Ashton West End Primary Academy

Computing curriculum coverage overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1						
Name of topic:	E-Safety and Digital Literacy	Data Handling	Digital Imagery	Music and Sound	Coding	Multimedia
Curriculum objective/s:	♣ 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.	♣ 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 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 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	♣ 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 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
Curriculum skills:	Show awareness that information online can be seen by others\n\nKnow there are rules to keep them safe when accessing content online	Begin to understand that you can use software to represent data and information on screen\n\nUnderstand that tools can be used to sort and illustrate the data in different ways\n\nBy selecting appropriate tools they can create a graph or chart to answer questions	Using a variety of tools to create and manipulate an image (picture)\n\nKnow they can use devices to capture still and video images\n\nExplore and share information from a variety of sources (including digital resources).	Know they can record sound using ICT that can be stored and played back\n\nLocate, listen to, play and begin to record sounds\n\nUse software to change the musical phrases they create	Begin to understand that you need instructions to solve control problems e.g. to move a device from one place to another. These instructions form an algorithm, used to solve specific problems e.g. entered as sequences in a programmable device such as a BeeBot\n\nUnderstand that programs are executed by following precise and unambiguous instructions, known as code\n\nBegin to understand that simple programs or code can be created and then the code can be debugged or edited if necessary	Add text to graphics and use sound to communicate ideas\n\nExplore and share information from a variety of sources (including digital resources).
Year 2						
Name of topic:	E-Safety and Digital Literacy	Multimedia	Data Handling	Music and Sound	Coding	Digital Imagery
Curriculum objective/s:	♣ 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.	♣ use logical reasoning to predict the behaviour of simple programs ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content	§ use logical reasoning to predict the behaviour of simple programs ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content	§ use logical reasoning to predict the behaviour of simple programs ♣ 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	§ use logical reasoning to predict the behaviour of simple programs ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content

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		§ recognise common uses of information technology beyond school	§ recognise common uses of information technology beyond school	§ recognise common uses of information technology beyond school	unambiguous instructions ♣ create and debug simple programs ♣ use logical reasoning to predict the behaviour of simple programs	§ recognise common uses of information technology beyond school
Curriculum skills:	Use passwords to access resources and know why they need to keep them private Know the school e-safety rules and know how to respond to inappropriate content Show an awareness that information including images online can be shared at home, school and worldwide Know private information should never be given out on the internet Communicate their ideas with an invited group Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	Create presentations for a specific audience Refine their presentations Children publish and share work online such as Purple Mash or through a VLE/learning platform	Understand you can use graphing software to collect, illustrate, organise and classify data Use graph plotting tools to answer appropriate questions concerning the plotted data Understand the same data may be illustrated in a variety of ways	Begin to understand that adding music and or a sound can affect mood and atmosphere of their work Save, retrieve and add their own recorded sound to their presentations	Understand that **algorithms** are a set of instructions that solves specific problems. Know they can be used to program **digital** or **programmable devices** by following instructions or **code** Create and write a **program** using precise and unambiguous instructions, understand that this is **coding** Create and **debug** simple **code** Use logical reasoning to predict the behaviour of simple **programs** or **code**	Retrieve digital content, evaluate and make improvements Use tools to share their ideas, experiences and imagination
Year 3						
Name of topic:	E-Safety and Digital Literacy	Digital Imagery	Data Handling	Music and Sound	Coding	Multimedia
Curriculum objective/s:	♣ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. ♣ 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	♣ 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	§ 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	§ 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	§ 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	§ 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

Computing curriculum coverage overview

	ranked, and be discerning in evaluating digital content	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	programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and 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	errors in algorithms and programs	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
Curriculum skills:	Explain that passwords are used to log in to resources on the web and why these should be kept private Understand there is an accepted behaviour when communicating in the real or virtual world Share ideas responsibly with others using a range of tools Compare and use different forms of communication, considering their advantages and disadvantages Know what to do when inappropriate material appears on the screen Understand that images can be shared and viewed online and consider the privacy of themselves and others Know data is collected and used in the world around them, and understand the need for keeping personal data safe	Select, manipulate and combine images using software to accomplish a task Take and manipulate digital images using a range of devices beginning to take account of moods or ideas when framing and editing a shot.	Understand that collecting and organising information using ICT makes it easier to find answers to questions Understand that ICT can be used to create pictograms, bar charts and tables that illustrate data for different purposes -using different scales with bar charts Talk about their use of ICT and describe how it supports their learning Know there is a variety of devices than can collect or capture data	Understand that technology allows easy creation, manipulation and change Select and use appropriate sound files to fit a given context Know that sound files can be uploaded to the internet and shared across a wider audience	Write simple **algorithms** to accomplish specific goals using a **programmable device** or object on screen Understand how a **program** may be broken down into smaller parts and that these are all part of the **code** Understand a program can be changed through the use of variables e.g. changing the number of steps or size of angle Use **repeat** and **loop** commands in **code** to achieve specific outcomes Understand how a program can control **outputs,** illustrate using a flowchart to show how everyday devices work	Record and present information integrating an appropriate range of media for a given audience, combining text and graphics in a printable form Know they can publish resources online to a given audience
Year 4						
Name of topic:	E-Safety and Digital Literacy	Multimedia	Coding	Digital Imagery	Music and Sound	Data Handling
Curriculum objective/s:	♣ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer	§ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	§ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they	§ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer	§ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer

		♣ 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	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 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	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	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	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
Curriculum skills:		Know what to do when inappropriate material appears on the screen and think about the implications at home\n\nDemonstrate an understanding of the rules and possible implications of e-safety when collaborating on projects\n\nConsolidate the school's e-safety rules	Design and create their own multimedia projects showing awareness of appropriate design and layout for their intended audience\n\nKnow they can publish resources online to a given audience or to the wider world understand the need to ensure it is appropriate and copyright free	Design, write and **debug code** that accomplishes a specific goal\n\nUnderstand the purpose of a **procedure** to shorten **code** writing\n\nWrite **code** to create, test and edit a **procedure** and then combine procedures to produce effects.\n\nUnderstand the effect of changing **values** within a procedure\n\nUnderstand how inputs can be used in **coding** to control **outputs**\n\nUnderstand that objects can be controlled by other **conditional inputs**, *"if the object hits a wall then…."*, *"If object touches another object then*	Combine and evaluate digital images taking account of the audience\n\nConsider the quality of their work and their intended audience when creating animation, images or film	Use music technology individually or as a group to create, develop, amend and present their ideas\n\nUnderstand that evaluation and improvement is a vital part of a creative process\n\nUse technology to compose music or sounds including creating melodies	Understand the importance of entering data correctly\n\nKnow that ICT can create different graph types for different purposes and some are more appropriate and easier to read than others\n\nUnderstand the difference between a database and a spreadsheet. A database is a collection of information organised and presented to serve a particular purpose. A spreadsheet is used when we wish to do some calculations on the data held within it.
Year 5						
Name of topic:		E-Safety and Digital Literacy	Multimedia	Digital Imagery	Data Handling	Music and Sound	Coding
Curriculum objective/s:		♣ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of	§ understand computer networks including the internet; how they can provide multiple services, such as the	§ understand computer networks including the internet; how they can provide multiple services, such as the world wide web;	§ understand computer networks including the internet; how they can provide multiple services, such as the	§ understand computer networks including the internet; how they can provide multiple services, such as the	§ design, write and debug programs that accomplish specific goals, including controlling or simulating physical

	ways to report concerns about content and contact. ♣ 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	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	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	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	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	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
Curriculum skills:	Be knowledgeable about the school's e-safety policy and reflect on its relevance to access to home and mobile devices Understand ways of preventing and responding to cyberbullying Understand the importance of privacy when online and that certain information should not be publicly available Know that there are risks when accessing resources on the Internet Understand that personal data is collected by others for a variety of purposes and it needs to be accurate and secure	Plan a presentation, combined from a range of sources, organised and refined to suit purpose and audience	Combine and evaluate digital images from a variety of sources Evaluate the difference between object based graphic packages (CAD) and paint packages Consider the quality of their work and their intended audience when creating animation, images or film	Model and set problem solving activities that require the children to carry out complex searches of databases Develop independence in their use of data loggers and measuring Apps to investigate and interpret changes in a variety of conditions Use a prepared database with anomalies and inaccuracies, model how to check for accuracy and plausibility Use a spreadsheet to carry out calculations that require formulae	Select and use suitable software and hardware to produce a multi-track audio presentation Begin to compose, manipulate and refine music and sound for a given audience or project Use audio broadcasting tools to share their work with a wider audience	**Debug** some pre-prepared **code** to accomplish a specific goal, including controlling or **simulating** physical systems Solve problems by decomposing **code** into smaller parts by using procedures and sub-procedures Work with **conditional commands** and use various forms of **input** and **output** using onscreen sprites or a control box Explain the function of the **algorithm** behind each part of the code
Year 6					
Name of topic:	E-Safety and Digital Literacy	Multimedia	Digital Imagery	Music and Sound	Coding	Data Handling

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Curriculum skills:	- Understand the difference between sensitive and non-sensitive personal data. Understand the need for data to be accurate and secure. - Be confident in all aspects of the school's e-safety rules - Understand the responsibility of publishing on the Internet in terms of personal safety, appropriateness and relevance of content - Follow the schools e-safety policy and help younger pupils to do so. - Be aware of the e-safety rules when working from home and on mobile devices - Understand the need for a positive online profile in order to be a responsible member of a connected community	Communicate information having made choices about the appropriate medium, content and structure demonstrating an understanding of audience and purpose	Choose appropriate tools and techniques to create imagery for a specific task

Amend and combine digital images and movies from different sources for a specific audience or task | Understand that a professional broadcast is made up of many parts and to identify key features of different broadcasts

 Create music or soundtracks to accompany a story, multimedia presentation or digital movie considering specific audience and purpose | **Debug** some pre-prepared **code** to accomplish a specific goal, including controlling or **simulating** physical systems

Solve problems by decomposing **code** into smaller parts by using procedures and sub-procedures

Work with **conditional commands** and use various forms of **input** and **output** using onscreen sprites or a control box

Explain the function of the **algorithm** behind each part of the code | Set up a database with appropriate fields in order to reach specific conclusions

Understand the use of appropriate presentation to represent different types of data by the use of e.g. pie chart, bar chart or line graph

Become more familiar with database tools such as logical searches, sorts and filtering Understand how variables in a spreadsheet formula can be used to solve a problem

Use formulae within a spreadsheet to plan/model a variety of events |

	- Use technology safely, respectfully and responsibly					