



COWBIT ST. MARY'S (ENDOWED) CHURCH OF ENGLAND PRIMARY SCHOOL



Our Vision

We are a small, inclusive Church of England Primary School that welcomes everyone and encourages all voices to be heard. Through challenge and support, we strive towards each person becoming the best person God intended them to be, happily flourishing as human beings. We empower our whole school community to be hopeful about the future and to be drivers of positive change.

INTENT STATEMENT

for the Curriculum at Cowbit St Mary's Church of England Primary School

Our intent and ambition for our curriculum is that it is designed to meet, at a minimum, the requirements of the National Curriculum. It will enable learners to progress well in all year groups and attain at least age-related expectations (A.R.E.) by the end of KS2 in all subjects.

We recognise the importance of tailoring our curriculum to the needs of our learners and families in our school community:

- Vocabulary broadening and enrichment
- A wide range of experiences, including intentionally planned opportunities to learn actively inside and outside
- To reflect upon their progress and have ownership of their learning
- Greater involvement from their parent/carers.

We aim to offer our children a broad and balanced curriculum which ignites curiosity, creativity and a love of learning to last a lifetime. Through our core Christian values, we aim to develop independent learners who can persevere when faced with challenge. Working with the Edison Learning Connected Curriculum, we are developing a holistic curriculum with personal and social development at its heart where children's voices are paramount. This progressively builds and deepens knowledge, understanding and skills across the curriculum in which reading, writing and mathematics is embedded.

Children are given opportunities to learn collaboratively with their peers during conceptual learning, whereas foundational skills are often taught and embedded through regular, independent practice. Whilst some subjects are taught thematically, encouraging learners to make connections across subjects, some areas of study are more appropriately taught discretely.

Our Christian ethos, planning, organisation of curriculum content, collaboration, distribution of subject leadership enables us to address the unique challenges we as a small school encounter.

Computing

From The National Curriculum in England – framework document 2013

Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Aims

The national curriculum for computing aims to ensure that all pupils:

- 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.

KS1

Pupils should be taught:

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

KS2

Pupils should be taught:

- 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.

Attainment targets

the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

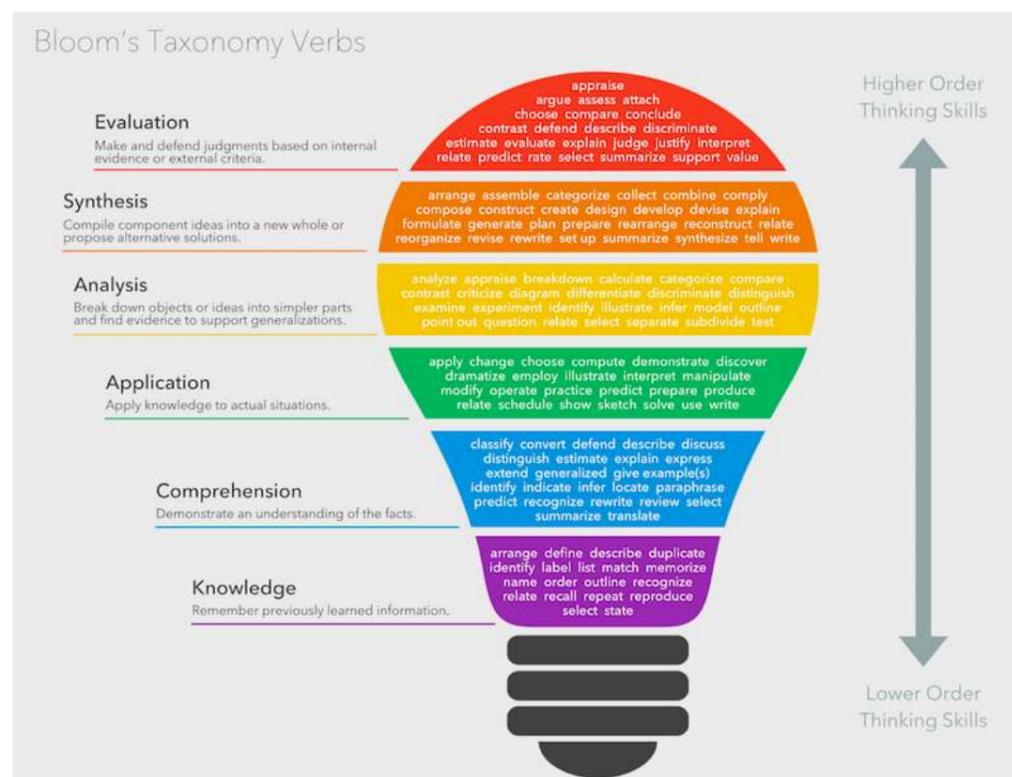
Principles for progression:

1. We will use common techniques across the school.
2. We will practise the same skills at different ages developing them when we revisit them. (Do the children tackle them better each time?)
3. We will revisit key themes, historical eras and key vocabulary. (The Long Term Plan maps out the themes and historical content to be covered in each class.)
4. We aim to improve children's enquiry skills, concepts and knowledge, so they develop an ever deeper understanding of people and societies as they progress through the year groups: developing them as historians and preparing them for historical study at secondary school.

Key Primary Art Principles for Learning:

1. Questioning: learning is about asking and answering questions. Questions focus attention, rouse curiosity and interest, elicit views and stimulate discussion.
2. Challenge: challenge pupils to speculate, to debate, to make connections, to select, to prioritise, to persist, in tackling real issues and important questions.
3. Depth: real knowledge demands study in depth. Children's expertise and confidence develop as a result of deep knowledge.
4. Authenticity: we do not need to give children overly simple versions of what we want them to learn: challenge them with authentic materials.
5. Breadth: children will learn more from a few well-chosen resources which they can focus on than from an unstructured jumble.
6. Accessibility: make learning accessible to all children by starting with what they know and can do, and building on that. Also by finding a key - something they can identify with which will unlock the door to engagement and learning. (Progression)
7. Communication: essential for consolidating learning and to give it purpose. Give children the opportunity to communicate with purpose and to a real audience.

Global Citizens	Ignites Curiosity	Communication and Language	Persevere
<p>Gain an understanding of being a global citizen and have a wider view of the world around them.</p> <p>Why did people live the way they do?</p> <p>How do events impact on how people live and what they do?</p> <p>How does the past impact on life today?</p> <p>(links to DT and Art)</p>	<p>A hook for each topic. I wonder...? I wonder why? I wonder how? I wonder what would happen if? Think of words which connect with the picture / item</p> <p>Pupils ask What? Where? If? How? Why? When?</p> <p>Use of artefacts for wonder and engagement.</p> <p>Use of questions to engage curiosity.</p> <p>Bespoke planning and learning journey relevant to our children. Cross-curricular links where possible for joined-up thinking.</p> <p>Visits off site</p> <p>Visits form experts in to school.</p>	<p>Key vocabulary is identified for each unit of work (oracy).</p> <p>Planning opportunities to explore through discussion and debate.</p> <p>Planning opportunities for varied and purposeful ways of successfully communicating knowledge and understanding – Making oneself understood.</p> <p>(Links with English and Art)</p>	<p>Progression mapping ensures all staff are aware of year group expectations and are able to articulate them to our whole school community.</p> <p>High expectations for all children to apply knowledge, skills and concepts from other subjects within history.</p> <p>Teachers' plan to overcome negative barriers of attitude, effort and behaviour.</p> <p>For all of our children to be secondary school ready.</p>



F/Y1	N.C Art Pupils should be taught to:	Y1 Skill	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
			Why do we play with different toys as we grow older?	Hello, I am new here.	What can we learn about our world from stories?	Starry night	Why is water so precious?	Where will we go for a great day out?
and multimedia	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Work with others and with support to contribute to a digital class resource which includes text, graphic and sound.	To know how to use a digital device to record sound and picture.	To know how to create a pictograph using software.	To know what an algorithm is.	Cross-curricular links needed	To use a program in order to sort and label images.	To know how to view aerial maps of a specific area.
• Digital images (photos, paint, animation)	create and debug simple programs	Use a range of simple tools in a paint package / image manipulation software to create / modify a picture.	To know how to use a digital device to take pictures of objects to create a whole picture.	To know how to take pictures using a digital device	To know how to implement an algorithm using a program.		To know how to use a digital device to record sounds.	To know how to create a repeating pattern using a program or word processor.
• Sound and music (inc sound recorders)	use logical reasoning to predict the behaviour of simple programs	Chose suitable sounds from a bank to express their ideas. Record short speech.	To know how to gather and share data digitally.	To know how to write using a simple word processor.	To know that precise instructions make a better algorithm.		To know how to find and save images and symbols.	To know how to use a digital device to record sound and/or videos and pictures.
• Electronic communication	use technology purposefully to create, organise, store, manipulate and retrieve digital content	Contribute ideas to a class email to another class / school etc.	To know how to create a pictograph using a simple program.	To know how to write a simple algorithm for a roamer to follow.	To know how to use a digital device to design or use a pre-prepared data base.		To know how to use a program for art purposes.	To know how to use a digital device to take a photograph.
• Research and E Safety	recognise common uses of information technology beyond school	As a class exercise children explore information from a variety of sources (electronic, paper based, observations of the world around them, etc.). They show an awareness of different forms of information		To be able to program a roamer to follow an algorithm.	To know how to use a digital device to take a photograph.		To know how to save work that can be reviewed or edited later.	To know how to use a simple word processor to write and use features like different fonts and colours.
• Control (algorithms)	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.	Control simple everyday devices to make them produce different outcomes.		To know how to use a digital device to record sounds.				To know how to use a search engine safely.
• Handling information (data bases and graphs)		As a class or individually with support, children use a simple pictogram or painting program to develop simple graphical awareness / one to one correspondence.						To know how to use a word processor for writing.
• Modelling and simulations (spreadsheet adventure games and simulations)		Make simple choices to control a simple simulation program.						To know how to print using a word processor.
• Data logging (science and maths)								
• Understanding technologies (individual technologies)		Show an awareness of the range of devices and tools they encounter in everyday life						
Understanding technologies (networks)		Show an awareness that what they create on a computer or tablet device can be shown to others via another device (e.g. printer, projector, Apple TV)						
Understanding technologies (the internet)								

Y2/3	N.C Art Pupils should be taught to:	Year 2 Skill	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
			Can party food be healthy?	Pride in place.	What is the best way for Mrs Armitage to travel?	Where do bong trees grow?	What makes us like other animals?	How did families have fun in the past?
and multimedia	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Generate their own work, (with help where appropriate with multimedia) combining text, graphics and sound. Save and retrieve and edit their work.	To know how to use a pre-prepared database to store information.	To know how to record sounds using a digital device.	To know how to use a pre-prepared data base to enter information gathered.	Cross-curricular links needed	To know how to use a digital device to record and retrieve images.	To know how to use messaging program such as Email to communicate with others.
• Digital images (photos, paint, animation)	create and debug simple programs	Use a range of tools in a paint package / image manipulation software to create / modify a picture to communicate an idea. Create a simple animation to tell a story.	To know how to use a digital device to design and take photographs.	To know how to use a search	To know what an algorithm is.		To know how to use a program to classify and sort images digitally.	To know how to use a digital camera to record images.

<ul style="list-style-type: none"> • Sound and music (inc sound recorders) 	use logical reasoning to predict the behaviour of simple programs	<p>Compose music from icons.</p> <p>Produce a simple presentation incorporating sounds the children have captured, or created.</p>	<p>To know how to use a digital device to compose, plat and record music.</p> <p>To know how to use a word processor and features such as changing fonts and colours.</p>	<p>engine safely.</p> <p>To know how to use a search engine to find photographs.</p> <p>To know how to take photographs using a digital device.</p>			<p>To know how to use aerial maps and features such as zooming in and out.</p> <p>To know how to use a word processor and its features such as changing font, adding images etc.</p>	<p>To know how to use a device to record sound.</p> <p>To know how to use a word processor and its features such as changing font, adding images etc.</p> <p>To know how to download images using the internet.</p>
<ul style="list-style-type: none"> • Electronic communication 	use technology purposefully to create, organise, store, manipulate and retrieve digital content	Work collaboratively by email to share and request information of another class or story character.						
<ul style="list-style-type: none"> • Research and E Safety 	recognise common uses of information technology beyond school	<p>Children use a search engine to find specific relevant information to use in a presentation for a topic.</p> <p>They save and retrieve their work.</p>						
<ul style="list-style-type: none"> • Control (algorithms) 	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>Control a device, on and off screen, making predictions about the effect their programming will have.</p> <p>Children can plan ahead.</p>						
<ul style="list-style-type: none"> • Handling information (data bases and graphs) 		<p>Use a graphing package to collect, organise and classify data, selecting appropriate tools to create a graph and answer questions.</p> <p>Enter information into a simple branching database, database or word processor and use it to answer questions.</p> <p>They save, retrieve and edit their work.</p>						
<ul style="list-style-type: none"> • Modelling and simulations (spreadsheet adventure games and simulations) 		<p>Children are able to play an adventure game and use a simple simulation, making choices and observing the results.</p> <p>Their conversation shows they understand that computers are good at replicating real life events and allowing them to explore contexts that are otherwise not possible.</p>						
<ul style="list-style-type: none"> • Data logging (science and maths) 								
<ul style="list-style-type: none"> • Understanding technologies (individual technologies) 		Show an awareness of a range of inputs to a computer (IWB, mouse touch screen, microphone, keyboard, etc)						
Understanding technologies (networks)		Begin to show an awareness that computers can be linked to share resources						
Understanding technologies (the internet)		Use websites and demonstrate an awareness of how to manage their journey around them (e.g. using the back/forward button, hyperlinks)						

Y2/3	N.C Art Pupils should be taught to:		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		Year 3 Skill	Can party food be healthy?	Pride in place.	What is the best way for Mrs Armitage to travel?	Where do bong trees grow?	What makes us like other animals?	How did families have fun in the past?
Text and multimedia	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks. Begin to show an awareness of the intended audience and seek feed-back.	To know how to use a pre-prepared database to store information.	To know how to record sounds using a digital device.	To know how to use a pre-prepared data base to enter information gathered.	Cross-curricular links needed	To know how to use a digital device to record and retrieve images.	To know how to use messaging program such as Email to communicate with others.
• Digital images (photos, paint, animation)	use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.	To know how to use a digital device to design and take photographs.	To know how to use a search engine safely.	To know what an algorithm is.		To know how to use a program to classify and sort images digitally.	To know how to use a digital camera to record images.
• Sound and music (inc sound recorders)	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own.	To know how to use a digital device to compose, plat and record music.	To know how to use a search engine to find photographs.	To know how to write an algorithm.		To know how to use aerial maps and features such as zooming in and out.	To know how to use a device to record sound.
• Electronic communication	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	Begin to understand the need to abide by school e-safety rules.		To know how to take photographs using a digital device.	To know how to program an algorithm into a device such as a Roamer.		To know how to use a word processor and its features such as changing font, adding images etc.	To know how to use a word processor and its features such as changing font, adding images etc.
• Research and E Safety	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate. Children use the information or resources they have found. Children talk about using ICT to find information / resources noting any frustrations and showing an emerging understanding of internet safety.	To know how to use a word processor and features such as changing fonts and colours.		To know how to use a digital device to design and/or photograph an object.			To know how to download images using the internet.
• Control (algorithms)	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	Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen.			To know how to use a word processor and features such as changing fonts and colours.			
• Handling information (data bases and graphs)	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject. They follow straight forward lines of enquiry to search their data for their own purposes. They talk about their experiences of using ICT to process data compared with other methods.						
• Modelling and simulations (spreadsheet adventure games and simulations)		Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom. Make simple use of a spreadsheet to store data and produce graphs.						
• Data logging (science and maths)		Begin to use a data logger to sense physical data (sound, light, temperature).						
• Understanding technologies (individual technologies)		Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made.						

Understanding technologies (networks)		Show an understanding that their password is the key to accessing a personalised set of resources and files (e.g. My Documents). Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details)						
Understanding technologies (the internet)		Show an awareness that not all the resources/tools they use are resident on the device they are using. Begin to show an understanding of URLs.						

Y4/5/6	N.C Art Pupils should be taught to:	Year 4 Skill	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
			Out of this world.	Has there been a better time to live here?	Why do some creatures no longer exist?	The lady of Shallot.	The great UK geographical challenge.	Mini enterprise.
Text and multimedia	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience.	To know how to use data logging equipment when conducting science experiments. To know how to use a search engine safely.	To know how to use a search engine safely. To know how to use a search engine to find information. To know how to use and find video clips to gather information.	To know how to use a search engine to find information. To know how to use digital devices to take pictures and/or record. To know how to write an algorithm and input it into a simple programme.	Cross curricular links needed	Cross curricular links needed	Cross curricular links needed
• Digital images (photos, paint, animation)	use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.	To know how to use a search engine to research historical figures.	To know how to record using video and/or sound.				
• Sound and music (inc sound recorders)	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Create multiple track compositions that contain a variety of sounds.	To know how to experiment with software and internet simulations.					
• Electronic communication	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	Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. Where possible seek and respond to feedback.	To know how to write and use an algorithm. To know how to use a word processor to write.					

<ul style="list-style-type: none"> • Research and E Safety 	<p>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	<p>Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience.</p> <p>They show an understanding that not all information on the internet is accurate.</p> <p>Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.</p>	<p>To know how to use a database to record information.</p> <p>To be familiar and use Powerpoint to create a presentation.</p>					
<ul style="list-style-type: none"> • Control (algorithms) 	<p>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</p>	<p>Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify.</p> <p>Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.</p>						
<ul style="list-style-type: none"> • Handling information (data bases and graphs) 	<p>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions.</p> <p>Enter information and interrogate it (by searching, sorting, graphing etc).</p> <p>Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.</p>						
<ul style="list-style-type: none"> • Modelling and simulations (spreadsheet adventure games and simulations) 		<p>Set up and use a spreadsheet model to explore patterns and relationships. Make predictions.</p> <p>Know how to enter simple formulae to assist this process.</p>						
<ul style="list-style-type: none"> • Data logging (science and maths) 		<p>Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings.</p> <p>Interpret the results and use these in their investigations.</p> <p>Realise the advantages of using ICT to collect data that might otherwise be problematic.</p>						
<ul style="list-style-type: none"> • Understanding technologies (individual technologies) 		<p>Make choices about the devices and tools they use for specific purposes and explain them in relation to the context.</p> <p>Begin to show an awareness of specific tools used in working life.</p>						

Understanding technologies (networks)		Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks)						
Understanding technologies (the internet)		Perform a search using different search engines and check the results against each other, explaining why they might be different. Show an awareness of the need for accuracy in spelling and syntax to search effectively.						

Y4/5/6	N.C Art Pupils should be taught to:	Year 5 Skill	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
			Out of this world.	Has there been a better time to live here?	Why do some creatures no longer exist?	The lady of Shallot.	The great UK geographical challenge.	Mini enterprise.
multimedia	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience.	To know how to use data logging equipment when conducting science experiments. To know how to use a search engine safely. To know how to use a search engine to research historical figures.	To know how to use a search engine safely. To know how to use a search engine to find information. To know how to use and find video clips to gather information. To know how to record using video and/or sound.	To know how to use a search engine to find information. To know how to use digital devices to take pictures and/or record. To know how to write an algorithm and input it into a simple programme.	Cross curricular links needed	Cross curricular links needed	Cross curricular links needed
• Digital images (photos, paint, animation)	use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.	To know how to experiment with software and internet simulations.					
• Sound and music (inc sound recorders)	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Create multiple track compositions that contain a variety of sounds.	To know how to write and use an algorithm. To know how to use a word processor to write.					
• Electronic communication	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	Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. Where possible seek and respond to feedback.	To know how to use a database to record information. To be familiar and use Powerpoint to create a presentation.					
• Research and E Safety	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience. They show an understanding that not all information on the internet is accurate. Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.						

<ul style="list-style-type: none"> Control (algorithms) 	<p>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</p>	<p>Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify.</p> <p>Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.</p>						
<ul style="list-style-type: none"> Handling information (data bases and graphs) 	<p>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions.</p> <p>Enter information and interrogate it (by searching, sorting, graphing etc).</p> <p>Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.</p>						
<ul style="list-style-type: none"> Modelling and simulations (spreadsheet adventure games and simulations) 		<p>Set up and use a spreadsheet model to explore patterns and relationships. Make predictions.</p> <p>Know how to enter simple formulae to assist this process.</p>						
<ul style="list-style-type: none"> Data logging (science and maths) 		<p>Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings.</p> <p>Interpret the results and use these in their investigations.</p> <p>Realise the advantages of using ICT to collect data that might otherwise be problematic.</p>						
<ul style="list-style-type: none"> Understanding technologies (individual technologies) 		<p>Make choices about the devices and tools they use for specific purposes and explain them in relation to the context.</p> <p>Begin to show an awareness of specific tools used in working life.</p>						
<ul style="list-style-type: none"> Understanding technologies (networks) 		<p>Show an understanding of the school network and how it links computers to resources in school and beyond.</p> <p>Compare this with other networks they may encounter at home or in the wider world (e.g. banks)</p>						
<ul style="list-style-type: none"> Understanding technologies (the internet) 		<p>Perform a search using different search engines and check the results against each other, explaining why they might be different.</p> <p>Show an awareness of the need for accuracy in spelling and syntax to search effectively.</p>						

Y4/5/6	N.C Art Pupils should be taught to:		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		Year6 Skill	Out of this world.	Has there been a better time to live here?	Why do some creatures no longer exist?	The lady of Shallot.	The great UK geographical challenge.	Mini enterprise.
multimedia	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Multimedia work shows restrained use of effects that help to convey meaning rather than impress.	To know how to use data logging equipment when conducting science experiments. To know how to use a search engine safely. To know how to use a search engine to research historical figures.	To know how to use a search engine safely. To know how to use and find video clips to gather information. To know how to record using video and/or sound.	To know how to use a search engine to find information. To know how to use digital devices to take pictures and/or record. To know how to write an algorithm and input it into a simple programme.	Cross curricular links needed	Cross curricular links needed	Cross curricular links needed
• Digital images (photos, paint, animation)	use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document).	To know how to experiment with software and internet simulations.					
• Sound and music (inc sound recorders)	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Create and share more sophisticated podcasts and consider the effect that their podcasts will have on the audience.	To know how to write and use an algorithm. To know how to use a word processor to write.					
• Electronic communication	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	Abide by school rules for e-safety.	To know how to use a database to record information. To be familiar and use Powerpoint to create a presentation.					
• Research and E Safety	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic. Use appropriate methods to validate information and check for bias and accuracy. Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material used where appropriate.						
• Control (algorithms)	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	Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose.						

<ul style="list-style-type: none"> • Handling information (data bases and graphs) 	<p>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings.</p> <p>The need for accuracy is demonstrated and strategies for spotting implausible data are evident.</p> <p>Children should be able to talk about issues relating to data protection and the need for data security in the world at large (eg health, police databases).</p>						
<ul style="list-style-type: none"> • Modelling and simulations (spreadsheet adventure games and simulations) 		<p>Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. Ask "what if ..." questions and change variable in their model.</p> <p>Understand the need for accuracy when creating formulae and check regularly for mistakes, by questioning results.</p> <p>Relate their use of spreadsheets to model situations to the wider world.</p>						
<ul style="list-style-type: none"> • Data logging (science and maths) 		<p>Children are able to identify their own opportunities for data logging and carry out their own experiments.</p> <p>They check and question results and are able to spot trends in data and identify when problems may have occurred.</p>						
<ul style="list-style-type: none"> • Understanding technologies (individual technologies) 		<p>Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems.</p> <p>Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.</p>						
<ul style="list-style-type: none"> Understanding technologies (networks) 		<p>Show an understanding of how filtering and monitoring tools affect their use of the school network and Internet and compare this with their experience of access outside school.</p>						

Understanding technologies (the internet)		Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication						
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