

EYFS

Computing at Ashmole Primary in Reception.

Foundation: Many activities in the early years revolve around children developing an understanding of their environment. Settings encourage children to explore, observe, solve problems, predict, discuss and consider. Computing resources can provide tools for using these skills as well as being examined in their own right, with computers not the only resources. Equipment is added to role-play and free choice activities throughout the children's day. These can reflect the real world, build on children's experiences and allows them opportunities to understand how, why, when and where different forms of technology are used in everyday life.

By the end of the Foundation Stage most children will:

- · Show an interest in Computing.
- · Know how to operate simple equipment.
- · Complete a simple program on a computer.
- Use Computing hardware to interact with age-appropriate computer software.
- Recognise that a range of technology is used in places such as homes and schools.
- Select and use technology for particular purposes.



Computing Whole School Curriculum Map

Year group: 1

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic of	We are treasure	We are TV chefs	We are digital artists	We are publishers	We are rhythmic	We are detectives
the term	<u>hunters</u>					
Computing	Pupils learn:	Pupils learn to:	Pupils learn:	Pupils learn to:	Pupils learn to:	Pupils learn:
Units						
	• that a	 break down a 	 how to select and 	• plan a small	• record audio on an	 how data can be
	programmable robot	process into simple,	set brushes and	multimedia eBook	iPad	structured as records
	can be controlled by	clear steps (an	colours	 choose and import 	 program sprites 	with fields for
	inputting a sequence	algorithm)	 to create artwork in 	images	to playback	information
	of instructions	 use different 	a range of styles on	 record audio 	recorded audio in	
	 to develop and 	features of a video	iPads • to use the undo	commentary	ScratchJr	 how data can be
	record sequences of	camera	function if they make	 add and format 	• program	organised into groups
	instructions as an	 use a video camera 	mistakes, and to	titles and other text	ScratchJr to	and subgroups
	algorithm	to capture moving	encourage	 think carefully 	create repeating	 how data can be
	• to program a	images.	experimentation	about protecting their	rhythms using	structured as a tree
	robot to follow	 edit a video to 	 to use multiple 	privacy • respect	recorded audio	 how data can be
	their algorithm	include an audio	layers in their art	other people's	 explore different 	organised into a table
	 to debug 	commentary	 to transform layers 	copyright	effects that can be	 how data in a table
	programs	 develop 	 to paint on top of 	 revise and improve 	applied to audio	can be filtered and
	 to predict how 	collaboration skills.	photographs	their work	• create a	searched.
	their programs will	 discuss their work 			repeating	
	work	and think about how it	Use technology	Use technology	percussion pattern	 Use technology
		could be improved.	purposefully to create,	purposefully to create,	using a virtual drum	purposefully to create,
	 Understand what 		organise, store,	organise, store,	machine	organise, store,
	algorithms are; how	Understand what	manipulate and	manipulate and	 experiment with a 	manipulate and
	they are	algorithms are.	retrieve digital	retrieve digital	range of virtual	retrieve digital
	implemented as		content.	content.	instruments.	content.
	programs on digital	 Use technology 	 Recognise common 	 Use technology 		 Use technology
	devices; and that	purposefully to create,	uses of information	safely and	 Use technology 	safely and
	programs execute	organise, store,	technology beyond	respectfully, keeping	purposefully to	respectfully, keeping
	them by following	manipulate and	school.	personal information	create, organise,	personal information
	precise and			private; identify where	store, manipulate	private; identify where

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uses of information technology beyond school.		content or contact on the Internet or other online technologies. Recognise common uses of information technology beyond school.	uses of information technology beyond school. • Understand what algorithms are.	have concerns about content or contact on the Internet or other online technologies. Recognise common uses of information technology beyond school.	
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to:					
•	re implemented as program	s on digital devices; and t	hat programs execute b	by following precise and	
ns					
nple programs to predict the behaviou	or of simple programs				
•	ise, store, manipulate and i	retrieve digital content			
es of information techni	•				
	ing personal information pr	rivate; identify where to g	o for help and support	when they have	
	rnet or other online techno	• •			
Graphics Use ICT to generate ideas for their work. Use various tools such as brushes, pens, rubber, stamps, shapes. Save, retrieve and print work. Text Use spacebar, backspace, delete, arrow keys, return. Start to use two hands when typing. Word process short texts to present. Sound recording Record sound at and away from a computer.					
Use software to record sounds. Change sounds recorded. Save, retrieve and edit sounds. Video Capture video. Discuss which videos to keep and which to delete. Arrange clips to create a short film. Add a title and credits. Presentation Choose a suitable subject and collect some information.					
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Year Group :2

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic of	We are astronauts	We are games testers	We are photographers	We are safe	We are animators	We are zoologists
the term				<u>researchers</u>		
Computing	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn to:
units	 plan a sequence 	 observe and describe 	 consider the 	 develop collaboration 	 understand how 	 sort and classify a
	of instructions to	carefully what happens	technical and artistic	skills through working	animation works	group of items by
	move sprites in	in computer games	merits of photographs	as part of a group	 use storyboards 	answering questions
	ScratchJr	 use logical reasoning 	 use the iPad camera 	 develop research 	to plan an animation	 collect data using
	 create, test and 	to make predictions of	арр	skills through	 create their own 	tick charts or tally
	debug programs for	what a program will do	 take digital 	searching for	original characters,	charts
	sprites in	and test these	photographs	information on the	props and	 take, edit and
	ScratchJr	predictions	 review, reject or 	Internet	backgrounds for an	enhance photographs
	 work with input 	 think critically about 	pick the images they	 think through privacy 	animation	 use Google Sheets
	and output in	compute	take	implications of their	 film, review and 	or Microsoft Excel to
	ScratchJr	r games and their use	 edit and enhance 	use of search engines	edit a stop-motion	produce basic charts
	 use repetition in 	 create sequences of 	their photographs	 be more discerning 	animation	 record information
	their programs •	instructions for a		in evaluating online	 record audio to 	on a digital map
	design costumes for	virtual robot to solve a		information	accompany their	 summarise what they
	sprites.	problem	Use technology	 improve note-taking 	animation	have learned in a
		 work out strategies 	purposefully to create,	skills through the use	 provide 	presentation.
		for playing a game well	organise, store,	of mind mapping	constructively	
	 Understand what 	 be aware of how to 	manipulate and	 develop presentation 	critical feedback to	 Use technology
	algorithms are; how	use games safely and in	retrieve digital	skills through creating	their peers.	purposefully to create,
	they are	balance with other	content.	and delivering a short		organise, store,
	implemented as	activities.	 Recognise common 	multimedia		manipulate and
	programs on digital	Understand what	uses of information	presentation.		retrieve digital
	devices; and that	algorithms are; how	technology beyond		Use technology	content.
	programs execute	they are implemented	school.	se technology	purposefully to	 Recognise common
	them by following	as programs on digital	 Use technology 	urposefully to create,	create, organise,	uses of information
	precise and	devices; and that	safely and	rganise, store,	store, manipulate	technology beyond
	unambiguous	programs execute	respectfully, keeping	anipulate and retrieve	and retrieve digital	school.
	instructions.	them by following	personal information	igital content.	content.	

Recognise common uses of information	Recognise common uses of information	Use technology safely and
technology beyond	technology beyond	respectfully, keeping
school.	school.	personal information
 Use technology safely and 	 Use technology safely and 	private; identify where to go for help and
respectfully, keeping	respectfully,	support when they
personal information	keeping personal	have concerns about
private; identify where	information private;	content or contact on
to go for help and	identify where to go	the Internet or other
support when they have concerns about	for help and support when they have	online technologies.
content or contact on	concerns about	

content or contact

on the Internet or

other online technologies.

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Links to National Curriculum

- English
- Maths
- Science
- PE
- Art and Design

• Create and debug

reasoning to predict

simple programs.

the behaviour of

simple programs.

• Use logical

precise and

unambiguous

instructions.

to predict the

programs.

school.

safely and

private.

· Use logical reasoning

behaviour of simple

• Recognise common

uses of information

technology beyond

Use technology

respectfully, keeping

personal information

Pupils should be taught to:

• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions

the Internet or other

online technologies.

private; identify where

to go for help and

support when they

have concerns about

content or contact on

the Internet or other

online technologies.

- * 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
- * recognise common uses of information technology beyond school
- * 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 technology.



Skills

Graphics Use ICT to generate ideas for their work. Use various tools such as brushes, pens, rubber, stamps, shapes. Save, retrieve and print work. Text Use spacebar, backspace, delete, arrow keys, return. Start to use two hands when typing. Word process short texts to present. Sound recording Record sound at and away from a computer.

Use software to record sounds. Change sounds recorded. Save, retrieve and edit sounds. Video Capture video. Discuss which videos to keep and which to delete. Arrange clips to create a short film. Add a title and credits. Presentation Choose a suitable subject and collect some information. Create a mindmap of this data or slide show. Present the information to a group. Be able to store and retrieve data.



Year Group :3

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic of	<u>We are</u>	We are bug fixers	We are presenters	We are who we are	We are co-authors	We are opinion
the term	<u>programmers</u>					<u>pollsters</u>
Computing	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn to:
units	 plan and create 	 develop a number 	 develop their web- 	 create a number of 	 understand the 	 understand some
	an algorithm for an	of strategies for	based research skills	structured	conventions for	elements of survey
	animated scene in	finding errors in	 structure, prepare 	presentations	collaborative online	design
	the form of a	programs	and deliver a talk	• narrate	work, particularly in	 understand some
	storyboard	 build up resilience 	about a given topic or	presentations	wikis	ethical and legal
	 write a program 	and strategies for	subtopic studied in	 consider issues of 	 be aware of their 	aspects of online data
	in Scratch to	problem solving	another curriculum	trust and privacy	responsibilities when	collection
	create the	 increase their 	area	when sharing	editing another people's	 use the Internet
	animation, including	knowledge and	 record a piece to 	information	work	to facilitate data
	characters,	understanding of	camera	 Select, use and 	 become familiar with 	collection
	dialogue, costumes,	Scratch	 edit a movie using 	combine a variety of	Wikipedia, including	 use charts to
	backdrops and	 recognise a number 	static images an	software to design	potential problems	analyse data
	sound	of common types of	d green screen	and create content	associated with its use	 interpret results.
	 review their 	bugs in software.	footage • give	that accomplishes	 practise research 	 Select, use and
	animation programs		constructive, critical	given goals, including	skills	combine a variety of
	and correct	Debug programs that	feedback on recorded	presenting	 write for a target 	software (including
	mistakes	accomplish specific	presentations.	information	audience using a wiki	Internet services) on
		goals.		 Use technology 	tool	a range of digital
	Design, write and	 Use sequence, 	Select, use and	safely, respectfully	 develop collaboration 	devices to design and
	debug programs	selection, and	combine a variety of	and responsibly	skills	create a range of
	that accomplish	repetition in	software (including		 develop proofreading 	programs, systems
	specific goals; solve	programs; work with	Internet services) on		skills.	and content that
	problems by	variables and various	a range of digital		Understand computer	accomplish given
	decomposing them	forms of input and	devices to design and		networks, including the	goals, including
	into smaller parts.	output.	create a range of		Internet; how they can	collecting, analysing,
			programs, systems and		provide multiple	

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• Use sequence in	• Use logical	content that	services, such as the	evaluating and
programs; work	reasoning to explain	accomplish given goals,	World Wide Web, and	presenting data.
with variables and	how some simple	including collecting,	the opportunities they	 Understand
various forms of	algorithms work and	analysing, evaluating	offer for communication	computer networks,
output.	to detect and correct	and presenting	and collaboration.	including the
 Use logical 	errors in algorithms	information. • Use	 Use search 	Internet; how they
reasoning to detect	and programs.	technology safely,	technologies effectively,	can provide multiple
and correct errors		respectfully and	appreciate how results	services, such as the
in algorithms and		responsibly.	are selected and ranked,	World Wide Web;
programs.			and be discerning in	and the opportunities
			evaluating digital	they offer for
			content.	communication and
				collaboration.
			 Use technology safely, 	
			respectfully and	
			responsibly; recognise	
			acceptable/unacceptable	
			behaviour; identify a	
			range of ways to report	
			concerns about content.	



- English
- Maths
- Science
- PE
- Art

Pupils should be taught to:

- * 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
- * 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
- * select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact and Design.

Skills

Graphics Acquire, store and combine images from cameras or the internet for a purpose. Use the print screen function to capture an image. Select certain areas of an image and resize, rotate and invert the image. Edit pictures using a range of tools in a graphics program. 3D modelling Year 4 only - (links to design for DT) Use internet-based software to create a 3D representation.

Use the tools available to design their own fit for purpose object. Text Get quicker at typing with both hands. Use a variety of font sizes, styles and colours. Align text left, right and centre. Animation - Year 3 only Plan what they would like to happen in their animation. Take a series of pictures to form an animation. Move items within their animation to create movement on playback. Edit and improve their animation. To use sound within animation to enhance video/animation. Video Capture video for a purpose. Choose which clips to keep and which to discard. Trim and arrange clips to convey meaning. Add titles, credits, slide transitions, special effects. To capture and use sounds with video to enhance. Presentation Create a title slide and choose a style. Change the layout of a slide. Insert a picture/text/graph from the Internet or personal files. Decide upon and use effective transitions.



Year Group: 4

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic of the term	We are software developers	We are makers	We are musicians	We are bloggers	We are artists	We are meteorologists
-	developers Pupils learn to: develop an educational computer game using selection and repetition understand and use variables start to debug computer programs recognise the importance of user interface design, including consideration of input and output. Design, write and debug programs that accomplish specific goals. Use sequence, selection, and repetition in	Pupils learn: about the input - process - output model of computation about the inputs and outputs available on a BBC micro: bit to program using the Make Code block- based environment to test and debug programs they write, using an on-screen simulator and the micro: bit how to convert and transfer a program written on screen to the micro:bit. Design, write and debug programs that accomplish specific goals.	Pupils learn to:	Pupils learn to: • become familiar with blogs as a medium and a genre of writing • create a sequence of blog posts on a theme • incorporate additional media • comment on the posts of others • develop a critical, reflective view of a range of media, including text. • 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.	Pupils learn to: develop an appreciation of the links between geometry and art become familiar with the tools and techniques of a vector graphics package develop an understanding of turtle graphics experiment with the tools available, refining and developing their work as they apply their own criteria to evaluate it and receive feedback from their peers develop some awareness of	meteorologists Pupils learn to: • understand different measurement techniques for weather - both analogue and digital • use computer-based data logging to automate the recording of some weather data • use spreadsheets to create charts • analyse data, explore inconsistencies in data and make predictions • practise using presentation and video software. • Work with variables and various forms of
	programs; work with variables and	 Use sequence, selection and repetition in 	and output.	 Use a variety of software (including Internet services) on a 	computer generated art.	input and output.Use logicalreasoning to explain



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various forms of	programs; work with	Be discerning in	range of digital devices	 Use sequence, 	how some simple
input and output.	variables and various	evaluating digital	to design and create a	selection and	algorithms work.
 Use logical 	forms of input and	content.	range of content that	repetition in	 Use search
reasoning to explain	output.	 Select, use and 	accomplish given goals. •	programs; work	technologies
how some simple	 Use logical 	combine a variety of	Use technology safely,	with variables and	effectively,
algorithms work	reasoning to explain	software on a range of	respectfully and	various forms of	appreciate how
and to detect and	how some simple	digital devices to design	responsibly; recognise	output.	results are selected
correct errors in	algorithms work	and create a range of	acceptable/unacceptable	 Select, use and 	and ranked, and be
algorithms and		content that	behaviour.	combine a variety	discerning in
programs.		accomplishes given goals.		of software	evaluating digital
		 Use technology 		(including Internet	content.
		safely, respectfully and		services) on a range	 Select, use and
		responsibly; recognise		of digital devices to	combine a variety of
		acceptable/unacceptable		design and create a	software (including
		behaviour.		range of content	Internet services) on
				that accomplish	a range of digital
				given goals.	devices to design and
					create a range of
					programs, systems
					and content that
					accomplish given
					goals, including
					collecting, analysing,
					evaluating and
					presenting data.



- English
- Maths
- Science
- PE
- Art and Design

Pupils should be taught to:

- * 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
- * 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
- * select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact and Design.

Skills

Graphics Acquire, store and combine images from cameras or the internet for a purpose. Use the print screen function to capture an image. Select certain areas of an image and resize, rotate and invert the image. Edit pictures using a range of tools in a graphics program. 3D modelling Year 4 only - (links to design for DT) Use internet-based software to create a 3D representation.

Use the tools available to design their own fit for purpose object. Text Get quicker at typing with both hands. Use a variety of font sizes, styles and colours. Align text left, right and centre. Animation - Year 3 only Plan what they would like to happen in their animation. Take a series of pictures to form an animation. Move items within their animation to create movement on playback. Edit and improve their animation. To use sound within animation to enhance video/animation. Video Capture video for a purpose. Choose which clips to keep and which to discard. Trim and arrange clips to convey meaning. Add titles, credits, slide transitions, special effects. To capture and use sounds with video to enhance. Presentation Create a title slide and choose a style. Change the layout of a slide. Insert a picture/text/graph from the Internet or personal files. Decide upon and use effective transitions.



Year Group: 5

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic of the term	We are game developers	We are cryptographers	We are architects	We are web developers	We are adventure gamers	We are VR Designers
Computing	Pupils learn to:	Pupils learn to:	Pupils learn to:	Pupils learn:	Pupils learn:	Pupils learn to:
units	create original	• be familiar with	 understand the 	• the name and function	• how to plan a	 explore real-world
	artwork and sound	semaphore and Morse	work of architects,	of components making up	non-linear	and imagined locations
	for a game	code • understand the	designers and	the school's network	presentation	in VR (if possible)
	 design and create 	need for private	engineers working in	 how information is 	• to create text as	• create 360°
	a computer	information to be	3-D	passed between the	part of a	photosphere images
	program for a	encrypted	 develop familiarity 	components that make	presentation	 link physical objects
	computer game,	 encrypt and decrypt 	with a simple CAD	up the Internet	 to add and edit 	to digital content
	which uses	messages in simple	(computer-aided	• what the source code	images in a	using QR codes
	sequence, selection,	ciphers	design) tool	for a web page looks	presentation	• create their own VR
	repetition and	• appreciate the need to	 develop spatial 	like, and how it can be	• to use hyperlinks	scene
	variables	use complex passwords	awareness by	edited	for navigation	 program objects
	 detect and 	and to keep them secure	exploring and	 how a website can be 	between the slides	and interactions in VR.
	correct errors in	have some	experimenting with a	structured	of a presentation	
	their computer	understanding of how	3-D virtual	 how to add content to 	• to record and add	Design, write and
	game	encryption works on the	environment	a web page.	audio narration to a	debug programs that
	 use iterative 	Internet.	 develop greater 		presentation	accomplish specific
	development		aesthetic awareness.	 Understand computer 	• to use	goals, including
	techniques (making	 Use logical reasoning 		networks including the	commenting tools	controlling or
	and testing a series	to explain how some	Use search	Internet; how they can	to give feedback on	simulating physical
	of small changes)	simple algorithms work	technologies	provide multiple	a presentation.	systems; solve
	to improve their	and to detect and	effectively,	services, such as the		problems by
	game.	correct errors in	appreciate how results	World Wide Web; and	• Use search	decomposing them
		algorithms and	are selected and	the opportunities they	technologies	into smaller parts.
	 Design, write and 	programs.	ranked, and be	offer for communication	effectively.	 Use sequence,
	debug programs	Understand computer	discerning in	and collaboration.	• Use a variety of	selection, and
	that accomplish	networks including the	evaluating digital	• Select, use and	software (including	repetition in
	specific goals,	Internet; how they can	content.	combine a variety of	Internet services)	programs; work with



• Use logical

reasoning to explain

how some simple

algorithms work

and to detect and

correct errors in

algorithms and

programs

provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.

 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 information.

software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
- Be discerning in evaluating digital content.

on a range of digital devices to design and create content that accomplish given goals, including presenting information.

• Use technology safely, respectfully and responsibly.

variables and various forms of input and output.

• 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 information.



- English
- Maths
- Science
- PE
- Art and Design

Pupils should be taught to:

- * 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
- * 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
- * select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact and Design.

Skills

Text Use both hands to type. Use a variety of font sizes, styles and colours. Copy and paste within specific texts. Confidently use a range of functions to change text alignment, layout, insert tables. Sound Recording Collect audio from a variety of resources including own recordings and internet clips. Create a multi-track recording using effects. Edit and refine their work to improve outcomes. Animation Year 5 only Plan a multi-scene animation including characters, scenes, camera angles and special effects. Adjust the number of photographs taken and the playback rate to improve the quality of the animation. Publish their animation and use a movie editing package to edit/refine and add titles. Video Storyboard and capture videos for a purpose. Plan for the use of special effects and transitions.

Using a scratch type program (uses an avatar and needs coding): Use external triggers and infinite loops to control sprites. Create and edit variables. Use conditional statements. Design their own game including sprites, backgrounds, scoring and/or timers. Use conditional statements, loops, variables and broadcast messages in the game. The game finishes when a player wins or loses and they must know they have won or lost. Evaluate the effectiveness of the game and debug as required.



Year Group: 6

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic of the term	<u>We are game</u> developers	We are computational thinkers	We are publishers	We are connected	We are advertisers	<u>We are AI</u> developers
			Pupils learn to:	Pupils learn:		-
the term Computing units	developers Pupils learn: • how computers use stored programs to connect input to output • how to generate and evaluate designs in response to a brief • to plan a complex project by decomposing it into smaller parts • to work with physical components of a system • how to design and	thinkers Pupils learn to: develop the ability to reason logically about algorithms understand how some key algorithms can be expressed as programs understand that some algorithms are more efficient than others for the same problem understand common algorithms for searching and sorting a list. Design, write and	Pupils learn to:	Pupils learn: • about appropriate rules or guidelines for a civil online discussion • how search results are selected and ranked • how to argue their point effectively, supporting their views with sources • how to counter someone else's argument while showing respect and tolerance • how to judge the reliability of an online source • some strategies for dealing with online	advertisers Pupils learn to:	developers Pupils learn: • how decision trees can be trained automatically to classify data • how speech recognition works • how a neural net recognises images • to train a neural net to classify images • to train a machine learning system to identify sentiments • to consider some ethical principles in designing AI systems.
	write a program for an embedded	debug programs that accomplish specific	opportunities they offer for	bullying.	content to make an effective advert.	debug programs that accomplish specific
	system • to use	goals.	communication and	 Understand the 		goals, including
	criteria to provide	 Use sequence, 	collaboration.	opportunities computer	 Use search 	controlling or
	others with	selection and	• Use search	networks offer for	technologies	simulating physical
	feedback on their	repetition in programs;	technologies	communication and	effectively,	systems; solve
	work	work with variables and various forms of	effectively, appreciate how results are	collaboration.	appreciate how results are selected	problems by



- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.
 Use sequence
- Use sequence, selection, 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.

- input and output. errors in algorithms and programs.
- Use logical reasoning to explain how some simple algorithms work and to detect and correct
- 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

• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content.

• Use search

technologies effectively,

are selected and ranked.

appreciate how results

and be discerning in

evaluating digital

content

- 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
- decomposing them into smaller parts.
- Use and combine a variety of software 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.



- English
- Maths
- Science
- PE
- Art and Design

Pupils should be taught to:

- * 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
- * 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
- * select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact and Design.

Skills

Text Use both hands to type. Use a variety of font sizes, styles and colours. Copy and paste within specific texts. Confidently use a range of functions to change text alignment, layout, insert tables. Sound Recording Collect audio from a variety of resources including own recordings and internet clips. Create a multi-track recording using effects. Edit and refine their work to improve outcomes. Animation Year 5 only Plan a multi-scene animation including characters, scenes, camera angles and special effects. Adjust the number of photographs taken and the playback rate to improve the quality of the animation. Publish their animation and use a movie editing package to edit/refine and add titles. Video Storyboard and capture videos for a purpose. Plan for the use of special effects and transitions.

Using a scratch type program (uses an avatar and needs coding): Use external triggers and infinite loops to control sprites. Create and edit variables. Use conditional statements. Design their own game including sprites, backgrounds, scoring and/or timers. Use conditional statements, loops, variables and broadcast messages in the game. The game finishes when a player wins or loses and they must know they have won or lost. Evaluate the effectiveness of the game and debug as required.