PARKFIELD PRIMARY SCHOOL
LONG TERM OVERVIEW

Computing   `Information Technology`   `Digital Literacy`   `Computer Science – Programming`   `Computer Science - Theory`

	Autumn	Spring	Summer
Year 1	Typing skills Basic word processing Digital painting	Programming robots Creating a multimedia e-book Components of a computer Technology uses beyond school E-safety: basic rules QR Codes	Programming sequences of commands to animate pictures Internet searching skills E-safety: media players Basic photo editing skills
Year 2			
Year 3	Word processor text formatting tools Photo collages Creating posters using text boxes Programming commands to run at different times	Algorithms Using conditional events in programs Digital communication methods E-safety: passwords	Exploring digital maps Uses of technology and their impact Digital painting Creating an e-book E-safety: gaming safely
Year 4	URLS and the topology of the Internet E-safety: child-friendly websites Internet searching skills Photo editing Movie making Online quiz making	LOGO-type programming Using a variable in a program Using repeat events in a program Debugging	Trifold leaflet design Board game design Internet terminology E-safety: Message sharing consequences
Year 5	Poster design Spreadsheets Internet searching skills Drawing tools – shape pictures	E-safety: Zip it Block it Flag it History of technology Linear on-screen presentation Using numbers in a program	E-safety: messaging safely, digital footprints, sharing safely and vlogging rules Photo editing Impact of technology on society
Year 6	Internet searching skills App design Photo editing Animation presentation E-safety: sharing photos safely	Algorithms and flowcharts Programming complex games Digital maps – route finding Spreadsheet maths programs E-safety: digital citizen behaviours	E-safety: concept cartoons Stop motion animations Binary numbers

Parkfield Computing Progression – Attainment Expectations

Information Technology

WT Y1 (ELG)	AT Year 1		AT Year 2		AT Year 3		AT Year 4		AT Year 5		AT Year 6		AB Y6
		WT Y2	AB Y1	WT Y3	AB Y2	WT Y4	AB Y3	WT Y5	AB Y4	WT Y6	AB Y5		
• Learn how to type letters quickly and correctly using a keyboard. • Explore combining painting tools to make digital art. • Complete a simple program on a computer. • Use ICT hardware to interact with age-appropriate computer.	• Learn how to type words quickly and correctly using a keyboard. • Make simple word processed documents and change the appearance of text. • Use and combine a variety of painting tools to create a picture. • Create simple interactive games to play. • Create a multimedia e-book combining: text, painted pictures and recorded sound. • Compose music using ICT.		• Make word processed documents combining images with text. • Change the appearance of text so it matches a document's theme. • Use and combine a variety of brush styles and painting tools to create a picture. • Compare tools for editing images saved from the web.		• Type text into different programs and change its style by applying a range of font effects. • Create documents and posters by combining text boxes with inserted images. • Create a photo collage. • Create a multimedia e-book combining: text, images voice recordings and shapes. • Shoot a digital photo and explore tools to edit it.		• Type and design a variety of documents, posters and leaflets using ICT. • Learn rules for creating neat word processed work. • Produce a multimedia video topic about topic with music and narration. • Create online multiple-choice quizzes. • Shoot and edit digital photos effectively. • Create a word collage.		• Enter formulae into a spreadsheet to solve calculations and model scenarios, including using =SUM() and statistical functions. • Change the format of cells of cells using: text alignment, borders and data types. • Create pictures using drawing tools (shapes). • Create an animated GIF image. • Create a multimedia on-screen presentation over several slides, adding animation and transition effects to enhance it. • Compare ways for manipulating digital images to enhance them.		• To design an information app that contains multimedia pages linked together using hyperlinks. • Create an on-screen presentation with slide transitions, advanced animation effects and action buttons. • Edit images using layering techniques. • Create and edit a stop motion animation.		• Write spreadsheet formulae to solve maths problems (e.g. unit convertors).

Parkfield Computing Progression – Attainment Expectations

Digital Literacy

WT Y1 (ELG)	AT Year 1		AT Year 2		AT Year 3		AT Year 4		AT Year 5		AT Year 6		AB Y6
		WT Y2	AB Y1	WT Y3	AB Y2	WT Y4	AB Y3	WT Y5	AB Y4	WT Y6	AB Y5		
• Navigate around websites with guidance. • Know where to go for help or support when online.	• Learn how to communicate sensibly using Showbie. • Know how to use a web browser to navigate a website when doing Internet research. • Search for sensible, suitable images online. • Know rules for staying safe online, including how to safely use Internet media players. • Scan QR codes.		• Know how to use a web browser to navigate websites effectively when doing Internet research. • Search for sensible, suitable images online and insert them into a document. • Know rules for staying safe online and why they must be followed. • Scan and create QR codes.		• Compare digital communication methods, including when they are appropriate to use. • Explain the features of a strong password. • Know what electronic mail is and the services offered by an email client. • Explore a virtual map and compare different viewing options on it. • Understand how to stay safe when playing computer games.		• Learn how to search the web effectively. • Learn how to interpret URLs. • Learn about the importance of only joining and using child-friendly websites. • Understand that there are consequences for making bad decisions online.		• Compare online encyclopedias for doing Internet research on. • Cross-reference search results to help validate information on them. • Describe online hazards and how to respond to them safely. • Explain the 'Zip it, Block it, Flag it' slogan. • Understand the term 'digital footprint' and describe strategies for reducing it. • Know how to stay safe when watching and recording vlogs. • Compare techniques used for manipulating and putting pressure on people online. • Understand how to safely send text messages.		• Learn how to evaluate the usefulness of a website. • Discuss reasons for and against sharing material publicly online. • Understand the importance of online consent. • Learn how to safely share images online. • Research localities using a digital map and use advanced tools like route finders.		• Describe the safest response to possibly dangerous online scenarios (concept cartoons).

Parkfield Computing Progression – Attainment Expectations

Computer Science - Theory

WT Y1 (ELG)	AT Year 1		AT Year 2		AT Year 3		AT Year 4		AT Year 5		AT Year 6	AB Y6
		WT Y2	AB Y1	WT Y3	AB Y2	WT Y4	AB Y3	WT Y5	AB Y4	WT Y6	AB Y5	
• Recognise that a range of technology is used in places such as homes and schools. • Identify the main parts of a computer.	• Identify and name the main components of a computer. • Name common input and output devices of computer systems. • Describe uses of technology beyond school.		• Identify, name and explain the function of the main components of a computer. • Name and compare common input and output devices of computer systems. • Identify and describe uses of technology beyond school.		• Identify uses of technology beyond school and discuss reasons why they are helpful (e.g. robots and simulations). • Understand how a computer stores data.		• Understand the main hardware components of a computer system, including the functions of different input and output devices. • Learn how the Internet works, including how it is structured and how data travels along it. • Understand how search engines operate, including how they rank results.		• Understand how digital images are stored and displayed on a computer. • Describe the impact of technology on society, including on people's: spiritual, moral, social and cultural development. • Understand what e-commerce is and what its impact is. • Find out about the history of computing. • Describe uses of GPS.		• Describe the services offered by the Internet. • Understand the history of WWII computer code breaking.	• Understand how binary numbers work.

Parkfield Computing Progression – Attainment Expectations

Computer Science - Programming

WT Y1 (ELG)	AT Year 1		AT Year 2		AT Year 3		AT Year 4		AT Year 5		AT Year 6		AB Y6
		WT Y2	AB Y1	WT Y3	AB Y2	WT Y4	AB Y3	WT Y5	AB Y4	WT Y6	AB Y5		
• Understand that an algorithm is a sequence of instructions which can programmed on a digital device. • Design computer programs in which pictures animate around a scene in an order.	• Follow simple algorithms to make things happen. • Control real and on-screen robots to move along routes using numerical commands (e.g. forward 3). • Design computer programs in which pictures animate around a scene based on different events – at the start, when they are clicked on and when you swipe the screen. • Debug programs with support so they run correctly.		• Write and share simple algorithms for others to follow. • Enter LOGO commands to program a robot turtle so it draws shapes and patterns. • To design computer programs in which pictures animate around a scene based on different events – at the start, when they are clicked on, with button presses and when you swipe the screen. • Debug programs with a little support so they run correctly.		• Use logical reasoning to write simple algorithms explaining the sequence commands should run in. • Program a sequence of actions using timings to create a simple animation. • Write code that includes conditional events (e.g. run commands when objects hit). • Debug programs independently so they run correctly.		• Use logical reasoning to create simple flowcharts explaining the sequence commands should run in. • Enter and repeat LOGO commands to program an on-screen turtle so it draws shapes, patterns and pictures. • Create games and apps that include variables in them (e.g. as a score counter). • Test, debug and improve programs with support.		• Design and program games that include variables (e.g. for a score counter) and changing object properties (e.g. the speed and direction of a moving car). • Generate random numbers in code. • Test, debug and improve programs independently.		• To create flowcharts of real life systems showing how steps of algorithms are linked together. • To design and program games that include conditional events, score variables, random number generators and time limits.		• To learn how to write code using a text-based language (e.g. Python and/or HTML). • Detect and correct errors in programs (syntax and logical bugs).

PARKFIELD PRIMARY SCHOOL
LONG TERM OVERVIEW
Computing

Year	Information Technology	Digital Literacy	Computer Science - Programming	Computer Science - Theory
Year 1 **Year 2**	• To learn how to type words quickly and correctly using a keyboard. • To make simple word processed documents and change the appearance of text. • To use and combine a variety of brush styles and painting tools to create a picture. • To create simple interactive games to play. • To create a multimedia e-book combining: text, painted pictures and recorded sound. • To compose music using ICT. • To compare tools for editing images saved from the web.	• To learn how to communicate sensibly using Showbie. • To know how to use a web browser to navigate a website when doing Internet research. • To search for sensible, suitable images online and insert them into a document. • To explain how to stay safe online and where to go for help or support, including how to safely use Internet media players. • To scan and create QR codes.	• To understand that an algorithm is a sequence of instructions which can programmed on a digital device. • To follow simple algorithms to make things happen. • To write and share simple algorithms for others to follow. • To control real and on-screen robots to move along routes using numerical commands (e.g. forward 3). • To enter LOGO commands to program a robot turtle so it draws shapes and patterns. • To design computer programs in which pictures animate around a scene based on different events – at the start, when they are clicked on, with button presses and when you swipe the screen. • To debug programs so they run correctly.	• To identify, name and explain the function of the main components of a computer. • To name and compare common input and output devices of computer systems • To identify and describe uses of technology beyond school.

Year	Information Technology	Digital Literacy	Computer Science - Programming	Computer Science - Theory
Year 3	- To type text into different programs and change its style by applying a range of font effects. - To create documents and posters by combining text boxes with inserted images. - To create a photo collage. - To create a multimedia e-book combining: text, images voice recordings and shapes. - To shoot a digital photo and explore tools to edit it.	- To compare digital communication methods, including when they are appropriate to use. - To explain the features of a strong password. - To know what electronic mail is and the services offered by an email client. - To explore a virtual map and compare different viewing options on it. - To understand how to stay safe when playing computer games.	- To use logical reasoning to write simple algorithms explaining the sequence commands should run in. - To program a sequence of actions using timings to create a simple animation. - To test, debug and improve programs. - To write code that includes conditional events (e.g. run commands when objects hit).	- To identify uses of technology beyond school and discuss reasons why they are helpful (e.g. robots and simulations). - To understand how a computer stores data.
Year 4	- To type and design a variety of documents, posters and leaflets using ICT. - To learn rules for creating neat word processed work. - To produce a multimedia video topic about topic with music and narration. - To create online multiple-choice quizzes. - To shoot and edit digital photos effectively. - To create a word collage.	- To learn how to search the web effectively. - To learn how to interpret URLs. - To learn about the importance of only joining and using child-friendly websites. - To understand that there are consequences for making bad decisions online.	- To use logical reasoning to create simple flowcharts explaining the sequence commands should run in. - To enter and repeat LOGO commands to program an on-screen turtle so it draws shapes, patterns and pictures. - To create games and apps that include variables in them (e.g. as a score counter). - To test, debug and improve programs.	- To understand the main hardware components of a computer system, including the functions of different input and output devices. - To learn how the Internet works, including how it is structured and how data travels along it. - To understand how search engines operate, including how they rank results.

Year	Information Technology	Digital Literacy	Computer Science - Programming	Computer Science - Theory
Year 5	• To enter formulae into a spreadsheet to solve calculations and model scenarios, including using =SUM() and statistical functions. • To change the format of cells of cells using: text alignment, borders and data types. • To create pictures using drawing tools (shapes). • To create an animated GIF image. • To create a multimedia on-screen presentation over several slides, adding animation and transition effects to enhance it. • To compare ways for manipulating digital images to enhance them.	• To compare online encyclopedias for doing Internet research on. • To cross-reference search results to help validate information on them. • To describe online hazards and how to respond to them safely. • To explain the 'Zip it, Block it, Flag it' slogan. • To understand the term 'digital footprint' and describe strategies for reducing it. • To know how to stay safe when watching and recording vlogs. • To compare techniques used for manipulating and putting pressure on people online. • To understand how to safely send text messages.	• To design and program games that include variables (e.g. for a score counter) and changing object properties (e.g. the speed and direction of a moving car). • To generate random numbers in code. • To detect and correct errors in programs (syntax and logical bugs).	• To understand how digital images are stored and displayed on a computer. • To describe the impact of technology on society, including on people's: spiritual, moral, social and cultural development. • To understand what e-commerce is and what its impact is. • To find out about the history of computing. • To describe uses of GPS.
Year 6	• To design an information app that contains multimedia pages linked together using hyperlinks. • To create an on-screen presentation with slide transitions, advanced animation effects and action buttons. • To write spreadsheet formulae to solve maths problems (e.g. unit convertors). • To edit images using layering techniques. • To create and edit a stop motion animation.	• To learn how to evaluate the usefulness of a website. • To discuss reasons for and against sharing material publicly online. • To understand the importance of online consent. • To learn how to safely share images online. • To research localities using a digital map and use advanced tools like route finders. • To describe the safest response to possibly dangerous online scenarios (concept cartoons).	• To create flowcharts of real life systems showing how steps of algorithms are linked together. • To design and program games that include conditional events, score variables, random number generators and time limits. • To detect and correct errors in programs (syntax and logical bugs). • To learn how to write code using a text-based language (e.g. Python and/or HTML).	• To describe the services offered by the Internet. • To understand the history of WWII computer code breaking. • To understand how binary numbers work.