Identify the parts of a program that respond to specific events and initiate specific actions.	• Turn a simple real-life situation into an algorithm for a program, deconstruct it into manageable parts. • Consider the desired task and how this translates into code. • Identify an error within their program that prevents it following the desired algorithm and then fix it. • Design and code a program that follows a simple sequence. • Begin to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. • Read programs with several steps and predict the outcome.	• Make increasing intuitive attempts to debug their own programs. • Use logical repetition effects that are integrated into their program designs. • Combine a range of coding structures to achieve the desired effect. • Trace code and use step-through methods to identify errors and make logical attempts to correct this. • Read programs with several steps and accurately predict the outcome. • Identify the main component parts of hardware • Understand the online safety implications associated with the ways the internet can be	• Test and debug their programs as they work. • Use logical methods to identify the approximate cause of any bug, with support identifying the specific line of code. • Accomplish the set task in code utilizing sequence, selection and repetition. • Understand the value of computer network, whilst being aware of the main dangers • Explain how personal information can be kept safe online	• Turn a more complex programming task into an algorithm, identifying the important aspects of the task (abstraction), decomposing them in a logical way • Test and debug their program as they work, use logical methods to identify the cause of bugs, demonstrating a systematic approach • Display an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions. • Understand and explain in some depth the difference

		• List a range of ways that the internet can be used to provide different methods of communication.	used to provide different methods of communication.		between the internet and the World Wide Web. • Know what a WAN and LAN are and can describe how they access the internet in school.

Information Technology

Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Use technology purposefully to create, organise store, manipulate and retrieve digital content.		**Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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.**			
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Sort, collate, edit and store simple digital content • Save and retrieve their work • Follow simple instructions to access online resources.	• Begin to organise data using a range of programs. • Edit more complex digital data such as music compositions • Create, name, save and retrieve content • Use a range of media in their digital content including photos, text and sound	• Carry out simple searches to retrieve digital content. • Connect to the internet and use a search engine such as Purple Mash search or internet-wide search engines. • Collect, analyse, evaluate and present data and information using a selection of software. • Consider what software is most appropriate for a given task.	• Understand the function, features and layout of a search engine. • Appraise selected webpages for credibility and information at a basic level. • Make improvements to digital solutions based on feedback. • Make informed software choices when presenting information and data.	• Search with greater complexity for digital content when using a search engine. • Explain in some detail how credible a webpage is and the information it contains. • Make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. • Objectively review solutions from others.	• Apply filters when searching for digital content. • Explain in detail how credible a webpage is and the information it contains. • Compare a range of digital content sources and rate them in terms of content quality and accuracy. • Use critical thinking skills in everyday use of online communication. • Make clear connections to the audience when

				• Collaboratively create content and solutions using digital features within software such as collaborative mode.	designing and creating digital content. • Design and create their own blogsto become a content creator on the internet. • Evaluate the quality of digital solutions and identify improvements, making some refinements.

Digital Literacy					
Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Recognise common uses of information technology beyond school. 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.		Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern aboutcontent and contact.			
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Understand what is meant by technology and identify a variety of examples both in and out of school. • Make a distinction between objects that use modern technology and those that do not. • Understand the importance of keeping information,	• Effectively retrieve relevant, purposeful digital content using a search engine. • Make links between technology they see around them, coding and multimedia work they do in school. • Know the implications of inappropriate online searches.	• Demonstrate the importance of having a secure password and not sharing this • Explain the negative implications of failure to keeppasswords safe and secure. • Understand the importance of staying safe electronically and their	• Explore key concepts relating to online safety • Help others to understand the importance of online safety. • Know a range of methods to report inappropriate material online	• Gain 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.	• Demonstrate safe and respectful use of a range of different technologies and online services. • Recognise the value in preserving their privacy when online for their own and other people's safety.

such as their usernames and passwords, private. • Take ownership of their work and save this in their own private space.	• Begin to understand how things are shared electronically. • Develop an understanding of using email safely.	conduct when using familiar communication tools • Understand and discuss the methods of reporting unacceptable content and contact.			

This progression guide was completing using the 'Purple Mash' Program of study