Progression of Key Skills in Computing

Key Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
E- Safety	I can keep my password private. I can tell you what personal information is. I can tell an adult when I see something unexpected or worrying online. I can talk about why it's important to be kind and polite. I can recognise an age appropriate website. I can agree and follow sensible e- Safety rules.	I can explain why I need to keep my password and personal information private. I can describe the things that happen online that I must tell an adult about. I can talk about why I should go online for a short amount of time. I can talk about why it is important to be kind and polite online and in real life. I know that not everyone is who they say they are on the Internet.	I can talk about what makes a secure password and why they are important. I can protect my personal information when I do different things online. I can use the safety features of websites as well as reporting concerns to an adult. I can recognise websites and games appropriate for my age. I can make good choices about how long I spend online.	I choose a secure password and screen name when I am using a website. I can talk about the ways I can protect myself and my friends from harm online. I use the safety features of websites as well as reporting concerns to an adult. I know that anything I share online can be seen by others. I choose websites, apps and games that are appropriate for my age.	I can choose a secure password and screen name and I protect my password and other personal information. I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. I know that anything I post online can be seen, used and may affect others. I can talk about the dangers of spending too long online or playing a game.	I protect my password and other personal information. I can explain the consequences of sharing too much about myself online. I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. I can explain the consequences of spending too much time online or on a game. I can explain the consequences to	I can recognise the risks associated with the sharing of personal information digitally and to take actions to protect themselves. I can agree and use simple criteria and understand how to improve their work. I can acknowledge sources and recognise copyrights. I can explain the reason for choices they have made.

			I ask an adult before downloading files and games from the Internet. I can understand I should only post positive comments online.	I can help my friends make good choices about the time they spend online. I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.	I can explain the importance of communicating kindly and respectfully. I can discuss the importance of choosing an age-appropriate website, app or game. I can explain why I need to protect my computer or device from harm.	myself and others of not communicating kindly and respectfully. I protect my computer or device from harm on the Internet.	
Programing - Understanding algorithms	I can give instructions to my friend and follow their instructions to move around. I can describe what happens when I press buttons on a robot. I can press the buttons in the correct order to make my robot do what I want.	I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. I can tell you the order I need to do things to make something happen and talk about this as an algorithm.	I can break an open-ended problem up into smaller parts. I can put programming commands into a sequence to achieve a specific outcome. I keep testing my program and can recognise when I need to debug it.	I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. I can use an efficient procedure to simplify a program. I know that I need to keep testing my program while	I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. I can refine a procedure using repeat commands to improve a program.	I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. I can explain and program each of the steps in my algorithm. I can evaluate the effectiveness and efficiency of my algorithm	I can design, write, debug and then code algorithms, that: - 1- Apply the computational thinking techniques e.g. decomposition and computer science techniques 2- Select more than one programming language. -

	I can describe what actions I will need to do to make something happen and begin to use the word algorithm. I can begin to predict what will happen for a short sequence of instructions. I can begin to use software/apps to create movement and patterns on a screen. I can use the word debug when I correct mistakes when I program.	I can program a robot or software to do a particular task. I can look at my friend's program and tell you what will happen. I can use programming software to make objects move. I can watch a program execute and spot where it goes wrong so that I can debug it.	I can use repeat commands. I can describe the algorithm I will need for a simple task. I can detect a problem in an algorithm which could result in unsuccessful programming.	I am putting it together. I can use a variety of tools to create programs. I can recognise an error in a program and debug it. I recognise that an algorithm will help me to sequence more complex programs. I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design	I can use a variable to increase programming possibilities. I can change an input to a program to achieve a different output. I can use 'if' and 'then' commands to select an action. I can talk about how a computer model can provide information about a physical system. I can use logical reasoning to detect and debug mistakes in a program. I use logical thinking, imagination and creativity to extend a program.	while I continually test the programming of that algorithm. I can recognise when I need to use a variable to achieve a required output. I can use a variable and operators to stop a program. I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen. I can use logical reasoning to detect and correct errors in a algorithms and programs.	3- Use a range of more complex techniques, to produce more efficient and effective coding solutions. - 4- Identify the issues associated with coding techniques and performance. I know what a Micobit is. I can programme a Micobit using a block editor and debug my own program. I can undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices I can understand how instructions are

							stored and executed within a computer system. I can rationalise a set of instructions by repeating sections I can plan and implement set of instruction predicting outcomes before execution. I can recognise that sequencing instructions is fundamental to a wide range of ICT applications I can agree and use simple criteria and understand how to improve their work.
Information Handling	I can talk about the different ways in which information can be shown. I can use technology to	I talk about the different ways I use technology to collect information, including a camera,	I can talk about the different ways data can be organised. I can collect data to help me	I can organise data in different ways. I can collect data and identify where it could be inaccurate.	I can use a spreadsheet and database to collect and record data. I can choose an appropriate	I can plan the process needed to investigate the world around me. I can select the most effective tool to collect	I can recognise the difference between data text and formulae in a computer model and organise

	collect information, including photos, video and sound. I can sort different kinds of information and present it to others. I can add information to a pictograph and talk to you about what I have found out.	microscope or sound recorder. I can make and save a chart or graph using the data I collect. I can talk about the data that is shown in my chart or graph. I am starting to understand a branching database. I can tell you what kind of information I could use to help me investigate a question.	answer a question. I can use a data logger to monitor changes and can talk about the information collected.	I can choose the best way to present data to my friends. I can use a data logger to record and share my readings with my friends.	tool to help me collect data.. I can present data in an appropriate way. I can search a database using different operators to refine my search. I can talk about mistakes in data and suggest how it could be checked.	data for my investigation. I can check the data I collect for accuracy and plausibility. I can interpret the data I collect. I can present the data I collect in an appropriate way. I use the skills I have developed to interrogate a database.	these so that the model is fit for purpose. I can use a model to predict and outcome I can explain how rules govern a model. (absolute formatting) I can produce a report from the information and check the
Multimedia	I can be creative with different technology tools. I can use technology to create and present my ideas. I can use the keyboard or a	I can use technology to organise and present my ideas in different ways. I can use the keyboard on my device to add, delete and space text for others to read.	I can create different effects with different technology tools. I can combine a mixture of text, graphics and sound to share my ideas and learning.	I can use photos, video and sound to create an atmosphere when presenting to different audiences. I am confident to explore new media to extend what I can achieve.	I can use text, photo, sound and video editing tools to refine my work. I can use the skills I have already developed to create content using unfamiliar technology.	I can talk about audience, atmosphere and structure when planning a particular outcome. I can confidently identify the potential of unfamiliar technology to	N/A

	word bank on my device to enter text. I can save information in a special place and retrieve it again.	I can tell you about an online tool that will help me to share my ideas with other people. I can save and open files on the device I use.	I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. I can evaluate my work and improve its effectiveness. I can use an appropriate tool to share my work online.	I can change the appearance of text to increase its effectiveness. I can create, modify and present documents for a particular purpose. I can use a keyboard confidently and make use of a spellchecker to write and review my work. I can use an appropriate tool to share my work and collaborate online. I can give constructive feedback to my friends to help them improve their work and refine my own work.	I can select, use and combine the appropriate technology tools to create effects that will have an impact on others. I can select an appropriate online or offline tool to create and share ideas. I can review and improve my own work and support others to improve their work.	increase my creativity. I can combine a range of media, recognising the contribution of each to achieve a particular outcome. I can tell you why I select a particular online tool for a specific purpose. I can be digitally discerning when evaluating the effectiveness of my own work and the work of others.	
Technology in our lives	I can recognise the ways we use technology	I can tell you why I use technology in the classroom.	I can save and retrieve work on the Internet, the school network	I can tell you whether a resource I am using is on the	I can describe different parts of the Internet.	I can tell you the Internet services I need to use for	I can identify the individual role of the key

	in our classroom. I can recognise ways that technology is used in my home and community. I can use links to websites to find information. I can begin to identify some of the benefits of using technology.	I can tell you why I use technology in my home and community. I am starting to understand that other people have created the information I use. I can identify benefits of using technology including finding information, creating and communicating. I can talk about the differences between the Internet and things in the physical world.	or my own device. I can talk about the parts of a computer. I can tell you ways to communicate with others online. I can describe the World Wide Web as the part of the Internet that contains websites. I can use search tools to find and use an appropriate website. I think about whether I can use images that I find online in my own work.	Internet, the school network or my own device. I can identify key words to use when searching safely on the World Wide Web. I think about the reliability of information I read on the World Wide Web. I can tell you how to check who owns photos, text and clipart. I can create a hyperlink to a resource on the World Wide Web. I can recognise that websites use different methods to advertise products	I can use different online communication tools for different purposes. I can use a search engine to find appropriate information and check its reliability. I can recognise and evaluate different types of information I find on the World Wide Web. I can describe the different parts of a webpage. I can find out who the information on a webpage belongs to I know which resources on the Internet I can download and use. I can describe the ways in which websites	different purposes. I can describe how information is transported on the Internet. I can select an appropriate tool to communicate and collaborate online. I can talk about the way search results are selected and ranked. I can check the reliability of a website. I can tell you about copyright and acknowledge the sources of information that I find online. I know that websites can use my data to make money and target their advertising	hardware elements of standard network architecture. - I can understand the role of binary code. I Understand how numbers can be represented in binary I can begin to use binary code to achieve a goal. Compare the bit patterns used in a range of scenarios

					advertise their products to me.		