Computing Progression Map

Subject Intent

At St Oswald's we want pupils to be masters of technology and not slaves to it. Technology is everywhere and will play a pivotal part in our pupils' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not consumers and our broad curriculum encompassing computer science, information technology and digital literacy reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology (including social media) to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology/social media is through education. Building our knowledge in this subject will allow pupils to effectively demonstrate their learning through creative use of technology.

We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists.

We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. We want our pupils to be fluent with a range of tools to best express their understanding and plan that by Upper Key Stage 2, children will have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

The computing curriculum at St Oswald's will enable all children to gain these skills by the end of their time at our school:
- Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- An understanding of the connected nature of devices.
- The ability to communicate ideas well by using applications and devices throughout the curriculum.
- The ability to collect, organise and manipulate data effectively.

National Curriculum	Threshold Concepts	Year Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Milestone 1		Milestone 2		Milestone 3	
Computer Science	**Code** This concept involves developing an understanding of instructions, logic and sequences.	Follow a sequence of verbal instructions using prepositions, cardinal and directional language Give verbal instructions in order to carry out a simple task	Begin to understand what algorithms are Know that they are implemented as programs on digital devices	Consolidate understanding of what algorithms are Know that programs execute by following precise and unambiguous instructions	Begin to design programs that accomplish specific goals Turn a simple real-life situation in a program by decomposing it into smaller parts	Show careful consideration to turn a simple real-life situation in a program by decomposing it into smaller parts Make more intuitive attempts	Use logical reasoning to turn more complex real-life situations in a program by decomposing it into smaller parts Begin to test and debug algorithms and programs as	Use logical reasoning to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems Confidently test and debug

		Recognise the value of sequencing when giving and receiving instructions Create a sequence of movements using a programmable toy	Begin to create and debug simple programs Use logical reasoning to predict the behaviour of simple programs, by reading one line of code at a time	Create simple programs for a specific purpose Debug programs with some errors Use logical reasoning to identify the parts of a simple program that will cause a specific action	Identify an error with a program and use logical reasoning to debug it Begin to use sequence, and repetition in programs, including timers	to debug their own programs Use sequence, selection, and repetition in programs, including more logical use of timers and 'if' statements Begin to work with variables and start to make use of inputs and outputs Start to detect and correct errors in algorithms and programs	they go, using logical methods to identify the cause of a bug Use sequence, selection, and repetition in programs with increasing ease Become more confident when working with variables and various forms of input and output in order to achieve a specific outcome	programs as they go, using logical and systematic methods to identify the cause of a bug Use sequence, selection, and repetition in their own designs and consider how these help achieve the desired program outcome Show an understanding of variables and various forms of input and output
Information Technology	**Communicate** This concept involves using apps to communicate one's ideas. **Collect** This concept involves developing an understanding of databases and their uses.	Use a camera to record an event Create and extract simple information from a class pictogram	Use technology to edit, create, organise and store digital content Follow simple instructions to access online resources	Use technology purposefully to create, organise, store, manipulate and retrieve digital content and specific data confidently Begin to use a range of media within their digital content	List the opportunities technology offers for communication, eg email Use search technologies to carry out simple searches Begin to collect, analyse, evaluate and present data	Recognise main component parts of hardware that allows computers to join networks including the internet Use search technologies with increasing confidence Appreciate how results are selected and ranked	Understand the values and dangers of computer networks including the internet Select the most appropriate form of communication and collaboration for the audience and purpose Use search technologies effectively	Understand the differences between the internet and the world wide web Use search technologies effectively, using filters Compare different sources of digital content and rate them in terms of quality and accuracy

					using a selection of software Consider the most appropriate software for a given task	Begin to evaluate and select digital content Make informed software choices when presenting information and data Create linked content and share this within their community	Be increasingly discerning in evaluating digital content Confidently comment on the success of a digital solution Collaboratively create content within software Use several ways of sharing digital content	Be discerning in evaluating credibility of digital content Make clear connections to the audience when designing and creating digital content Use criteria to evaluate the quality of digital solutions and identify improvements
Digital Literacy		Recognise some uses of ICT equipment at home and at school Use and navigate age appropriate software and ICT equipment	Begin to recognise uses of information technology beyond school Use a search engine to retrieve relevant digital content	Recognise common uses of information technology beyond school, and make links with what they do in school Use a search engine to retrieve relevant and purposeful digital content	See 'Online Safety' below	See 'Online Safety' below.	See 'Online Safety' below.	See 'Online Safety' below.
Online Safety	**Connect** This concept involves developing an understanding of how to safely	Recognise that internet use requires a consideration for safety	Demonstrate the use of technology safely and respectfully, keeping personal information private	Demonstrate the use of technology safely and respectfully, keeping personal information	Demonstrate the importance of having a secure password and keeping this private explaining	Improve understanding of online safety implications associated with use of the internet	Have a secure knowledge of common online safety rules	Consistently demonstrate the safe and respectful use of different technologies and online services

	connect with others.	Identify their own personal information such as name, D.O.B, home address Demonstrate an understanding of 'pop-ups' and know what course of action to do to stay safe	Know who to speak to within the classroom if they have concerns about contact or content on the internet	private, and understand the implications of misuse of the internet Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	the negative implications of failing to do this Understand the importance of their conduct when using communication tools Know more than one way to report unacceptable content and contact	Explore key concepts relating to online safety Help others to understand the importance of staying safe online Know a range of ways to report inappropriate content and contact	Demonstrate the safe and respectful use of different technologies Implicityle relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others	Identify more discreet inappropriate behaviours through developing critical thinking Recognise the value of preserving their privacy when online for their own and other people's safety