Computing Matrix

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2				
1	Computing systems and	Programming	g 1 Programming 2	Creating Media	Data Handling	Skills showcase				
	networks									
	 Improving Mouse Skills Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private 	 Algorithms Unplugged Understand w algorithms are how they are implemented a programs on digital devices that programs execute by following prec and unambiguinstructions Create and det simple program Use logical reasoning to predict the behaviour of simple program 	e, behaviour of simple programs. as Use technology purposefully to create, organise, store, manipulate and retrieve digital content uous Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and	 Digital Imagery Use logical reasoning to predict the behaviour of simple programs Use technology purposefully to create, organise, store, manipulate and retrieve d igital content Recognise common uses of Information technology beyond school Identify where to go for help and support when they have concerns about content o r contact on the internet or other online technologies 	 Introduction to Data Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school 	 Rocket to the Moon Use technology purposefully to create, organise, store, manipulate and retrieve digital content Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions 				
			simple programs							
	Year 1 Online Safety									
	Using the Internet Safely Understand what the internet is 		nline Emotions Recall what the internet is	Always Be Kind and Con Recall the top tips for 	• •					
	 Know how to offer advice to anyone that is being treated unkindly online Know who to go to when I need help and Pro 		Recognise advice to stay happy an safe online Provide advice on ways to stay hap and safe online	d internet safely Recognise how action 	is on the order of my of the order of my of posting of posting of the order of my of posting of the order of my of posting of the order	' information online and what 'digital footprint' means se the information types of my own				

'ear	Autumn 1 Au		mn 2		Spring 1		Spring 2	Summer	1	Summer 2
2	Computing systems Compu		g systems	Prog	gramming 1	Pr	ogramming 2	Data handl	ing	Creating Media
			works 2							
	What is a computer?	Word Proc	•	Algorithms and D		Programming: Scratch		International		Stop Motion
	 Recognise 		chnology		hat algorithms are, how	JR		Space Statio	n	 Use technology
	common uses of		efully to		emented as programs on		e logical	• Use		purposefully to
	information		organise,	-	, and that programs		asoning to predict	technolo	•	create, organise,
	technology	store,			lowing precise and		e behaviour of	purposef		store, manipulate
	beyond school	•	ulate and	unambiguous			nple programs	to create		and retrieve digital
	Use technology	conten	e digital		bug simple programs is by decomposing them		eate and debug nple programs	organise,	,	contentRecognise common
	purposefully to create, organise,	 Recogn 	-	•	, , ,		inderstand what	store,	ato	 Recognise common uses of information
	store,	•	on uses of	into smaller partsDesign, write and debug programs the			gorithms are; how	manipulate and retrieve digital		technology beyond
	manipulate and	informa			ecific goals, including	they are				school
	retrieve digital	techno			simulating physical		plemented as	content		 Use technology
	content		d school	systems; solve	systems; solve problems by programs on digital			safely and		
	 Use logical 	Use tec	chnology	decomposing	them into smaller parts	de	vices; and that			respectfully, keeping
	reasoning to	safely a	and	Use sequence	and repetition in		ograms execute			personal information
	predict the	respect	tfully,	programs			following precise			private
	behaviour of		g personal	-	asoning to explain how		d unambiguous			
	simple programs	informa		•	lgorithms work	ins	structions			
		private	2	-	asoning to predict the					
				benaviour of s	imple programs			[
					Year 2 Online Safet	У				
	What happens when I	post H	low do I kee	ep my things safe	Who should I ask?		It's my choice		ls it t	rue?
	online?	-	online?		Understand why I as	k	Explain why I h			explain the difference
	Explain what online	e 🔹		nat passwords are	permission		right to say no			between things that are
	information is for			Explain who I need to a						imaginary', 'made up' or
	• Know what is safe	to share •	•	now to create a	permission from befo		if I am unsure			make believe' and those
	online		strong pa		sharing content onlin		pressure to do	-	-	hat are true or real
	• Know who to talk t			nat information is	Explain people's feeli	ngs it	Explain why I r			xplain why some nformation I find online
	something is share makes me feel sad		•	nd can explain n keep this private	I share things online without their permiss	sion	trusted adult k clicking 'accep			nformation i find online nay not be true
	worried	01	HOW I Cal	n keep this private	without their permis	SION	clicking accep	ι		Explain why people may
	worrica									post things online that are
										not true

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
3	Computing systems and networks	Computing systems and networks	Programming	Creating media	Handling data	Computing systems and networks
	Emailing	Journey Inside a Computer	Programming	Digital Imagery	Comparison Cards Databases	Networks
	 Understand 	 Design, write and debug 	Scratch	 Select, use and combine a variety 	 Select, use and combine a 	 Understand
	computer	programs that accomplish	 Use logical 	of software (including internet	variety of software (including	computer networks,
	networks,	specific goals, including	reasoning to	services) on a range of digital	internet services) on a range of	including the
	including the	controlling or simulating	explain how some	devices to design and create a	digital devices to design and	internet; how they
	internet;	physical systems; solve	simple algorithms	range of programs, systems and	create a range of programs,	can provide multiple
	 Use search 	problems by decomposing	work and to detect	content that accomplish given	systems and content that	services, such as the
	technologies	them into smaller parts	and correct errors	goals, including collecting,	accomplish given goals,	World Wide Web,
	effectively,	 Use sequence, selection, 	in algorithms and	analysing, evaluating and	including collecting, analysing,	and the opportunities
	appreciate how	and repetition	programs	presenting data and information	evaluating and presenting data	they offer for
	results are	in programs; work with	 Design, write and 	 Use search technologies 	and information	communication and
	selected and	variables and various forms	debug programs	effectively, appreciate how results	Understand computer networks	collaboration
	ranked, and be	of input and output	that accomplish	are selected and ranked, and be	including the internet; how they	 Select, use and
	discerning in	 Select, use and combine a 	specific goals,	discerning in evaluating digital	can provide multiple services,	combine a variety of
	evaluating digital	variety of software	including	content	such as the world wide web; and	software (including
	content	(including internet services)	controlling or	• Use technology safely, respectfully	the opportunities they offer for	internet services) on
	 Use technology 	on a range of digital devices	s simulating physical	and responsibly; recognise	communication and	a range of digital
	safely,	to design and create a	systems; solve	acceptable/unacceptable	collaboration	devices to design and
	respectfully and	range of programs, systems		behaviour; identify a range of ways	 Use search technologies 	create a range of
	responsibly;	and content that	decomposing them	to report concerns about content	effectively, appreciate how	programs, systems
	recognise	accomplish given goals,	into smaller parts	and contact.	results are selected and ranked,	and content that
	acceptable/unacc	including collecting,	 Use sequence, 	 Solve problems by decomposing 	and be discerning in evaluating	accomplish given
	eptable	analysing, evaluating and	selection, and	them into smaller parts	digital content	goals, including
	behaviour;	presenting data and	repetition	• Design, write and debug programs	 Use technology safely, 	collecting, analysing,
	identify a range	information	in programs; work	that accomplish specific goals,	respectfully and responsibly;	evaluating and
	of ways to report	 Use logical reasoning to 	with variables and	including controlling or simulating	recognise	presenting data and
	concerns about	explain how some simple	various forms of	physical systems; solve problems	acceptable/unacceptable	information
	content and	algorithms work and to	input and outputs	by decomposing them into smaller	behaviour; identify a range of	
	contact	detect and correct errors in		parts	ways to report concerns about	
		algorithms and programs			content and contact	
				Year 3 Online Safety		
	Beliefs, opinions and facts on the internet When b		being online makes me u	pset Sharing of Information	Rules of Social Me	dia Platforms
	Understand that	not all information on Under	stand that being on the in	ternet • Understand what 'priva	acy settings' are • Understand w	hat social media
	the internet is tru	ue can af	fect my mood	Recognise that devices	can platforms are	used for
	• Explain the terms	s 'belief', 'opinion' Recog	nise steps to take in dealin	g with communicate with one	e another to • Recognise why	/ social media platforms
	and 'fact'	matte	rs on the internet that ups	et me share personal informa	ation are age-restric	ted
	• Use key phrases	within a search Explor	e other methods to seek h	elp when • Explain what 'autocom	plete' is and how • List some top	tips on using social media
	engine to produc	e accurate results dealin	g with issues on the intern	et to choose the best sug	gestion platforms for	people to stay safe

r	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
	Computer systems and	Programming 1	Creating Media	Skills Showcase	Data Handling	Programming 2	
	Networks						
	Collaborative Learning	Further Coding with	Website Design	HTML	Investigating Weather	Computational	
	 Collaborative Learning Understand computer networks, including the internet; 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 	 Further Coding with Scratch Design, write and debug programs that accomplish specific goals, including 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 Use sequence, selection, and repetition in programs; work with variables 	 Website Design 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 Use technology safely, respectfully and responsibly; recogn ise acceptable/unacce ptable behaviour; identify a range of ways to report 	 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems Solve problems by decomposin g them into smaller parts 	 Investigating Weather Use search technologies effectively, appreciate how resu are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variet 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 Design, write and debug program that accomplish specific goals, including controlling or simulatin physical systems; solve problem by decomposing them into smal parts Use sequence, selection, and repetition in programs; work with 	ThinkingIts• Use logical reasoning to explain how some simple algorithmswork and to detect and correct errors in algorithms and programs• Design, write and debug programs• Design, write and debug programs• Design, write and grograms• Design, write and debug programs• Design, write and grograms• Design, write and debug programs• Design, write and 	
	data and information	and various forms of input and output	concerns about content and contact		variables and various forms of input and output		
Ī			Year 4 Onli	ne Safety	1		
Ī	What happens when I search	How do companies encoura	age us Fact, opinion or be	elief W	hat is a bot? Wha	at is my tech timetable like?	
	online?	to buy online?	Explain the dif	ference •	Explain what a 'bot' is • E	-	
	 Describe how to search for information on search engines, social media and image and video sites Make judgments about the accuracy of the information I am presented with 	 Describe some method: by companies such as 'i purchases' and 'pop-up Recognise some of thes when they appear Think about ways to ave purchases 	n-app beliefs s' Make my own about what I r online	Judgments	Describe the benefits and the risk of using bots now and in the future S	be both a positive and negative distraction Recognise the amount of ime I spend on technology Suggest strategies to help imit time spent on echnology	

Year	Autumn 1	Autumn 2	ç	Spring 1	Spring 2	2	Summer 1	Summer 2	
5	Creating media	Programming 1	Computi	ng systems and	Programmir	ng 2	Data handling	Skills Showcase	
				etworks					
	Search Engines		Micro:bit		Stop motion		Mars Rover 1	Mars Rover 2	
	 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) to create content that accomplishes given goals, including collecting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	 Design, write and debug programs that accomplish specific goals Use sequence, selection, and repetition in programs, work wit variables and various forms of input and output Select, use and combine a variety of software (including internet 	 Design, write and debug programs that accomplish specific goals use sequence, selection, and repetition in programs Solve problems by decomposing them into smaller parts Use sequence and repetition in programs; work with 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 Work with variables and 		 animation Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller part. 		 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 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	 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 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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	
			various	s forms of input	line Safety				
	Online protection	Online communication			,	Online	Bullying	Online Health	
	Online protectionUnderstand the importance	 Online communication Understand different 	types of	 Online Reputation Understand whether the second secon			cognise differences	 Identify the advantages and 	
	 of keeping passwords safe Identify that passwords are needed for access to 'apps' Explore how apps require permission to access private information Know how to alter the permissions apps require 	 Onderstand unreferit types of online communication Become aware of some of the different types of online communication Recognise the positive and negative forms of online communication 		search persona about others o I know how to personal inforr others online	al information online o search for mation about inions about the he information in • R		tween online and offline llying scribe some of the ferences between online d offline bullying entify ways to help those ing bullied online call organisations and ople who can help with line bullying issues	 disadvantages technology has to health (mental and/or physical) Research advice and ways to support others with their online health and wellbeing Know where I can go to for support if my wellbeing is being negatively affected by technology 	

r	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Creating Media	Computing systems and networ	rks Programming	Data handling	Data handling	Skills Showcase
		letchley Park Solve problems by decompos them into smaller parts Design, write and debug programs that accomplish specific goals, including controlling or simulating phys systems; solve problems by decomposing them into small parts Use sequence, selection, and repetition in programs; work with variables and various for of input and output Use logical reasoning to expla how some simple algorithms work and to detect and corre errors in algorithms and programs	Intro to Python Sing Solve problems by decomposing then into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Design, write and debug programs that accomplish specific goals, including ect controlling or simulating physica systems; solve problems by decomposing then into smaller parts	Big Data 1 • Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communicatio n and collaboration	Data handlingBig Data 2• 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• 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	Skills ShowcaseInventing a Product• 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 and programs.• 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
	for communication and	and information				and information
	collaboration.					
			Year 6 Online	Safety		
	 Life Online Describe scenarios that could make someone feel sad, worried, uncomfortable or frightened Give examples of how to get help online and offline Explain the importance of 	Describe how to be	 online reputation Describe what a positive online 	 Capturing Evidence Know a range of strategies to collect evidence Know who to share evidence with to help me 	 Password Protection Know how to create strong password Know a range of strafor managing my passwords Explain what to do it password is shared, 	to increase my privacy settings Explain why I should keep my software updated