Wheelers Lane Primary School Curriculum Overview

COMPUTING

AUTUMN						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
UNIT	Introduction to BGFL365	Programming: Characters interacting	Powerpoint presentation	Databases	Persuasive powerpoint presentation	Game On
KEY KNOWLEDGE AND SKILLS	Use technology purposefully to create digital content, identify where to go for help with concerns, importance of keeping personal information private	Understand how algorithms are implemented on digital devices, programs are executed by following precise and unambiguous instructions, understand how to find help if concerned about digital content	Create a range of content that accomplish given goals, use a variety of digital software (including internet services), use search technologies effectively		Use and combine a variety of software to create a range of content that accomplish given goals, understand computer networks including the Internet and the opportunities they offer for communication and collaboration,	Use repetition in my programs, work with a variety of inputs and outputs, solve problems by decomposing them into smaller parts
KEY FIGURES/ STORIES/ CONCEPTS	How can I represent myself online?	Success of Toy Story/Frozen, films with environmental impact (Wall-E, Lorax)	How can we search for information responsibly?	How databases enable companies to contact customers efficiently	How major brands are marketed. Responsibilities when marketing (Equality Duty)	Importance of considering audience when designing games
ENRICHMENT OPPORTUNITIES	Link to Article 17 of Rights of the Child			Careers that use databases. Q&A with office staff? Discuss the importance of data protection.	Conduct market research with audience of their work	Make a game for buddy class

SPRING						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
UNIT	Create and debug a simple program	Making an eBook	Programming: drawing images and shapes	Spreadsheets	Programming: making games	History of Computing
KEY KNOWLEDGE AND SKILLS	Understand what algorithms are, create and debug simple programs, use logical reasoning to predict the behaviour of programs	Use technology to present and organise my ideas in different ways, save and open files on the device I use, importance of keeping personal information private	Design, write and debug programs, use sequence in my programs, detect and correct errors in my programs	Understanding technical spreadsheet vocabulary, create formulae to carry out calculations, create formulae to answer problems	Use selection in my programs, understanding the term inputs - and that they can trigger an event, understand that variables are needed to create a game with a score	Use technology to organise and present my ideas in different ways, use the Internet to search for information effectively and be discerning in evaluating digital content, know the importance of presenting original work
KEY FIGURES/ STORIES/ CONCEPTS	How are computers used in daily life?	Introduce cloud computing as a network - how their work is saved	Origins of 'debugging' (GMH-see below). Why is debugging an important part of computer programming?	Bill Gates - Microsoft Office	Margaret Hamilton and Karherine Johnson (Equality Duty)	Ava Lovelace, Alan Turing (Equality Duty)
ENRICHMENT OPPORTUNITIES	How have parents' jobs changed because of computer programming?	Relate to Science topic - how can technology be used to protect the local environment?	Grace Murray Hopper (Equality Duty)	Teacher shares spreadsheets they use - how they save time	Find out what it is like to be a professional games programmer or gamer	Work on Twitter/school website

SUMMER						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
UNIT	Gather data and create charts	Presenting research	Introduction to databases (and spreadsheets)	Programming: animation	Understanding the Internet	Making a yearbook
KEY KNOWLEDGE AND SKILLS	Use technology present my ideas in different ways, use technology purposefully to present digital content, use technology safely and respectfully	Use technology purposefully to create and manipulate digital content, develop an awareness of copyright	Use search technologies effectively, sort and filter data from a database, create charts from within a database	Design, write and debug programs that achieve specific goals, use logical reasoning to explain how simple algorithms work, detect and correct errors in programs and algorithms	Understand computer networks including the Internet, know that the Internet provides many services (such as the worldwide web), opportunities offered by the Internet including communication and collaboration	Appreciate how search results are selected and ranked, select, use and combine a variety of software, collect, analyse, evaluate and present data and information
KEY FIGURES/ STORIES/ CONCEPTS	How could a pictogram be useful to us?	Explore examples of digital copyright - Bruce Willis' iTunes playlist: can he leave it in his will? Battle with Apple	What is the purpose of databases?	Are computer programs a good way to explain a concept (like food chains)?	Understand the services the Internet provides - entrepreneurs eg. Martha Lane-Fox	Mark Zuckerburg - origins of Facebook
ENRICHMENT OPPORTUNITIES		Explore whether digital presentations are better than hard copies	Careers that use databases. Q&A with office staff? Discuss the importance of data protection.	Explore open source programming on Scratch	Rights - is Internet access a human right? How might it have helped during COVID?	Explore data protection - permissions required