

Computing long term overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1			Technology outside of school	Lego Builders	Maze explorers	Coding
Year 2	Coding		Effective searching		Questioning	Presenting ideas
Year 3	Coding	Scratch exploring the blocks	Branching databases		Powerpoint	
Year 4	Coding	Scratch; If block	Effective searching Hardware/Software investigators		Spreadsheets	
Year 5	Coding	Scratch; creating a maze	Word Processing		Spreadsheets	
Year 6	Emails	Networks	Animation	Blogging	Excel Spreadsheets	

The Craylands School KS1 Long term subject: Computing

<p>Aims can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</p> <ul style="list-style-type: none"> ▪ can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems ▪ can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems <ul style="list-style-type: none"> ○ ▪ are responsible, competent, confident and creative users of information and communication technology. 	
<p>Skills</p> <ul style="list-style-type: none"> ▪ create and debug simple programs ▪ use logical reasoning to predict the behaviour of simple programs ▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content <ul style="list-style-type: none"> ▪ 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. 	<p>Skills</p> <ul style="list-style-type: none"> ▪ create and debug simple programs ▪ use logical reasoning to predict the behaviour of simple programs ▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content <ul style="list-style-type: none"> ○ ▪ 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.
	<p>Term 1</p>
<p>Early Years</p>	<p>Work will be planned around the following 7 areas of learning: Personal Social and Emotional Development, Physical Development, Communication and Language, Literacy, Mathematics, Understanding of the World and Expressive Arts and Design.</p>

	Year 1 knowledge end points		Year 2 knowledge end points	
	<p>To know what technology is and how it used outside of school</p> <p>To log onto Purple Mash</p> <p>To know what instructions are</p> <p>To put instruction in order</p> <p>To make a Beebot move</p> <p>To save work in Purple Mash</p> <p>To understand you do not know everyone online</p> <p>To give a computer instructions</p> <p>To make an object do something on a computer screen</p> <p>To change the background in a coding software</p>		<p>Year 1 knowledge</p> <p>To understand not everyone is who they say that they are in online games</p> <p>To know what different blocks do in coding software</p> <p>To know what will happen if there is a mistake in a piece of code</p> <p>To know what we use the internet for</p> <p>To give some advice on staying safe online</p> <p>To know we can not trust everything we read/see online</p> <p>To know what a pictogram, binary tree and database is</p> <p>To use yes/no questions to find an answer</p> <p>To understand what is private and should not be shared online</p> <p>To use word processing on a Purple Mash piece of software</p>	
Year 1 Term 3	PURPLE MASH – TECH OUTSIDE OF SCHOOL			
	technology			
Link to prior learning	EYFS term 6			
Learning objectives	Context	Skills	Knowledge	
To know what information to keep safe online	<p>What information is personal and should be kept private?</p> <p>https://www.bbc.co.uk/bitesize/topics/zymykgq/articles/zwbq7ty</p>		Can they recognise the information to keep private?	
To find and understand examples of where technology is used in the local community.	<p>What technology can you find in and outside of school?</p>	<ul style="list-style-type: none"> Children have considered types of technology used in school and out of school. 	<p>Children can understand what is meant by 'technology'..</p>	

To record examples of technology outside school.	What technology is used outside of school?	Children can record examples of where technology is used away from school.	Children can understand what is meant by 'technology'
Year 1 Term 4	PURPLE MASH –LEGO BUILDERS		
	Instruction	algorithm	computer program debug
Links to prior learning	Year 1 term 4		
Learning objectives	Context	Skills	Knowledge
To log in safely LESSON 1 ONLINE SAFETY LESSON	How can we log onto Purple Mash safely?	To log into a piece of software safely	Can they explain what a log in is?
To emphasise the importance of following instructions	How important are instructions in knowing what to do?		Children know that to achieve the effect they want when building something, they need to follow accurate instructions. Children know that by following the instructions correctly, they will get the correct result. Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective.
To follow and create simple instructions on the computer.	What are these instructions telling you to do?	Children can follow instructions in a computer program.	Children can explain the effect of carrying out a task with no instructions. Children know that computers need precise instructions to follow. Children know that an algorithm written for a computer to follow is called a program.

To consider how the order of instructions affects the result.	What happens when instructions are not in the right order?	• Children can organise instructions for a simple recipe.	Children understand how the order in which the steps of a recipe are presented affects the outcome. Children know that correcting errors in an algorithm or program is called 'debugging'.
To programme a device	How can we make this Beebot move?	To create an algorithm To programme a device	Can they recognise directions?
Year 1 Term 5	PURPLE MASH – MAZE EXPLORERS		
	Direction algorithm left turn right turn forward debug backwards arrow		
Links to prior learning	Year 1 term 4		
Learning objectives	Context	Skills	Knowledge
To save work in Purple Mash To search Purple Mash ONLINE SAFETY LESSON 2	How can we save what we do in Purple Mash?	To search online	Can they recognise how we can use the internet?
To be able to use the direction keys to complete the challenges successfully.	What directions do we use to make something move?	To use forwards, backwards, left and right in instructions	Children know how to use the direction keys in 2Go to move forwards, backwards, left and right Children know how to add a unit of measurement to the direction in 2Go Challenge 2. Children know how to undo their last move. Children know how to move their character back to the starting point.

To understand how to create and debug a set of instructions (algorithm).	What happens if our instructions do not work? How can we fix them?	Children can use diagonal direction keys to move the characters in the right direction.	<ul style="list-style-type: none"> • Children know how to create a simple algorithm. • Children know how to debug their algorithm.
To create a longer algorithm for an activity.	How can we make longer instructions? What directions will we need?	Children can use the additional direction keys to create a new algorithm.	
Year 1 Term 6	PURPLE MASH - CODING		
	Instructions scene object run sound output when clicked		
Link to prior learning	Year 1 term 4, year 1 term 5		
Learning objectives	Context	Skills	Knowledge
To know what to do if someone sends something unkind	<p>How do you feel when someone says something unkind to you?</p> <p>Do you know everyone online?</p>		<p>Can they recognise hurtful comments online?</p> <p>Can they recognise the different between public and private?</p>
To predict what will happen when instructions are followed.	How can we give a computer instructions?	<p>Children can give and follow instructions.</p> <ul style="list-style-type: none"> • Children can draw symbols to represent instructions. • Children can arrange code blocks to create a set of instruction 	
To use code to make a computer program	What is a computer code?	<p>Children can create a program using code blocks.</p> <ul style="list-style-type: none"> • Children can use object and action code blocks 	Can they understand the function of different blocks in a code?
To understand what an event is	How can we make an object do something on a computer?	Children can create a simple program using code blocks	Can they recognise the blocks for event, object and actions?

		<ul style="list-style-type: none"> • Children can use event, object and action code blocks. 	
To begin to understand how code executes when a program is run	How do we start our code? How do we know when the code is working?	Children can create a simple program using code blocks. <ul style="list-style-type: none"> • Children can use event, object and action code blocks. • Children notice when their code executes when their program is run 	
To understand what backgrounds and objects are.	How can we change the background?	Children can edit a scene by adding, deleting and moving objects.	
Year 2 Terms 1 & 2	PURPLE MASH - CODING		
	Action button algorithm event background nesting		
Links to prior learning	Year 1 term 4, Year 1 term 5, Year 1 term 6		
Learning objectives	Context	Skills	Knowledge
To know how to stay safe online	When playing online games, is everyone who they say they are? Should we trust everyone we speak to online?		Can children recognise ways of staying safe online?
To understand what an algorithm is.	What do we call instructions we give to a computer?	<ul style="list-style-type: none"> • To create an algorithm 	Children can explain that an algorithm is a set of instructions Children can describe the algorithms they created.. Children can explain that for the computer to make something happen, it needs to follow clear instructions
To create a program using a given design.	What do the different blocks do?	Children can plan an algorithm that includes collision detection.	

		<ul style="list-style-type: none"> • Children can create a program that uses collision detection. • Children can read blocks of code and predict what will happen when it is run. 	
To understand that algorithms follow a sequence.	How can we make things happen when we want them to happen?	Children can create a program that uses a timer-after command. • Children can predict what will happen in a program that includes a timer-after command.	<ul style="list-style-type: none"> • Children can explain what the timer-after command does in their program.
To understand that different objects have different properties. • To understand what different events do in code.	Are all the objects in a computer programme the same?	Children can create a computer program that includes different object types. Children can modify the properties of an object. Children can use different events in their program to make objects move.	
To create a program using a given design. To understand the function of buttons in a program.	What will happen when we follow this programme design?	Children can create a computer program that includes a button object. Children can modify the properties of a button to fit their program design.	Children can explain what a button does in their program.
To know what debugging means.	What happens if there is a mistake in code?	• Children can use a design document to start debugging a program. • Children can debug simple programs	Children can explain what debug (debugging) means.
Year 2 Term 2	PURPLE MASH – EFFECTIVE SEARCHING		
	Internet search search engine		

Links to prior learning			
Learning objectives	Context	Skills	Knowledge
To understand what email is ONLINE SAFETY LESSON 2 PURPLE MASH	What is an email?	To understand how we talk to others when they are not there in front of us. • To open and send simple online communications in the form of email.	Can children recognise that Email is a form of digital communication
To understand the terminology associated with the Internet and searching	What can we use the internet for?		Children can recall the meaning of key Internet and searching terms.
To gain a better understanding of searching the Internet	How can we search the internet?	• Children learnt to read a web search results page. • Children can search the Internet for answers to a quiz	Children can identify the basic parts of a web search engine search page.
To give advice on keeping safe online	What advice can we give people who use the internet?		Can they explain how to stay safe when using the internet?
Year 2 Term 5	PURPLE MASH - QUESTIONING		
	Pictogram question data collate binary tree database		
Links to prior learning			
Learning objectives	Context	Skills	Knowledge
To understand the internet is not always reliable	Can we trust everything that we read and see online?		Can they understand that the internet is not always reliable?

To show that the information provided on pictograms is of limited use beyond answering simple questions.	What does this pictogram tell us?		Children understand that the information on pictograms cannot be used to answer more complicated questions.
To use yes/no questions to separate information	How can we use yes/no questions to sort information?	Children have used a range of yes/no questions to separate different items.	
To construct a binary tree to separate different items	What is a binary tree?	<ul style="list-style-type: none"> Children have designed a binary tree to sort pictures of children or animals 	Children understand what is meant by a binary tree.
Use 2Question (a binary tree) to answer questions	How can we use a binary tree on a computer?	<ul style="list-style-type: none"> Children have matched the 2Simple item pictures to names, using a binary tree 	<p>Children understand that answers are limited to 'yes' and 'no' in a binary tree</p> <p>Children understand that the user cannot use 2Question to answer more complicated questions..</p>
To use a database to answer more complex search questions. • To use the Search tool to find information.	What is a database?	Children have used a database to answer simple and more complex search questions.	Children understand what is meant by a database. •
Year 2 Term 6	PURPLE MASH – PRESENTING IDEAS		
	Concept map quiz presentation audience animated		
Links to prior learning			

Learning objectives	Context	Skills	Knowledge
<p>To understand what a digital footprint is</p> <p>PURPLE MASH ONLINE SAFETY LESSON 3</p>	<p>What details are considered as private? What should you do if you are asked for these details by someone online?</p>	<p>To begin to think critically about the information they leave online.</p> <ul style="list-style-type: none"> • To identify the steps that can be taken to keep personal data and hardware secure 	<p>Can they understand what a digital footprint is?</p>
<p>To explore how a story can be presented in different ways.</p>	<p>How can we use a computer to present information in different ways?</p>	<p>Children have examined a traditional tale presented as a mind map, as a quiz, as an ebook and as a fact file. •</p>	<p>Children know that digital content can be represented in many forms.</p>
<p>To make a quiz about a story or class topic.</p>	<p>How can we make a quiz on a computer?</p>	<p>Children have made a quiz using 2Quiz. •</p>	<p>Children can talk about their work and make improvements based on feedback received.</p>
<p>To make a fact file on a non-fiction topic</p>	<p>What is a non-fiction fact file? How can we make one using a computer?</p>	<ul style="list-style-type: none"> • Children have extracted information from a 2Connect file to make a publisher fact file on a non-fiction topic. • • Children have added appropriate clipart. • • Children have added an appropriate photo. • 	<p>Children know that data can be structured in tables to make it useful</p>

The Craylands School KS2 Long term subject: Computing

Aims

can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation

- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
 - ▪ are responsible, competent, confident and creative users of information and communication technology.

Skills

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
- 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
 - use technology safely, respectfully and responsibly;

Knowledge

- 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
- recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 3 knowledge end points		Year 4 knowledge end points	
KS1 knowledge To know how to make a strong password To know what a flow chart is To know what a time is for in game To understand the idea of repetition To know not all websites are factual To use Scratch To understand what the different Scratch blocks do To know how to use the forever block in Scratch To understand what cyberbullying is To understand and use a branching database To know who to accept as friends online To use powerpoints; add pages, add slide transitions, add shapes/lines,		Year 3 knowledge To know how people can use our details online To know what an algorithm is To use 'If' in Purple Mash coding To use a variable in Purple Mash coding To use the 'if' block in Scratch To know what plagiarism is To know how to search effectively online To know names of parts of the computer To know what a spreadsheet is To use a Purple Mash spreadsheet to create a line graph	
		Year 5 knowledge end points	
		Year 6 knowledge end points	
		Year 3 & 4 knowledge To know how to seek support if in trouble online To understand the terms decomposition and abstraction To understand what a simulation is To know how to cite sources of information To use Scratch to create a maze game using sensing blocks To use Word as a word processing tool To format text To insert images and word art To add table To use formula in spreadsheets on Purple Masg	
		Year 3, 4 & 5 knowledge To understand rules associated with sending emails To send a simulated email in Purple Mash To know what an attachment is To understand CC in emails To understand what the internet is To understand the different network types explaining LAN and WAN networks To understand how software can be used for animation To recognise stereotypes in online adverts To know what a blog is To create a blog for an intended audience To use spreadsheets in Excell	
Year 3 Term 1	PURPLE MASH - CODING		
	action	command	blocks
	button	algorithm	execute
	flowchart	debug	
Links to prior learning	Year 1 term 6 Year 2 term 1		

Learning objectives	Context	Skills	Knowledge
To know what makes a strong password ONLINE SAFETY LESSON 1 PURPLE MASH	What makes a strong password?	To make a strong password	Children know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away.
To understand what a flowchart is and how flowcharts are used in computer programming.	What is a flow chart?	Children can read and explain a flowchart. • Children can use a flowchart to create a computer program. • Children can create a computer program that uses click events and timers.	
To understand that there are different types of timers. • To be able to select the right type of timer for a purpose	What is a timer? What is it used for?	Children can create a program that uses a timer-after command. • Children can create a program that uses a timer-every command. •	Children understand there can be different ways to solve a problem.
• To understand how to use the repeat command	How can we make something do something over and over again?	• • Children can use the repeat command with an object. • Children can create a computer program that includes use of the repeat command.	Children understand how the turtle object moves.
• To understand the importance of nesting.	Why is it important to test your program? What do you do if it does not work?	Children can create computer programs using prior knowledge. • Children can run, test and debug their programs. • Children can consider nesting when debugging their programs.	
To design and create an interactive scene.	How can we make a scene with things happening in it?	Children can use the properties table to set the properties of	

		objects. • Children can plan their scene and algorithms before they create their program. • Children can confidently make several different things happen in a program.	
Year 3 Term 2	Scratch – EXPLORING THE BLOCKS		
	Algorithm	Repeat	Sequence
	Blocks	Sprite	script
	Bugs	debug	
Link to prior learning	Year 1 term 6	Year 2 term 1	Year 3 term 1
Learning objectives	Context	Skills	Knowledge
To understand not all websites are factual ONLINE SAFETY LESSON 2 PURPLE MASH	Can we trust everything we read and/or see online?	To consider if what can be read on websites is always true	Can they recognise that not everything we read online is factual?
To combine blocks in Scratch	What do the different blocks do? What will happen if I put them together? https://scratch.mit.edu/	To combine blocks in 'Scratch'.	
To sequence correctly	Can you make a sequence of your own using the different blocks? What will the journey look like? https://scratch.mit.edu/		
To plan and create a script	What can we make the Sprite do in Scratch? Can we get it moving? Can we get it to talk? https://scratch.mit.edu/	To change the background and sprite in 'Scratch'. To program a sprite to interact	
To sequence blocks in Scratch	What did we do in the previous term? Can we remember how to make a sprite move and interact?	To sequence blocks in Scratch.	

	What happens if it doesn't do what we want it to do? https://www.bbc.co.uk/bitesize/topics/zs7s4wx/articles/ztkx6sg	To debug an algorithm.	
To repeat a sequence	How can we repeat a set of instruction in Scratch? https://scratch.mit.edu/	To repeat a sequence.	
To use the 'forever' block in an algorithm	What do we do if we always want something to happen in our sequence? https://scratch.mit.edu/	To use the 'forever' block in Scratch.	
Year 3 Terms 3 & 4	PURPLE MASH – BRANCHING DATABASE		
	Branching database database question data		
Links to prior learning	Year 2 term 5		
Learning objectives	Context	Skills	Knowledge
To understand what cyberbullying is	What would you do if you received an unkind email or text message?		Can they explain what cyberbullying is and how to deal with it?
To sort objects using just YES/NO questions	How can we use 'Yes'/'No' questions to sort information?	<ul style="list-style-type: none"> • Children have used YES/NO questioning to play a simple game with a friend. • 	<p>Children understand how YES/NO questions are structured and answered</p> <p>Children can explain why they choose a particular question to split their database.</p>
To complete a branching database	What is a branching database?	<p>Children have contributed to a class branching database about fruit. • Children have completed a branching database about vegetables. • Children can edit and adapt a branching database to accommodate new entries.</p>	
To create a branching database of the	What could you create a branching database about?	<p>Children can choose a suitable topic for a branching database.</p> <ul style="list-style-type: none"> • Children can select and save 	Children know how to use and debug their own and others' branching database.

children's choice. X 2 lessons		appropriate images. • Children can create a branching database. •	
To know who to accept online	What could happen if we accept something online and we don't know where it's come from? https://www.bbc.co.uk/bitesize/topics/zv63d2p/articles/zt9thyc		Can they explain what the risks are by accepting something online if you don't know where or who it has come from?
Year 3 Terms 5 & 6	PURPLE MASH – PRESENTING POWERPOINT		
	Animation presentation slide transition text audio word art image		
Link to prior learning	Year 2 term 6		
Learning objectives	Context	Skills	Knowledge
To learn about the meaning of age restrictions symbols on digital media and devices. ONLINE SAFETY LESSON 3 PURPLE MASH	Should children be allowed to access any game that they like?	To know what to do if they see something they do not like.	Can they explain what people can do online? Can they explain why there are age limits on certain devices and games?
• To create a page in a presentation.	How can we use a computer to present information?	• Children know how to open Google Slides. Children can add text and format it.	Children know what powerpoint is.
To add media to a presentation	What can we add to our presentations to make them more interesting to look at?	Children can change the design of the slides. • Children can insert a new slide. • Children can insert pictures. • Children can edit pictures.	

To add shapes and lines to a presentation	How can shapes and lines make our presentation more interesting?	Children can add shapes to a presentation. • Children can add lines into a presentation.	
To add animations into a presentation.	How can we make our presentations move?	Children can use animations in a presentation. • Children can use transitions in a presentation.	
To use the skills learnt in previous weeks to design and present an effective presentation. X 2 lessons	What can we make a presentation about?	Children can add text to a presentation. • Children can add objects including text and pictures to their presentation. • Children can add animation and transitions to their presentation. • Children can present their work on Slides.	
Year 4 Term 1	PURPLE MASH - CODING		
	Action button debugging command background flowchart If co-ordinates		
Links to prior learning	Year 1 term 6 Year 2 term 1 Year 3 term 1 year 3 term 2		
Learning objectives	Context	Skills	Knowledge
To understand how children can protect themselves from online identity theft ONLINE SAFETY PURPLE MASH LESSON 1	How can people use our details that we put online?	To be mindful of what details to input online.	Children know that security symbols such as a padlock protect their identity online. • Children know the meaning of the term 'phishing' and are aware of the existence of scam websites.
To review coding vocabulary and knowledge. • To create a simple computer program.	What algorithms could we plan?	Children can explore different object types in 2Code. • Children can use a background and objects to create a scene. • Children can plan an algorithm	

		for their scene and use 2Code to program it.	
<ul style="list-style-type: none"> To begin to understand selection in computer programming. To understand how an IF statement works 	What is an IF statement in an algorithm?	Children can create a program that includes an IF statement.	Children can interpret a flowchart that depicts an IF statement
To understand how to use co-ordinates in computer programming. • To understand how an IF statement works	How do we know where objects are positioned? How can we use co-ordinates to help?	Children can make use of the X and Y properties of objects in their coding. Children can create a program that includes an IF statement	
To understand the repeat until command. • To begin to understand selection in computer programming. • To understand how an IF/ ELSE statement works.	How can we get a program to do something over and over again until we do not want it to?	<ul style="list-style-type: none"> Children can read code that includes Repeat Until and IF/ ELSE and explain how it works. Children can create a program that includes an IF/ ELSE statement 	Children can interpret a flowchart that depicts an IF/ ELSE statement.
To understand what a variable is in programming. • To use a number variable	What is a variable?	<ul style="list-style-type: none"> Children can create and use variables when programming 	Children can explain what a variable is in programming.
To create a playable game	What game can we make which has a score?	Children can use the correct code to make their game work.	Children can explain how their code makes their game work
Year 4 Term 2	SCRATCH – ‘IF’ Block		
	If algorithm quiz variable control block commands debug		

Links to prior learning	Year 3 term 2, year 4 term 1		
To identify risk of installing apps ONLINE SAFETY PURPLE MASH LESSON 2	Should we download any app on any device?	To identify the risks and benefits of installing software including apps.	Children can identify possible risks of installing free and paid for software. • Children know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer
To recreate and edit scripts	How have these quizzes been created in Scratch? What blocks have been used in the algorithms? https://www.bbc.co.uk/bitesize/topics/zs7s4wx/articles/zw3dwmn	To recognise the role of blocks in 'Scratch'.	Can they explain that role of each block in 'Scratch'?
To create an algorithm for a quiz	What blocks will we need if we want to create a quiz in Scratch? https://scratch.mit.edu/	To create a simple game. To add a score variable.	Can they decide what makes a 'good' game?
To predict an algorithms outcome	What does the 'if' block do in Scratch? https://scratch.mit.edu/	To predict outcomes of algorithms.	Can they explain the function of blocks in 'Scratch'?
To create an algorithm with the 'if' block	What games can we create that includes the 'if' block in it? https://scratch.mit.edu/	To use the 'if' block in 'Scratch'. To edit and amend scripts in 'Scratch' to create own games.	Can they decide what makes a 'good' game?
Year 4 Terms 3 & 4	PURPLE MASH – EFFECTIVE SEARCHING/HARDWARE INVESTIGATORS		
	Internet internet browser search engine spoof website CPU Ram monitor speaker keyboard		
Links to prior learning	Year 2 term 2		
Learning objectives	Context	Skills	Knowledge
To know what plagiarism is	Is it OK to copy someone else's work online?	To identify appropriate behaviour when participating or	Can they understand that copying the work of others and presenting it as their own is called

PURPLE MASH ONLINE SAFETY LESSON 3		contributing to collaborative online projects for learning	'plagiarism' and to consider the consequences of plagiarism.
To locate information on the search results page.	What should we type in when we want to search for....	Children can structure search queries to locate specific information.	
To use search effectively to find out information.	What questions can we ask when searching the internet?	Children have used search to answer a series of questions. • Children have written search questions for a friend to solve.	
To assess whether an information source is true and reliable	Is what we read online always reliable?	Children can analyse the contents of a web page for clues about the credibility of the information.	
To understand the different parts that make up a desktop computer.	What are the different parts of a computer called?		Children can name the different parts of a desktop computer. • Children know what the function of the different parts of the computer is
To recall the different parts that make up a computer.	How can we explain to others what the different parts of a computer are called and what they do?		
Year 4 Terms 5 & 6	PURPLE MASH - SPREADSHEETS		
	Columns cells copy and paste formula charts		
Link to prior learning			
Learning objectives	Context	Skills	Knowledge
To recognise health screen time	Can you spend too much time online?	To recognise how you feel when spending too much time in front of a screen	Can Children can give reasons for limiting screen time.

<p>PURPLE MASH ONLINE SAFTEY LESSON 4</p>			
<p>To explore how the numbers entered into cells can be set to either currency, decimal or fraction. • To explore the use of the display of decimal places. • To find out how to add formulae to a cell.</p>	<p>What is a spreadsheet and what do we use it for?</p>	<ul style="list-style-type: none"> • Children can use the number formatting tools within 2Calculate to appropriately format numbers. • Children can add a formula to a cell to automatically make a calculation in that cell. 	
<p>To explore how tools can be combined to use 2Calculate to make number games. • To explore the use of the timer, random number and spin button tools</p>	<p>What are the different tools that can be used in a spreadsheet?</p>	<ul style="list-style-type: none"> • Children can combine tools to make fun ways to explore number. 	<p>Children can use the timer, random number and spin button tools.</p>
<p>To use the line graphing tool in 2Calculate with appropriate data. • To interpret a line graph to estimate values between data readings.</p>	<p>How else can data be represented? What is a line graph and how do we use them?</p>	<p>Children can use a series of data in a spreadsheet to create a line graph.</p>	<p>Children can use a line graph to find out when the temperature in the playground will reach 20°C</p>
<p>To use the currency formatting tool in 2Calculate. • To use 2Calculate to create a</p>	<p>What is a budget? How can a spreadsheet help us to keep to a budget?</p>	<p>Children can make practical use of a spreadsheet to help them plan actions.</p>	<ul style="list-style-type: none"> • Children can use the currency formatting in 2Calculate

model of a real-life situation			
To use the functions of allocating value to images in 2Calculate to make a resource to teach place value.	How can we use a spreadsheet to help us in maths?	Children can allocate values to images and use these to explore place value. • Children can use a spreadsheet made in 2Calculate to check their understanding of a mathematical concept.	
Year 5 Term 1	PURPLE MASH - CODING		
	Action algorithm abstraction decomposition function		
Links to prior learning	Year 1 term 6 Year 2 term 1 Year 3 term 1 Year 4 term 1		
Learning objectives	Context	Skills	Knowledge
To know how to get support online PURPLE MASH ONLINE SAFETY LESSON 1	Where can we get support if we are in trouble online?		Children critically about the information that they share online both about themselves and others. • Children know who to tell if they are upset by something that happens online. • Children can use the SMART rules as a source of guidance when online
To begin to simplify code. To create a playable game.	How can we make our coding simpler?	• • Children can use variables in their code. Children can create a simple playable game	Children can use simplified code to make their programming more efficient.
To understand what a simulation is. • To program a simulation using 2Code	What is a simulation?	Children can plan an algorithm modelling the sequence of traffic lights. Children can select the right images to reflect the simulation they are making. Children can use their plan to	

		program the simulation to work in 2Code	
To know what decomposition and abstraction are in Computer Science.	What are decomposition and abstraction? How can they help with problem solving?	Children can make good attempts to break down their task into smaller achievable steps.	<ul style="list-style-type: none"> Children recognise the need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task
To understand how to use friction in code. • To begin to understand what a function is and how functions work in code.	What is a function in a piece of code?	<ul style="list-style-type: none"> Children can create a program which represents a physical system. Children can create and use functions in their code to make their programming more efficient. 	
To understand what the different variable types are and how they are used differently. • To understand how to create a string	What are the different variable types?	Children can create and use strings in programming. • Children can set/change variable values appropriately.	<ul style="list-style-type: none"> Children know some ways that text variables can be used in coding.
To begin to explore text variables when coding. • To understand what concatenation is and how it works.	What is concatenation in coding?	Children can create a string and use it in their program. • Children can use strings to produce a range of outputs in their program.	
Year 5 Term 2	SCRATCH – CREATING A MAZE		
	Algorithm Repeat Sequence Blocks Sprite script sensing forever Variable Score Function		

Links to prior learning	Year 3 term 2, Year 4 term 2		
Learning objectives	Context	Skills	Knowledge
<p>To learn about how to reference sources in their work.</p> <p>ONLINE SAFETY PURPLE MASH LESSON 3</p>	<p>What should you do when you use information from the internet to show that you have got it from there and that it is not your own?</p>	<p>Children can cite all sources when researching and explain the importance of this. • Children select keywords and search techniques to find relevant information and increase reliability.</p>	
<p>To create a maze in Scratch</p>	<p>What blocks will we need to create a maze game in Scratch? https://scratch.mit.edu/</p>	<p>To create a life variable in 'Scratch'. To de-bug algorithms. Can they recognise when something does not work in a game? To use variables. To predict an algorithm's purpose.</p> <p>To create a password algorithm in 'Scratch'. Can they explain the purpose of passwords and the risks of having a weak password?</p>	
<p>To use the 'sensing' block in Scratch</p>	<p>What does the 'sensing' block do in an algorithm? https://scratch.mit.edu/</p>	<p>To use the 'sensing' blocks in a 'Scratch' maze game. To predict an algorithm's purpose.</p>	

To introduce a variable in a game	What will happen if the sprite touches the side of the maze? https://scratch.mit.edu/	To edit an algorithm. To use variables To create a life variable in 'Scratch'. To de-bug algorithms.	Can they recognise when something does not work in a game?
To create own ideas (2 lessons)	How can you make your game more unique? What extra algorithms can you create for your maze game? https://scratch.mit.edu/	To create algorithms To debug when it does not work To use variables	
To create a platform game (2 lessons)	How can we use what we have learnt to create a simple platform game? https://scratch.mit.edu/	To create algorithms To debug when it does not work To use variables To use appropriate blocks correctly in an algorithm	Can they understand the purpose of the different blocks?
Year 5 Terms 3 & 4	PURPLE MASH WORD PROCESSING - WORD		
	Cursor document font text formatting word processing template		
Links to prior learning	Year 3 terms 5 & 6		
Learning objectives	Context	Skills	Knowledge
To understand how to ensure reliability in communication ONLINE SAFETY LESSON PURPLE MASH LESSON 4	What methods of communication should we use to ensure information shared is reliable?		Children show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each.
To know what a word processing tool is for.	What do we use word processing for?	<ul style="list-style-type: none"> Children will be able to create a word processing document altering the look of the text and 	Children know what a word processing tool is for.

		navigating around the document.	
To add and edit images to a word document	How can we add images?	<ul style="list-style-type: none"> • Children can edit images to reduce their file size. • • 	<p>Children know how to add images to a word document.</p> <p>Children know the correct way to search for images that they are permitted to reuse.</p> <p>Children know how to attribute the original artist of an image</p>
To know how to use word wrap with images and text.	What is word wrap?	Children can edit their images within Word to best present them alongside text.	Children understand wrapping of images and text.
To change the look of text within a document	How do we change the text in a document?	<p>Children can add appropriate text to their document, formatting in a suitable way. •</p> <p>Children can use a style set in Word. • Children can use bullet points and numbering</p>	
• To add features to a document to enhance its look and usability.	What else can we add to our document?	<p>Children can add text boxes and shapes. • Children can consider paragraph formatting such as drop capitals. • Children can add hyperlinks to an external website</p>	
To use tables within MS Word to present information.	How can we add a table to a document?	<p>Children can add tables to present information. • Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns. •</p> <p>Children can add word art for a heading.</p>	
Year 5 Terms 5 & 6	PURPLE MASH - SPREADSHEETS		

	Charts rows formula columns spreadsheet equals tool		
Link to prior learning	Year 4 terms 5 & 6		
Learning objectives	Context	Skills	Knowledge
<p>To understand how to protect privacy</p> <p>ONLINE SAFETY LESSON 2 PURPLE MASH</p>	How can we stay safe online?	<p>To know how to maintain secure passwords.</p> <p>To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.</p>	<p>Children think critically about what they share online, even when asked by a usually reliable person to share something.</p> <p>Children have experienced how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge.</p>
To use formulae within a spreadsheet to convert measurements of length and distance.	What is a formulae and how can we use it to help with maths?	Children can create a formula in a spreadsheet to convert m to cm.	<ul style="list-style-type: none"> Children can apply this to creating a spreadsheet that converts miles to km and vice versa.
To use the count tool to answer hypotheses about common letters in use	How can we find out quickly how many of something there are?	Children can use a spreadsheet to work out which letters appear most often. • Children can use the 'how many' tool.	
<ul style="list-style-type: none"> To use a spreadsheet to model a real-life problem. • To use formulae to calculate area and perimeter of shapes 	How can we use a spreadsheet to help us with real life scenarios?	<p>Children can use a spreadsheet to work out the area and perimeter of rectangles. •</p> <p>Children can use these calculations to solve a real-life problem.</p>	
To create formulae that use text variables	What formulae can we create?	Children can create simple formulae that use different variables. • Children can create	

		a formula that will work out how many days there are in x number of weeks or years	
To use a spreadsheet to help plan a school cake sale.	How can we plan a sale using a spreadsheet?	<ul style="list-style-type: none"> Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied 	
Year 6 Terms 1	PURPLE MASH YEAR 3 EMAILS		
	Communication email compose attachment send cc		
Link to prior learning			
Learning objectives	Context	Skills	Knowledge
To understand how to use social media sensibly	<p>What different social media are you aware of? How old should you be to use them? What should we think about when using them?</p> <p>Use Jigsaw 8-10s, Film (teachertube.com) to discuss the issues</p>		Can they explain how we can communicate effectively through social media?
To open emails	<p>How do we open an email?</p> <p>How do we respond to an email?</p>	<p>To open and respond to an email.</p> <ul style="list-style-type: none"> To write an email to someone from an address book 	Children know how to open and respond to an email.
To know what an attachment is	How can we send a document with an email?	To attach a document	Children know what CC means and how to use it.
To send emails	What do you do in an email scenario?	<p>To read and respond to a series of email communications.</p> <ul style="list-style-type: none"> To attach files appropriately and use email communication to explore ideas. 	Children understand when to use CC or BCC
Year 6 Term 2	PURPLE MASH - NETWORKS		
	Network world wide web router LAN WAN wireless		

Link to prior learning			
Learning objectives	Context	Skills	Knowledge
To understand how to protect yourself when online ONLINE SAFETY LESSON PURPLE MASH 1	What methods can you use to protect yourself when online?	To identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon	Children have used the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing, and other email scams.
• To discover what the children know about the Internet	What is the internet?		Children know the difference between the World Wide Web and the Internet. • Children can provide examples of the difference between the World Wide Web and the Internet
To find out what a LAN and WAN are. • To find out how we access the internet in school.	Are all internet networks the same?		Children know about their school network. • Children can explain the differences between more than two network types such as: LAN, WAN, WLAN and SAN.
Year 6 Term 3	ANIMATION		
	Story board Animation Camera Images Audio Stop-motion stereotypes		
Links to prior learning			
Learning objectives	Context	Skills	Knowledge
To understand what stereotypes are	What role does online media have in conveying stereotypes of boys and girls?		Can they understand that not everything that they see online should be believed as the truth and/or represent reality?

To plan a storyboard for an animation	How are animations such as Wallace and Gromit created? What story will you tell in a short animation? https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/zyb72hv	To map out a storyboard.	Can children explain how stop-motion animation works?
To use an animation software	How do you combined images together to make an animation? How much should the models be moved for each image?	To take images To move a model to be animated small amounts To combine images to create an animation.	
To combine sounds to an animation	How can we add to the animation created?	To add sound to an animation	
To consider the appropriateness of apps	What are the risks involved in online apps?		Can children understand the risks involved in using apps?
Year 6 Term 4	PURPLE MASH - BLOGGING		
	Audience blog blogging post collaborative		
Links to prior learning	Year 5 terms 3 & 4		
Learning objectives	Context	Skills	Knowledge
To understand how to deal with cyberbullying	What would you do if you were receiving messages from someone and they were unkind? https://www.bbc.co.uk/teach/class-clips-video/pshe-ks2-text-bullying/zvgdt39		Can they offer advice to others on what to do if someone is abusive online?
To identify the purpose of writing a blog. • To identify the features of successful blog writing.	What is a blog?		Children understand how a blog can be used as an informative text. • Children understand the key features of a blog
To plan the theme and content for a blog	What could you create a blog about?		

To understand how to write a blog and a blog post. • To consider the effect upon the audience of changing the visual properties of the blog. • To understand how to contribute to an existing blog	What should your blog look like?	Children can create a blog or post with a specific purpose. •	Children understand that the way in which information is presented has an impact upon the audience.
To understand the importance of commenting on blogs. • To peer-assess blogs against the agreed success criteria. • To understand how and why blog posts and comments are approved by the teacher	What might you write on someone else's blog?	• Children can post comments and blog posts to an existing class blog. • • Children can assess the effectiveness and impact of a blog. •	Children understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. Children understand that content included in their blog carefully considers the end user.
Year 6 Terms 5 & 6	PURPLE MASH - SPREADSHEETS		
	Calculate formula range value sum cell reference		
Links to prior learning	Year 4 terms 5 & 6, Year 5 terms 5 & 6		
Learning objectives	Context	Skills	Knowledge
To Recognise appropriate behaviour online	What is appropriate behaviour online?		To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online

PURPLE MASH ONLINE SAFETY LESSON 2			dangers, bullying and inappropriate behaviour
To know what a spreadsheet looks like. To navigate and enter data into cells.	What is a spreadsheet? What is Excell?	Children can navigate around a spreadsheet using cell references. • Children can enter data into cells. •	Children know some uses of a spreadsheet tool. Children understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook
To introduce some basic data formulae in Excel. To demonstrate how the use of Excel can save time and effort when performing calculations.	What is a formulae?	Children can use a spreadsheet to carry out basic calculations including addition, subtraction, multiplication and division formulae. Children can use the series fill function.	Children recognise how using formulae allows the data to change and the calculations to update automatically.
To use a spreadsheet to model a situation	What is the SUM function?	Children can use a spreadsheet to model a situation. • Children can use a spreadsheet to solve a problem. • Children can use the SUM function	
To demonstrate how Excel can make complex data clear by manipulating the way it is presented.	How can we present the data in different ways?	Children can use a variety of methods including flash fill, convert text to tables and splitting cells for organising and presenting their data in a spreadsheet. •	Children know what is meant by a delimiter. Children understand how to sort data.
To create a variety of graphs in Excel	What charts and graphs can be created using Excel?	Children gain an understanding of how a graphical representation can make data easier to interpret.	Children know that there are ways to represent their data graphically and that Excel can make these calculations for them.

		Children make a chart using Excel recommendations. Children illustrate their data using sparklines and data bars.	
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