

All Saints' Church of England Federation of Academies- Progression Map



Subject- Computing
Intent- At All Saints' we aim to prepare children for a future that is shaped by technology by creating confident, independent learners who are able to plan, design, create, program and evaluate information through the use of ICT. The teaching of computing at All Saints' is taught both discretely and integrated within our topics as part of our curriculum. We also place great emphasis on preparing our children to stay safe online through the use of e-safety awareness sessions and safer internet days.

EYFS
 There will be occasions that children are exposed to ICT in Early Years, however this will happen across the academic year and built into provision appropriately; responding to the needs and understanding of the children. When working with technology, children will be working towards meeting following early learning goals;
ELG- Managing Self
 · Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; when using technology.
 · Explain the reasons for rules, know right from wrong and try to behave accordingly; when using technology.
ELG- Creating with materials
 · Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; including technology.

Substantive Concept/ Strand- Control S

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic	Summer Programming A Moving a robot	Summer Programming B :An introduction to quizzes	Summer Programming A Sequence in music	Summer Term Programming A Repetition in shapes	Summer Programming B Selection in quizzes	Summer Term Programming A Variables in games
National Curriculum Objective	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	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	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	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	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	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

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	predict the behaviour of simple programs	predict the behaviour of simple programs	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	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	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	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
Knowledge	Understand what algorithms are	Understand that algorithms are implemented as programmes on digital devices. Understand that programmes run by following precise instructions	Understand that programmes can be applied to various forms of input and output.	Understand what computer networks are, e.g. the internet	Understand how computer networks work including the internet	Understand that sensors can be used within programmes. I can explore 'what if' questions by planning different scenarios for controlled devices
Skill	Create simple programmes	Use logical reasoning to predict the behaviour of programmes Debug simple programmes	Write programmes that create specific goals Use sequence in programmes Work with various forms of input and output	Experiment with variables to control models Design, write and debug programmes that perform specific goals. Use sequence, selection and repetition in	Combine sequences of instructions to turn an external device on and off Use logical reasoning to detect errors in algorithms Use selection accurately within programs	Use logical reasoning to detect errors in more complex algorithms Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say "well done"

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				<p>programs; work with variables.</p> <p>Make accurate predictions about what I think will happen</p>		<p>Design a physical computing system that uses sensors, e.g. using a flow chart</p> <p>Refine a program based on end user feedback.</p>
Vocabulary	Algorithms, programmes, open and move.	(As before +) Logical, predict, debug, precise instructions.	(As before +) Create specific goals, sequence, input and output.	(As before +) Experiment, variables, control, design, write, selection and repetition, accurate networks, internet.	(As before +) Combine, logical reasoning, external device, detect.	(As before +) Combine, relational operators (< = >), physical computing system, flow chart, end user.
Substantive Concept/ Strand- Information technology						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic	Autumn Computing systems and networks:Technology around us	Autumn Creating media: Digital photography	Autumn Creating media: Desktop publishing	Spring Creating media: Photo editing	Spring Creating media: Vector drawing	Spring Creating media:3D Modelling
National Curriculum Objective	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Use technology purposefully to create, organise, store, manipulate and retrieve 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	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	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	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

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			and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Knowledge	Understand that technology can be used to create and store digital content	Understand that technology can be used to edit, amend or adapt digital content. Discuss and explore how to use ICT to organise, present and understand data as a simple graph.	Understand that digital content can be used to find, retrieve and present information.	Understand that information can be presented in different ways using various platforms and programmes.	Understand that search results are ranked. Understand the benefits of technology to collaborate with others Recognise an audience when designing and creating digital content	Understand and appreciate how search results are ranked and how this affects the end user. Discuss and explore the use of ICT to sort, organise and classify objects based on their properties.
Skill	Use technology to create content Use technology to store digital content Use a mouse or trackpad effectively to navigate websites Save and reopen work on a digital device	Use technology to create, communicate and collaborate Use ICT to source, generate and amend images. Begin to change or enhance photographs and pictures (crop, recolour).	Use technology to communicate effectively Use technology to collect information Use a database to retrieve information Present data in a range of ways to	Select and use software to accomplish given goals Collect and present data in different ways Design and create digital content for a specific purpose	Select and combine software on a range of devices Generate, amend and combine visual media from different sources for a specific audience or task. Create a movie including still images	Select and combine software on a range of devices Collaborate with individuals and groups to create digital content for a specific purpose. Use ICT to create and modify charts quickly

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		<p>Create a simple animation using still images</p> <p>Take digital photographs and record video</p> <p>Use software to explore sound and musical phrases.</p>	<p>convey information</p> <p>Use technology to collaborate on a task</p> <p>Edit digital content in response to feedback</p>	<p>Evaluate and analyse information</p> <p>Use technology to collaborate in different ways</p> <p>Use ICT to compose music or sounds including creating melodies</p> <p>Storyboard and shoot a short stop motion animated sequence.</p> <p>Use a range of tools to edit and enhance media for particular effect</p>	<p>and sound and add suitable titles and transitions.</p> <p>Capture/review different images, considering lighting, positioning and angle appropriate to a given task/audience.</p> <p>Use filters in a database to find out specific information</p> <p>Identify and use appropriate hardware and software to fulfil a specific task</p> <p>Create different types of graphs and charts that are appropriate to the data I am using; I can use them to interpret and answer a specific question.</p> <p>I can select and use suitable software and hardware to produce a multimedia soundtrack.</p>	<p>and easily.</p> <p>Create databases, retrieve information and draw conclusions based on results entered.</p> <p>Find suitable images, video and sounds from appropriate sources, taking into account copyright issues.</p> <p>Remix and edit a range of media to create content.</p> <p>Use appropriate ICT resources to compose music or sounds to accompany a story.</p> <p>Choose appropriate hardware to capture and review a range of images, considering lighting, positioning, sound quality and angle.</p>
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Vocabulary	Computer, tablet, mouse, keyboard, website, technology, phone, click, scroll, type, enter, digital, website, save and reopen.	(As before +) Organise, create, communicate and collaborate, source, generate and amend, crop, recolour, animation, photographs and video, software, present, data, simple graph.	(As before +) Collect, database, retrieve, task, edit, feedback.	(As before +) Select, specific purpose, evaluate, analyse, compose, storyboard, shoot, enhance, media.	(As before +) Search results, ranked, combine, generate, audience, movie, titles, transitions, capture, review, images, positioning, angle, filters (database), hardware, graphs and charts, multimedia, soundtrack..	(As before +) Organise and classify, modify, retrieve, draw conclusions, appropriate sources, remix, accompany, sound quality.
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Substantive Concept/ Strand- Digital literacy

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic	Over different topics and implemented into all lessons					
National Curriculum Objective	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.	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.	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify 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 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 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	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of

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			ways to report concerns about content and contact.	ways to report concerns about content and contact.	ways to report concerns about content and contact.	ways to report concerns about content and contact.
Knowledge	Recognise common uses of technology beyond school	Understand where/how to seek help when they have concerns about content	<p>Recognise the benefits and risks of different apps and websites</p> <p>Understand the importance of a good password</p> <p>Understand the dangers of spending too long online and the importance of regular screen breaks.</p> <p>Understand when to share personal information and when not to</p>	<p>Recognise acceptable and unacceptable behaviour using technology</p> <p>Understand the opportunities technology offers for communication</p>	<p>Know where to find copyright free images and audio, and why this is important</p> <p>Understand the issues of copyright and the importance of acknowledging sources.</p> <p>Understand that everything we do online leaves a digital footprint that can last forever</p> <p>Know what to do and who to contact if we see something that upsets / concerns us online.</p> <p>Understand privacy settings and what pictures are appropriate to share online.</p> <p>Discuss the benefits and dangers of</p>	<p>Understand the impact of an individual sending or uploading unkind or inappropriate content.</p> <p>Understand what 'Plagiarism' means and that it is important to acknowledge sources.</p> <p>Understand that not all information on the internet is legal to use or copy</p> <p>Understand that we are all digital citizens and the potential impact and influence we can have on the outside world</p> <p>Know the meaning of common website extensions (.org, .net. Gov etc) Identify secure servers (padlock such as</p>

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					<p>communicating online/through different forms of technology.</p> <p>Know the meaning of common website extensions (.org, . net. Gov etc)</p> <p>Understand what makes a strong password and why this is important at school and in the wider world</p>	<p>internet banking).</p> <p>Become increasingly savvy online consumers: know that algorithms are used to track online activities with a view to targeting advertising and information</p>
Skill	<p>Use technology safely Log on to a computer</p> <p>Keep personal information private</p>	Use technology respectfully	<p>Use technology responsibly</p> <p>Identify a range of ways to share concerns about conduct</p>	<p>Compose emails</p> <p>Know how to respond to unpleasant communications via texts, IM, email or chat rooms.</p> <p>Be discerning in evaluating digital content</p>	<p>Beginning to question information based on author and location; recognise different viewpoints and the impact of incorrect data.</p> <p>Share and exchange ideas using emails/electronic communication respectfully.</p>	<p>Critically evaluate websites for reliability of information/ bias and authenticity to include use of social media</p> <p>Demonstrate responsible use of online services and technologies, and know a range of ways to report concerns</p> <p>Produce formal or informal messages, appropriate to the task</p>

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Vocabulary	Autumn Computing systems and networks The Internet	Autumn Computing systems and networks IT around us	Autumn Computing systems and networks Connecting computers	Autumn Computing systems and networks The Internet	Autumn Computing systems and networks Sharing information	Autumn Computing systems and networks
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Other strands covered throughout units

- Coding
- Collecting and combining information
- Communicating Effectively
- Connecting Responsibly