Computing

SUMMIT LEARNING TRUST

The Oaklands Primary School

Computing Curriculum Overview

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
N	Unit Title	Although Technology is no longer an Early Learning Goal in the *Statutory framework for the early years foundation stage* (2021) it falls under the Educational Programme for Understanding the World. At Summit Learning Trust, we recognise that children require access to a range of technologies in their early lives. Children explore a range of technology in the early years foundation stage, supporting their later development in Computing. *By the end of reception children should:* Know how to operate simple equipment, for example use a touch-screen device with support. Know how to use ICT hardware to interact with age-appropriate software Know how to create content, such as a picture on screen Know that information can be retrieved from digital devices, such as the internet					
	Domain						
	Weeks						
R	Unit Title						
	Domain						
	Weeks						

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Unit Title	1.1 Online Safety & Exploring Purple Mash	iProgram / iCode	iAnimate / iMovie	iCreate	iCommunicate / iSecure	iTech
	Domain	Online Safety	Computational thinking and coding	Presenting information	Photography Presenting information	Online safety Data Grouping and sorting	Computer systems and networks
	Weeks	5	8	5	5	7	7

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 2	Unit Title	2.1 Coding	iProgram / iBlockly	iAnimate/ i2D	iCommunicate	iCreate	iTech

	Domain	Computational Thinking & Coding	Computation thinking and coding Data – Grouping	Presenting information	Online safety Internet services and tools Making music	Presenting information Touch typing	Storing data Questioning Effective searching
	Weeks	6	8	5	5	7	7

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	Unit Title	3.1 Coding	iProgram / iLogic	Office	iCreate	iCommunicate / iCollaborate	iCSI
	Domain	Computational thinking & coding; Computer systems and networks	Spreadsheets Email Computational thinking and coding	Presenting information (PPT) Internet safety and services	Presenting information Touch typing	Making music Managing information Internet services and tools.	Data spreadsheets Branching databases Computational thinking and coding.
	Weeks	6	8	5	5	7	7

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 4	Unit Title	4.1 Coding	iProgram / iFunctions	iOffice	iComunicate	iCreate	iCSI / iBank
	Domain	Computational Thinking & Coding	Computational thinking and coding	Internet safety Spreadsheets Writing for different audiences	Presenting information	Editing videos Spreadsheets Presenting information	Computation thinking and coding Online safety Computer systems and networks
	Weeks	6	8	5	5	7	7

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	Unit Title	5.1 Coding	iProgram / iDebud	iOffice	iCreate	iCommunicate	iCSI
	Domain	Computational Thinking & Coding	Computational thinking and coding.	Data Presenting information	Presenting information Advanced 2D animation Internet services and tools	Data Using the internet services Making music	Artificial Intelligence Computer systems and networks Computational thinking and code
	Weeks	6	8	5	5	7	7

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 6	Unit Title	6.1 Coding	iProgram	iOffice / iCV	iCreate / 3D Modelling	iCommunicate	iCSI / iAI
	Domain	Computational Thinking & Coding	Computational thinking and coding, 3D modelling	Blogging – Presenting information	3D photography	Graphic and graphic design Computational coding and thinking Presenting information	Artificial Intelligence Computer systems and networks, Computational thinking and code.
	Weeks	6	8	5	5	7	7

Computing Progression

	Computing Progression Map This progression map shows an overview of how key knowledge and skills progress in Computing in the primary age range.						
End Points	**EYFS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Computational Thinking and Coding	Although Technology is no longer an Early Learning Goal in the *Statutory framework for the early years foundation stage* (2021) in falls under the Educational Programme for Understanding the World. At Summit Learning Trust, we recognise that children require access to a range of technologies in their early lives. Children explore a range of technology in the early years foundation stage which supports their later development in Computing. *By the end of reception children should:* Know how to operate simple equipment, for example use a	Know that an algorithm is a set of instructions and that an algorithm written for a computer is called a program. Know how to identify what is wrong with a simple program Know how to create a simple program Know how to predict what a simple program will do	Recognise what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions. Know how to create a simple program that achieves a specific purpose and be able to identify and correct some errors Know how to use logical reasoning to predict what a simple program will do	Know how to design and write a program for a specific goal that follows a simple sequence and know how to use selection, repetition and variables in code. Know how to debug a simple error in an algorithm or program. Know how to 'read' an algorithm or program with several steps and predict what it will do	Know how to design and write a program for a specific goal using logical reasoning and know how to use selection, repetition and variables in code. Know how to debug code using different methods, for example stepping through each line of code. Know how to 'read' programs with several steps and logically predict the outcome with increasing accuracy	Know how to design and write a program to accomplish more complex goals by decomposing them into smaller parts and by using selection, repetition and variables Know how to use logical reasoning to debug algorithms and programs Know how to 'read' more complex programs and logically predict the outcome with increasing accuracy	Know how to design and write a program to accomplish more complex goals by decomposition and abstraction and know how to nest coding structures within each other. Know how to use logical reasoning to debug algorithms and programs Know how to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.
Computer Systems and Networks		Know the meaning of information technology and know how to identify information technology used in school and at home.	Know that the technology they use in school is similar to applications in the adult world (e.g. software used to keep attendance data)	Know the meaning of 'input' and 'output' and know how to identify inputs and outputs in computer systems	Know the main components of a computer and their function.	Know what a computer network is and why it is important and how they enhance communication and collaboration	Know the difference between WAN and LAN and know how we access the internet in school Know the difference between the internet and the World Wide Web

Internet Services and Tools	touch-screen device with support. Know how to use ICT hardware to interact with age-appropriate software Know how to create content, such as a picture on screen Know that information can be retrieved from digital devices, such as the internet	Know how to use links to websites to find information. Know how to recognise ways we use different technology in the classroom.	Know how to find information using a search engine Know how to share work and communicate electronically.	Know how to use a range of online systems to find digital content. Know how to use email respectfully and use good etiquette.	Know how to identify key words to use when searching the World Wide Web. Know how search results are selected and ranked. Know how to make predictions about accuracy of information found online through online searches Know how to share digital content using a range of systems.	Know how to search precisely when using a search engine and know which words to add or remove to find better results. Know how explain in detail how accurate, safe and reliable content is on a webpage. Know how to select the most appropriate online communication tool for a specific purpose. Know how to find out who the information on a website belongs to.	Know how to use filters when searching for digital content. Know how to compare a range of digital sources and rate them in terms of content quality and accuracy. Know about copyright and know how to acknowledge the sources of information online.
Presenting Information		Know how to name, save and find work. Know how to add sound, pictures and text to a document Know how to use a keyboard or a word bank to enter text.	Know how to name, save, organise and find work. Know how to create and edit more complex digital data for a purpose, for example data in music composition Software. (E.g. 2sequence)	Know how to present data and information using a wider range of software. (E.g. 2Question & 2Calcualtye) Know how to select the most appropriate technology for a given task. Know how to use appropriate keyboard commands to amend text, including making use of spellchecker.	Know how to use and combine software to create, modify and present documents to accomplish a set goal Know how to improve digital solutions based on feedback and give feedback to others using a checklist. Know how to use photos, video and sound to create an atmosphere when presenting to different audiences.	Know how to select, use and combine the appropriate technology tools to create effects that will impact others. Know how to make appropriate improvements to content and confidently give feedback to others on their digital solutions. Know how to select an appropriate tool to create and share online work.	Know how to consider the intended audience when designing and creating digital content. Know how to effectively evaluate the quality of own and others work and suggests refinements.
Data		Know how to sort simple digital content (sound, pictures, text) Know how to present data using a pictogram	Know how to organise data (for example database, binary tree, spreadsheet) and retrieve data using simple searches	Know how to collect, input, analyse and present data using features within software (e.g. 2Calculate, branching database, graphing tool)	Know how select and use software to collect, input, analyse and present data in order to accomplish specific goals	Know how select and use software to collect, input, analyse and present data in order to answer questions and accomplish specific goals Know how to evaluate data for accuracy and plausibility	Know how to plan a data collection process and how to collect, input, analyse and present data to answer questions and accomplish more challenging goals Know how to take into account the intended audience when presenting data Know how to compare data and rate it for accuracy and plausability.

Online Safety.		Know the importance of keeping login information safe. Know who to talk to if something worrying or upsetting is viewed online.	Know how to use technology safely and respectfully. Know the consequences of not searching online safely. Know who to talk to if something worrying or upsetting is viewed online and to explain why this is important.	Know what makes a safe password, how to keep them safe and what happens if you do not. Know how to report inappropriate content and contact in more than one way. Know how to use communication tools respectfully and use good etiquette.	Know how to follow online safety rules to stay safe, and to be responsible and respectful when using online services Know the positive and negative influences of technology on health and the environment. Know how to report inappropriate content and contact in more than one way and know immediate strategies to keep safe.	Know what personal information is and know strategies for keeping this private. Know how to consistently follow online safety rules to stay safe, and to be responsible and respectful when using online services Know strategies to protect mental wellbeing when using online services.	Know what personal information is, know strategies for keeping this private and know the risks of sharing personal information. Know how to use critical thinking to stay safe, and to be responsible and respectful when using online services Know how to identify behaviours online that put young people at risk, for example grooming.
	Additionally, see *KCSIE. Relationships Education, Relationships and Sex Education (RSE) and Health Education Statutory guidance for governing bodies, proprietors, head teachers, principals, senior leadership teams, teachers* (June 2019) contains additional requirements for teaching Online Safety which are covered in PHSE lessons.						

End Point	National Curriculum Alignment	
	KS1	**KS2**
1. Computational Thinking and Coding Students can analyse a problem using computational thinking and can design, write and debug code to solve such problems.	• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • Create and debug simple programs • Use logical reasoning to predict the behaviour 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
2. Computer Systems and Networks Students understand purpose of main components of computer systems and understand the purpose of computer networks and how they work.	• Recognise common uses of information technology beyond school	• 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
3. Internet Services and Tools Students understand key internet services (e-mail, world wide web, search technology) and can choose the best internet tools for a specific purpose	• Recognise common uses of information technology beyond school • Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• 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 • 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
4. Presenting information Students can select, use and combine software to prepare and present information in a range of forms.	• Use technology purposefully to create, organise, store, manipulate and retrieve 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
5. Data Students can collect, analyse evaluate and present data using databases and spreadsheets.	• Use technology purposefully to create, organise, store, manipulate and retrieve 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
6. Online Safety. Students are confident digital citizens and can use the internet and technology in a safe, considered and respectful way.	• 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 concerns about content and contact.