Computing Progression Map

Computer Science

KS1 Cycle A	KS1 Cycle B	LKS2 Cycle A	LKS2 Cycle B	UKS2 Cycle A	UKS2 Cycle B
Explain that an algorithm is a set of instructions.	Explain an algorithm is a set of instructions to complete a task.	Make a real-life situation into an algorithm for a program.	Can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code.	Can make more complex real-life problems into algorithms for a program.	Turn a complex programming task into an algorithm.
Know that an algorithm written for a computer is called a program.	Carefully plan my algorithm so it will work when I make it into code.	Design an algorithm carefully, thinking about what I want it to do and how I can turn it into code. (	Can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered.	Can test and debug my programs as I work.	Identify the important aspects of a programming task (abstraction).
Work out what is wrong when the steps are out of order in instructions.	Design a simple program using 2Code that achieves a purpose.	Identify an error in my program and fix it.	Can use timers within my program designs more accurately to create repetition effects. For example, I can create a counting machine.	Can convert (translate) algorithms that contain sequence, selection and repetition into code that works.	Decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work.
Say that if something does not work how it should it is because my code is incorrect.	Find correct some errors in my program.	Experiment with timers in my programs.	Can use selection (decision) in my programming. For example, using an 'if statement' for a question being asked and the program takes one of two paths.	Can use sequence, selection, repetition, and some other coding structures in my code.	Test and debug my program as I work on it and use logical methods to identify a cause of a bug.
Try and fix my code if it isn't working properly.	Say what will happen in a program.	Identify the difference in using between the effect of a timer or repeat command in my code.	Can use variables within my program and know how to change the value of variables.	Can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently.	Identify a specific line of code that is causing a problem in my program and attempt a fix.
Predict what is going to happen in a program.	Identify something in a program that has an action or effect.	Know that a variable stores information while a program is running.	Can use the user inputs and output features within my program, such as 'Print to screen'.	Can use logical methods to identify the cause of any bug with support to identify the specific line of code.	Translate algorithms that include sequence, selection and repetition into code and nest these structures within each other.
		Identify 'If' statements, repetition and variables.	Can identify errors in my code by using different methods, such as steeping through lines of code and fixing them.	Know the importance of computer networks and how they help solve problems and enhance communication.	Use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object.
		read programs with several steps and predict what it will do.	Can read programs that contain several steps and predict the outcomes with increasing accuracy.	Recognise the main dangers that can be perpetuated via computer networks.	Interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program as a whole.
		Identify different ways that the internet can be used for communication.	Recognise the main component parts of hardware which allow	Can explain what personal information is and know strategies for keeping this safe.	Explain the difference between the internet and the World Wide Web.

			computers to join and form a network.		
		Use email such as 2Email to respond to others appropriately and attach files.	Understand that network and communication components can be found in many different devices which allow them to join the internet.	Can use the most appropriate form of online communication according to the digital content.	Explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.

Information Technology

KS1 Cycle A	KS1 Cycle B	LKS2 Cycle A	LKS2 Cycle B	UKS2 Cycle A	UKS2 Cycle B
Sort sound, pictures and text.	Organise data – for example, using a database such as 2Investigate.	Carry out searches to find digital content on a range of online systems.	Understand the purpose of a search engine and the main features within it.	Search precisely when using a search engine. For example, I know I can add additional words or removes words to help find better results.	Use filters when searching for digital content.
Add sound, pictures and text to a program.	Find data using specific searches – for example, using 2Investigate.	Collect data and input it into software.	Look at information on a webpage and make predictions about the accuracy of information contained within it.	Explain in detail how accurate, safe and reliable the content is on a webpage.	Explain in detail how accurate and reliable a webpage and its content is.
Change content on a file such as text, sound and images.	Use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate.	Analyse data using features within software to help such as, formula in 2Calculate (spreadsheets).	Create and improve my solutions to a problem based on feedback. For example, create a program using 2Code.	Make appropriate improvements to digital work I have created.	Compare a range of digital content sources and rate them in terms of content quality and accuracy.
Name work.	Edit digital data such as data in music composition software.	Present data and information using different software such as 2Question (branching database) or 2Graph (graphing tool).	Review solutions that others have created, using a checklist of criteria.	Comment on how successful a digital solution is that I have created.	Consider the intended audience carefully when I design and make digital content.
Save work.	Name, save and find work.	Consider what the most appropriate software to use when given a task by my teacher.	Work collaboratively to create content and solutions.	Work collaboratively with others creating solutions to problems using appropriate software.	Design and create online blogs.
Find work.	Name, save and find work.	Create purposeful (appropriate) content and attach this to emails.	Share digital content using a variety of applications such as: 2Blog, 2Email and Display Boards.	Use collaborative modes such as within 2Connect to work with others and share it.	Use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements.

Digital Literacy

KS1 Cycle A	KS1 Cycle B	LKS2 Cycle A	LKS2 Cycle B	UKS2 Cycle A	UKS2 Cycle B

Say what technology is.	Find information I need using a search engine.	Create a secure password.	Have a good understanding of the online safety rules we learn at school.	Have a secure knowledge of online safety rules taught at school.	Demonstrate safe and respectful use of a range of different technologies and online services.
Say what examples of technology are in school.	Know the consequences of not searching online safely.	Explain the importance of having a secure password and not sharing it with others.	demonstrate how to use different online technologies safely.	Demonstrate the safe and respectful use of different online technologies and online services.	Identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else.
Say what examples of technology are at home.	Share work and communicate electronically – for example using 2Email or the display boards.	Explain the negative consequences of not keeping passwords safe and secure.	Demonstrate how to use a few different online services safely.	Always relate appropriate online behaviour to my right to have personal privacy.	Use critical thinking to help me stay safe online.
Know that a chair uses old technology and a smart phone uses new technology.	Report unkind behaviour and things that upset me online, to a trusted adult.	Understand the importance of keeping safe online and behaving respectfully.	Know I have a right to privacy both on and offline.	Know how to not let my mental wellbeing or others be affected by use of online technologies and services.	Know the value of protecting my privacy and others online.
Keep my login information safe.	See where technology is used at school such as in the office or canteen.	Use communication tools such as 2Email respectfully and use good etiquette.	Recognise that my wellbeing can be affected by how I use technology.		
Save my work in a safe place such as 'My Work' folder.	Understand that my creations such as programs in 2Code, need similar skills to the adult.	Report unacceptable content and contact online in more than one way to a trusted adult.	Report with ease any concerns with content and contact online and know immediate strategies to keep safe.		