Woodhouse Progression of Knowledge and Skills in Computing

Essential Knowledge

Year Group	**EYFSP:** ELG 15 Technology: • Children recognise that a range of technology is used in places such as homes and schools • They select and use technology for particular purposes **Knowledge and Skills (Can I…)**								
	Online Safety	Coding	Word Processing	Presenting/ Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills
YR	Ask an adult before using computers, tablets or phones Know that my name, address and school is personal information Keep my personal information private online (name, school) Use kind words online	Turn a Beebot on and off Programme a Beebot to move to a chosen place Give instructions to make something move forwards, backwards, left or right	Hold the shift (up arrow) key to make a letter into a capital letter Type my name using a keyboard Type numbers using a keyboard and know to use the Num lock key Know how to use the Delete and backspace	Talk about my work so others can understand what I have done	Create a simple pictogram using Mini Mash - with support	Navigate the Mini Mash area and choose a game Search an iPad	Send a class email to another class	Give examples of technology at home	Turn a device on and off or send it to sleep Use the home button, open, close and quit an app Adjust the volume/mute on an iPad Search an iPad Take a good quality photo on an iPad or camera Take a good quality video on an iPad or camera

			arrow and the space bar						Check the iPad battery and know when it needs charging Use an iPad to log onto Purple Mash Use an iPad to play a game Use an iPad to type Turn on and shutdown a desktop computer Hold the mouse correctly and move it Use the mouse to click and drag Use the mouse to double click and open an app Log onto a desktop computer Check the volume on a computer and change it Log onto Purple Mash independently on a desktop computer Save my work in Purple Mash

									Navigate back to the Mini Mash home screen Find Purple Mash if it minimises or if I click on the cross by accident Name the parts of a computer: monitor, mouse, keyboard

Woodhouse Progression of Knowledge and Skills in Computing Y1

NC Objectives:

KS1 a) understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
KS1 b) create and debug simple programs
KS1 c) use logical reasoning to predict the behaviour of simple programs
KS1 d) use technology purposefully to create, organise, store, manipulate and retrieve digital content
KS1 e) recognise common uses of information technology beyond school
KS1 f) 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

Knowledge and Skills (Can I...)

	Online Safety	Coding	Word Processing	Presenting/ Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills
Y1	Explain what personal information is Remember to keep my personal info private	Follow and create instructions on a computer Know that an algorithm is an instruction	Use a keyboard to type in basic text, using capital letters and spaces	Add animation and sound to a story Contribute to a class presentation	Create a pictogram Enter data into a spreadsheet	Search Purple Mash Point and click to navigate on existing	Send an email and open an email knowing that it is safe	Give an example of technology outside of school Use a data logger to	Log onto Purple Mash and find my task to do and my saved work Open an app and save my work Save work in a shared folder and print work

	Explain the positives and negatives of using technology Ask an appropriate person for help Respond appropriately when I see something inappropriate	Create an algorithm Explain what debugging is Programme a Beebot and debug instructions if it goes wrong	Contribute to a class word processing document		Identify a cell on a spreadsheet	links/website shortcuts Use the tool bar and can explain its features e.g. home button or back button		check temperature	Take a good quality photo with an electronic device and crop it Take a good quality video that shows my work Find my internet browser and launch it on a desktop computer Find the Safari app on an iPad and launch it Play and pause video or audio on a website Name the parts of a computer: monitor, mouse, keyboard, speakers, headphones

Woodhouse Progression of Knowledge and Skills in Computing Y2

NC Objectives:

KS1 a) understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
KS1 b) create and debug simple programs
KS1 c) use logical reasoning to predict the behaviour of simple programs
KS1 d) use technology purposefully to create, organise, store, manipulate and retrieve digital content
KS1 e) recognise common uses of information technology beyond school
KS1 f) 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

Knowledge and Skills (Can I...)

Online Safety	Coding	Word Processing	Presenting/ Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills

Y2	Share work safely Email safely and kindly Explain what a digital footprint is Keep my personal data private Search safely online	Design algorithms and code them Use a repeat command Debug a programme Programme a device e.g. Roamer and debug instructions if it goes wrong Choose the quickest way to programme a device e.g. Roamer Predict what will happen	Open a Word document Type – change font, size, colour, bold and italic in Word	Use different drawing tools/pens/ textures and change thickness Zoom in or out of a picture Use the fill tool Insert an image or shape Present information and collaborate on a Class PP	Create a spreadsheet in Purple Mash Collect data and produce a graph in Purple Mash Construct a Binary tree Use a database to answer questions	Refine a search Do a basic keyword search using an internet browser Enter a URL to access or open a specific website Refresh or reload a webpage in an internet browser Open multiple windows/tabs in a browser Dock windows so that I can see my research and my notes at the same time	Email safely and kindly	Compose digital music Upload a sound Loop a piece of music	Save my work in my pupil folder Name the parts of a computer: monitor, mouse, keyboard, speakers, headphones, microphone, software, hardware

Woodhouse Progression of Knowledge and Skills in Computing Y3

NC Objectives:

KS2 a) design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
KS2 b) use sequence, selection, and repetition in programs; work with variables and various forms of input and output
KS2 c) use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
KS2 d) 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
KS2 e) use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
KS2 f) 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
KS2 g) use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Knowledge and Skills (Can I...)

	Online Safety	Coding	Word Processing	Presenting/ Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills
Y3	Design a safe password and know how to keep it safe Know if something is true or false on the internet Know if I am old enough to play a game online Report an email to a teacher	Design an algorithm using a flow chart Explain what selection means and give an example Explain what a variable is and give an example of how they have used one	Use the home, top and bottom row keys on a keyboard Type with my left and right hand using capital letters and spaces Retrieve my saved work and edit it in Word Print my screen/work in Word	Contribute to a group PP by inserting new slides Add text to slides and change the colour and font size Insert photos/images Present to my class in an audible way	Use symbols to compare data in spreadsheets < > = in Purple Mash Collect data and produce a suitable graph in PM Locate a specific cell in a spreadsheet in PM	Cut, copy and paste text and images from the web Save/download files from the web to a device Adjust text, image and video sizes Know how to search for trustworthy info on the web	Explain what a blog is and how it can be used Open and respond to an email Add an attachment to an email Report an email to a teacher	Explain what a simulation is Evaluate a simulation and say what the problems are	Retrieve my saved work and edit it Print my screen/work Name the parts of a computer: monitor, mouse, keyboard, speakers, headphones, microphone, software, hardware, Motherboard

	Know how to search for trustworthy info on the web	Programme a device using sensors Debug errors in code	Type – change font, size and underline in Word Insert an image and use Word art in Word Insert a shape and edit it in Word		Explain what a database it Create a branching database Contribute to a class Excel spreadsheet	Perform a keyword search within a web page			

Woodhouse Progression of Knowledge and Skills in Computing Y4

NC Objectives:

KS2 a) design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
KS2 b) use sequence, selection, and repetition in programs; work with variables and various forms of input and output
KS2 c) use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
KS2 d) 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
KS2 e) use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
KS2 f) 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
KS2 g) use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Knowledge and Skills (Can I...)

	Online Safety	Coding	Word Processing	Presenting/ Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills
Y4	Explain what my digital footprint is, with examples	Use selection in coding successfully Use variables successfully	Change font, size, italic, bold and colour and underline in Word	Use MS Paint or other similar programme to create a background	Add formulas to cells in a spreadsheet in Purple Mash	Assess whether information is reliable Explain what a search engine	Send a safe email to more than one person using CC	Explain the difference between hardware and software	Explain the difference between hardware and software

	Explain what SPAM is and how to deal with it Explain plagiarism and know how to avoid it Look after my mental health by using the internet safely and managing my screen time Assess whether information is reliable	Use flowcharts for design of algorithms Use the repeat command Explain what decomposition and abstraction mean Input instructions in Logo Use and build procedures in Logo	Right, centre and left align text in Word Create bullet points or a numbered list in Word Insert an image and a link in Word	Use Pivot or similar programme to create an animation Add backgrounds and sounds to Pivot animations Insert a video into a group Power point presentation Take a screen shot and paste it into a PP Explain what animation is and what stop motion is	Use a spreadsheet to help me with a real life situation in PM and Excel Cut, copy and paste cell content in Excel Insert and delete a row and column in Excel	is and use one effectively Cut, copy and paste text and images from the web Perform a keyword search within a web page Save, print or share a web page Adjust text, image and video sizes Access the history/bookmark a webpage			Name the parts that make up a computer: monitor, mouse, keyboard, speakers, headphones, microphone, software, hardware, Motherboard, CPU, RAM, Graphics Card, Network Card

Woodhouse Progression of Knowledge and Skills in Computing Y5

NC Objectives:

KS2 a) design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
KS2 b) use sequence, selection, and repetition in programs; work with variables and various forms of input and output
KS2 c) use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
KS2 d) 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
KS2 e) use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
KS2 f) 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
KS2 g) use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Knowledge and Skills (Can I...)

	Online Safety	Coding	Word Processing	Presenting / Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills
Y5	Evaluate the impact of digital content on mental health Respond to online safety problems appropriately by following school's AUP Maintain my own security online – give examples Recognise an inappropriate	Use decomposition to help create a program Create a timer variable Create a string variable Create a number variable Create a text variable Use commands to achieve a goal	Change font, size, colour and alignment in Word Use the spelling and grammar checker in Word Insert a table in Word	Create a game environment Evaluate the effectiveness of a game and email feedback Duplicate and delete a slide in Power point	Add a formula to a cell to automatically create a calculation in Excel Test a hypothesis in Purple Mash Use a spreadsheet to answer real life questions in PM and Excel Add a new sheet in a spreadsheet/rename a sheet in Excel	Reference sources in my work and know that this prevents plagiarism Check reliability and validity of information on the internet Use advanced search techniques to improve	Respond appropriately to a 'fake' email from an unknown person Read an appropriate Blog (linked to a CCL topic)	Design a 3D object using a computer Explain how CAD is used in industry Explain what a concept map is and how it can be used in real life Create a concept map	Name the parts that make up a computer: monitor, mouse, keyboard, speakers, headphones, microphone, software, hardware, Motherboard, CPU, RAM, Graphics Card, Network Card Turn on reader view to show

	image/video and how to report it Reference sources in my work and know that this prevents plagiarism Check reliability and validity of information on the internet	Program a game with timers and a score pad Create a sequence of procedures where timing is critical Debug repetition, selection and variable errors independently	Zoom in and out in Word	Insert a new text box in Pp Add transitions to a slide and animate an object in Pp Play and present from Pp	Search for info in a database in PM Contribute to a class database in PM Create a database that organises info for a purpose in PM	my results and research (add – to remove words of less importance Turn on reader view to show just the text whilst online		Present a concept map	just the text whilst online

Woodhouse Progression of Knowledge and Skills in Computing Y6

NC Objectives:

KS2 a) design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
KS2 b) use sequence, selection, and repetition in programs; work with variables and various forms of input and output
KS2 c) use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
KS2 d) 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
KS2 e) use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
KS2 f) 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
KS2 g) use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Knowledge and Skills (Can I...)

	Online Safety	Coding	Word Processing	Presenting/ Animation	Spreadsheets and Databases	Research	Communication Email/blogging	Technology beyond school/ Links to other subject areas	Basic Skills
Y6	Identify benefits and	Decide which parts of a	Change font, size, colour,	Create a Power point	Use a spreadsheet	Conduct research	Identify the purpose of	Explain what the internet consists	Name the parts that make up a

	risks of mobile devices broadcasting the location of the user/device Identify reliable websites and explain how they know the website is trustworthy Identify the benefits and risks of sharing personal info online Review the meaning of a digital footprint and give examples of positives and negatives Behave appropriately online and explain the impact of inappropriate	project are most important and start those first – abstraction. Debug repetition, selection and variable errors independently Add Tabs to organise my code Explain what a Function is and how I have used one to improve my code Write a program that accepts inputs other than keyboard and mouse and produces outputs other than screen or speakers.	alignment and highlight text Use shortcut/quick keys e.g. Ctrl C and Ctrl V to copy and paste Insert a table and a link to a webpage	presentation for a purpose then play and present it to an audience effectively Copy/paste a URL to insert a link to a website in Pp Create complex animations in Pp Make a shape into a textbox/change the outline of a shape in Pp Add speaker notes in Pp Add audio/record narration in Pp	to investigate probability and answer questions in Purple Mash and Excel Add a formula to a cell to automatically create a calculation in Purple Mash and Excel Create appropriate graphs to show the data I have collected in Purple Mash and Excel Use a spreadsheet to create computational models and answer questions in Purple Mash and Excel	safely and effectively, taking into account copyright	writing a blog and its key features Plan the theme and content for a blog and then write it Change the visual properties of my blog in order to suit the audience reading it Explain why it is important to regularly update a blog Contribute to an existing blog	of and what the WWW is Explain the difference between a LAN (local area network) and a WAN (wide area network) Explain how the internet is accessed in school Explain what binary and denary mean	computer: monitor, mouse, keyboard, speakers, headphones, microphone, software, hardware, Motherboard, CPU, RAM, Graphics Card, Network Card, Network cables, Router

	behaviour on myself and others Balance game and screen time and why this is important for my mental health Identify the positive and negative influences of technology on health and the environment								