Computing

Progression and coverage document

Clyst Hydon Primary School

4 year curriculum plan

EYFS and KS1		
Year A		
	Area of the computing curriculum	How will this be taught?
Blue Planet	Use technology safely and respectfully. Use logical reasoning to predict the behaviour of simple programs	Barefoot computing Safety Snakes – online safety. Using bee-bots. Barefoot computing – World Map logic activity. Scratch.
Bugs, Blisters and Bogs	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Aided by KS2 computer leaders.	Aided by KS2 computer leaders. Powerpoint presentation containing digital images and text. Can I create a simple powerpoint focusing on 3 pages of content about bugs?
Chitty Chitty Bang Bang	Recognise common uses of information technology beyond school	Barefoot computing – barefoot careers technology match. What job could I do? How could I get there on different forms of transport? What technology would I use in that career?
Year B		
Dinosaur adventures	Create and debug simple programs I can make a design using a storyboard. I can write code. I can debug my code.	Barefoot computing – ScratchJr Knock knock joke activity – 2 dinosaurs telling each other jokes.

The London of Paddington Bear	Understand what algorithms are; how they are implemented as programs on digital devices; follow precise and unambiguous instructions	Barefoot computing – Lego building algorithm Children build lego London buildings and then the algorithm shared with another allows them to recreate their London building
On the Farm	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Aided by KS2 computer leaders	Aided by KS2 computer leaders. Create a poster using ICT advertising a visit to a farm and events and animals that might be introduced there. Add digital images and text.
	Year C	
The Great Fire of London	Understand what algorithms are. Create and debug simple programs	Use Beebots. Can I program the beebot to avoid the fire and escape the Great Fire of London?
Capture the Castle	.Create and debug simple programs	Use Scratch drawing tools to create a castle with named parts and features
Oh I do like to be beside the seaside	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Aided by KS2 computer leaders	**Powerpoint presentation** Can I create a powerpoint presentation using digital images and texts to exemplify common features of coasts?
KS2		
	Year A	
Goodnight Mister Tom WW2 and Battle of Britain	Understand computer networks including the internet; how they can provide multiple services,	**First Half Term – Understanding computer networks and how search engines work** **Modelling the internet activity** – (In this activity pupils learn that the internet is a vast network of computers and other devices connected across the world, as they explore the difference between the

	such as the world wide web; and the opportunities they offer for communication and collaboration Understand computer networks including the internet Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content I can explain how search engines select results. I can explain how search engines rank results Solve problems by decomposing them into smaller parts 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	internet and the world wide web (WWW). Pupils are assigned roles as different digital devices in a human model of the internet and learn how the internet provides access to the WWW (an internet service) as they pass data between them.) (link to geography WW2 - Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America) **Network Hunt activity (**In this activity pupils go on a hunt around the school to discover, and map the location of, devices connected to the school's network. Pupils then learn about the role of each device by either conducting web-based research or using the matching activity included.) **Selecting Search activity** In this activity pupils learn about the basics of how search engines use web crawlers to index the world wide web (WWW). Pupils act like web crawlers themselves, indexing a very small portion of the WWW, and they then use this index to respond to search queries. **Ranking Search activity (**This is an unplugged activity in which pupils learn about some of the main factors which influence how a search engine ranks a web page. Pupils create paper-based 'web pages' in groups on a current topic they are studying. They then discover how their web pages would rank when searching for keywords relating to their content.) **Second half term** **Code crackers – link to WW2** (This unit of six lessons introduces pupils to the history of computing and, in particular, how computers were used as code-cracking devices in World War II. Pupils learn about Alan Turing and become code crackers themselves. They then create their own movie about code cracking.)
How would my daily life be different if I was a Viking?	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	**Viking Raid animation using the Barefoot resource.** (In this activity pupils program an animation of a Viking raid in Scratch. In doing so they learn that programming is the process of implementing algorithms as code and about the importance of sequencing commands.)
Where do rivers come	Design, write and debug programs that accomplish specific goals, including	**Using the 'Barefoot' resource 'Debugging the water cycle' using Scratch software. Complete a**

from and where do they go?	controlling or simulating physical systems; solve problems by decomposing them into smaller parts use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	**range of bugging problems using Scratch to identify and then rectify the problems.** (*In this activity pupils are challenged to detect and correct the error in a number of water cycle programs (debugging). They use logical reasoning to do this, comparing what the program should do with what it does do, and systematically homing in on the error (bug) by 'thinking through' the code in the program.)* **Using the Barefoot resource 'River Crossing activity'** (In this activity pupils solve the traditional problem of a farmer trying to get a chicken, fox and corn across a river by acting it out. In doing so, they develop their logical reasoning skills. If you wish, you can also use the activity to develop understanding of algorithms, decomposition and debugging.
	YEAR B	
Grime and Punishment	Select, use and combine a variety of software to design and create a range of content that accomplish given goals	**Grime and Punishment powerpoint:** Development of power point and presentation skills for an end of topic presentation
Beowulf	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	**Digital Doodle - I**n this activity, pupils create digital illustrations of their favourite book characters using a variety of tools within an online digital drawing application. Link to the characters in Beowulf.
King of the Cloud Forests (mountains – geography)	can evaluate and apply information technology – including new or unfamiliar technologies – analytically to solve problems select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of	**Barefoot resource Power Savers – CLIMATECHANGE FILM** (This activity fosters pupils' digital creative skills as they plan, film and edit a persuasive video about the climate crisis. They learn how to use a video editing tool through tinkering and then apply what they have learnt as they create their videos. Their videos are made up of video footage, text, images, voice overs and audio.)

	programs, systems and content use search technologies effectively	
YEAR C		
Secrets of a Sun King **Ancient Egypt**	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems	**Solar System Simulation using Scratch** – (In this activity pupils create a simulation of the Earth orbiting the Sun using Scratch. Pupils firstly decide what the purpose of the simulation is and who is the intended audience. Using this, they then decide what the most important aspects of the simulation are, and in so doing they are abstracting.)
Who might live in a house like this?	Select, use and combine a variety of software to design and create a range of content that accomplish given goals	**Houses and Homes presentation –** development of word/powerpoint skills for end of topic presentation
Benin		
Song of the Dolphin Boy	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 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	**The Phisherman -** Using The Phisherman game pupils explore an underwater village.The game consists of a number of mini games, with each focusing on a different aspect of phishing. Following each game, several questions and topics are presented to facilitate further discussion and enable children to share their own experiences. **Planet protectors** - Planet Protectors fosters pupils' digital creative skills as they create a stop-motion animation about the dangers of plastics in the ocean. They learn how to use a stop-motion app through tinkering and then apply what they learn as they plan and create their animations.
YEAR D		

Who let the Gods Out?	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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour Solve problems by decomposing them into smaller parts design a range of content that accomplishes given goals	**Data Dash – (Barefoot activity linked to the Olympics Ancient Greece)** - (In this lesson pupils answer questions about countries' performance in a multi-sports competition by selecting and using data attributes and values. Pupils then plan how to answer the question 'Are we as fast as a professional athlete?' by identifying the data they will need to collect.) **You're the Jury (linked to Ancient Greece and democracy)** (This activity sees the classroom turned into a courtroom as pupils hear several cyber-crime court cases. Pupils take on the roles of judge, barristers and members of the jury as they determine whether the defendant has broken the law, the sentence they could receive and the impact on victims of their crimes. There are a further two extension lessons where pupils use what they have learnt to plan and go on to film TV adverts to discourage the misuse of computers. They will use computational thinking concepts and approaches as they create a storyboard and later film their adverts.)
Escape from Pompeii	I can search the internet effectively for information about a topic and have an understanding of copyright I understand how spreadsheets can help me to solve problems, and am familiar with the spreadsheet modelling cycle I can collect and enter data values into a spreadsheet, and predict	**Pizza Party Modelling** **(**This activity focuses on the collection, analysis and evaluation of data. With Italy as the core theme, pupils will develop their practical computational skills in online research and modelling using spreadsheets. To top things off, they will celebrate their efforts with a class pizza party).

	what a change to a spreadsheet will do I can follow a recipe algorithm to create a pizza	
Stig of the Dump	Select, use and combine a variety of software to design and create a range of content that accomplish given goals	**Development of word processing and powerpoint presentation skills** End of topic presentation using word and powerpoint presentation skills.