



# Year 1 and 2 - Computing Statutory Requirements

## St Christopher Computing Intent

Our computer scientists will develop a broad, deep understanding of computing and how it links to their lives. Children will be given the opportunities to apply the fundamental principles and concepts of computer science. Children will develop analytical problem-solving skills and learn to evaluate and apply information technology in a variety of scenarios and situations. Through our curriculum, we will enable pupils to become responsible, competent, confident and creative users of information technology. Children will begin to make links to how they use technology outside of the classroom and through this they will begin to think about the benefits of using technology in their lives, making links to learning. Moreover, we will instil in the children the skills needed to use technology safely and respectfully, keeping personal information private, protecting their online identity through making sound choices as digital citizens at school and at home (supported further through cross-curricular links including Jigsaw).

## National Curriculum Aims

### Our children will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- be responsible, competent, confident and creative users of information and communication technology

## Statutory Programmes of Study

### KS1 children should be taught about:

What algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Creating and debugging simple programs	Using logical reasoning to predict the behaviour of simple programs	Using technology purposefully to create, organise, store, manipulate and retrieve digital content	Recognising common uses of information technology beyond school	Using 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.
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Aspect	Year Group Essential Skills	
	Year 1	Year 2
<b>Multimedia Text and Images</b>	Children can use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape. To use applications and devices in order to communicate ideas, work, messages and demonstrate control.	Children will save, retrieve and organise work by adding text and/or images to a blog.
<b>Multimedia Sound &amp; Motion</b>		Children can use software to record sounds and change those recorded sounds.
<b>Technology in our Lives</b>	Begin to recognise ways that technology is used in the home and community and how the offline and online worlds are linked.	Children will recognise age-appropriate websites. Children will understand they leave a 'digital footprint' and what that information might look like.
<b>Coding &amp; Programming</b>		Children will control the nature of events: repeat, loops, single events and add and delete features, give a set of instructions to follow and predict what will happen. They will recognise vocabulary such as algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink.
<b>Online Safety</b>	Children will recognise which personal information they should keep safe from strangers and who know who to tell if someone online asks for personal information.	Children will continue to identify what is appropriate and inappropriate behaviour on the internet and understand they can seek help from an adult when they see something that is unexpected or worrying.



## Year 3 and 4 - Computing Statutory Requirements

### St Christopher Computing Intent

Our computer scientists will develop a broad, deep understanding of computing and how it links to their lives. Children will be given the opportunities to apply the fundamental principles and concepts of computer science. Children will develop analytical problem-solving skills and learn to evaluate and apply information technology in a variety of scenarios and situations. Through our curriculum, we will enable pupils to become responsible, competent, confident and creative users of information technology. Children will begin to make links to how they use technology outside of the classroom and through this they will begin to think about the benefits of using technology in their lives, making links to learning. Moreover, we will instil in the children the skills needed to use technology safely and respectfully, keeping personal information private, protecting their online identity through making sound choices as digital citizens at school and at home (supported further through cross-curricular links including Jigsaw).

### National Curriculum Aims

#### Our children will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- be responsible, competent, confident and creative users of information and communication technology

### Statutory Programmes of Study

#### KS2 children should be taught about:

Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Using sequence, selection, and repetition in programs; work with variables and various forms of input and output	Using logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Understanding 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	Using search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Selecting, using and combining 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	Using technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
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Aspect	Year Group Essential Skills	
	Year 3	Year 4
<b>Multimedia Text and Images</b>	Within Google Slides, combine text and images effectively to create a branching story-like structure.	Children will learn about formatting images and organising content into an effective layout. Children will edit and manipulate text and images within a document. Children will be understand how to insert URLs into a document.
<b>Multimedia Sound &amp; Motion</b>	Within Google Slides, record, create and edit sounds, insert videos and capture still images.	Children will use software to capture photos/video for a purpose and plan an animation, moving items within each animation for playback.
<b>Technology in our Lives</b>	Children will use search tools to find and use an appropriate website and content and use strategies to improve results when searching online. To understand how email is used in practical daily scenarios and how to send emails responsibly ourselves.	Children will learn what plagiarism is. They will recognise appropriate and inappropriate amounts of personal information to divulge when creating online accounts.
<b>Coding &amp; Programming</b>	To use Turtle Logo and Scratch to write a program, putting commands into a sequence to achieve a specific outcome e.g. drawing a specified shape.	To program a quiz in Scratch and use variables to create an effect, e.g. repetition, if, when, loop.
<b>Online Safety</b>	To reflect on their own digital footprint and behaviour online e.g. oversharing information, use of strong passwords.	To identify safe/risky online behaviour by themselves and others. Children will understand what it means to be a responsible digital citizen.
<b>Handling Data</b>		



## Year 5 and 6 – Computing Statutory Requirements

### St Christopher Computing Intent

Our computer scientists will develop a broad, deep understanding of computing and how it links to their lives. Children will be given the opportunities to apply the fundamental principles and concepts of computer science. Children will develop analytical problem-solving skills and learn to evaluate and apply information technology in a variety of scenarios and situations. Through our curriculum, we will enable pupils to become responsible, competent, confident and creative users of information technology. Children will begin to make links to how they use technology outside of the classroom and through this they will begin to think about the benefits of using technology in their lives, making links to learning. Moreover, we will instil in the children the skills needed to use technology safely and respectfully, keeping personal information private, protecting their online identity through making sound choices as digital citizens at school and at home (supported further through cross-curricular links including Jigsaw).

### National Curriculum Aims

#### Our children will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- be responsible, competent, confident and creative users of information and communication technology

### Statutory Programmes of Study

#### KS2 children should be taught about:

Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Using sequence, selection, and repetition in programs; work with variables and various forms of input and output	Using logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Understanding 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	Using search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Selecting, using and combining 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	Using technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
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Aspect	Year Group Essential Skills	
	Year 5	Year 6
<b>Multimedia Text and Images</b>	Children will create their own website, inserting pictures, text and hyperlinks. Children will use Google Sketchup to create and edit 3D models.	
<b>Multimedia Sound &amp; Motion</b>	Audio files to be recorded, stored and then uploaded and embedded within websites children have designed.	Collect audio and use existing clips as part of a piece of digital media e.g. an animation using Scratch.
<b>Technology in our Lives</b>	To use strategies to check the reliability of information/website and to understand the implication of copyright. Children will become aware and be able to identify altered images and how they are presented as reality using image manipulation.	Children will have an appreciation that the media play a powerful role in shaping ideas about girls and boys.
<b>Coding &amp; Programming</b>	To program an algorithm as a sequence of game instructions with actions and consequences e.g. lose a life, go back to start, change score.	Simulate animation by showing and hiding sprites, using costume changes and through repeating commands.
<b>Online Safety</b>	Develop the ability to identify spam/phishing attempts to protect their own data. Protect their accounts using strong passwords. Be responsible in their use of the internet by citing sources.	Be aware of strategies for dealing with cyberbullying. To be able to identify whether a website is secure or not and the implications for the type and quantity of personal data we share online with online services or with other users.
<b>Handling Data</b>		Children will choose the correct method to display data using software such as spreadsheets. Children also learn how to check the accuracy of data and compare data for a specific purpose e.g. using Google Sheets.



## Year 1-6 - Computing Statutory Requirements

### St Christopher Computing Intent

Our computer scientists will develop a broad, deep understanding of computing and how it links to their lives. Children will be given the opportunities to apply the fundamental principles and concepts of computer science. Children will develop analytical problem-solving skills and learn to evaluate and apply information technology in a variety of scenarios and situations. Through our curriculum, we will enable pupils to become responsible, competent, confident and creative users of information technology. Children will begin to make links to how they use technology outside of the classroom and through this they will begin to think about the benefits of using technology in their lives, making links to learning. Moreover, we will instil in the children the skills needed to use technology safely and respectfully, keeping personal information private, protecting their online identity though making sound choices as digital citizens at school and at home (supported further through cross-curricular links including Jigsaw).

### Statutory Programmes of Study

#### KS1 children should be taught about:

What algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Creating and debugging simple programs	Using logical reasoning to predict the behaviour of simple programs	Using technology purposefully to create, organise, store, manipulate and retrieve digital content	Using technology purposefully to create, organise, store, manipulate and retrieve digital content	Recognising common uses of information technology beyond school	Using 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.
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#### KS2 children should be taught about:

Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Using sequence, selection, and repetition in programs; work with variables and various forms of input and output	Using logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Understanding 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	Using search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Selecting, using and combining 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	Using technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
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Aspect	Year Group Essential Skills					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Multimedia Text and Images</b>	Children can use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape. To use applications and devices in order to communicate ideas, work, messages and demonstrate control.	Children will save, retrieve and organise work by adding text and/or images to a blog.	Within Google Slides, combine text and images effectively to create a branching story-like structure.	Children will learn about formatting images and organising content into an effective layout. Children will edit and manipulate text and images within a document. Children will be understand how to insert URLs into a document.	Children will create their own website, inserting pictures, text and hyperlinks. Children will use Google Sketchup to create and edit 3D models.	
<b>Multimedia Sound &amp; Motion</b>		Children can use software to record sounds and change those recorded sounds.	Within Google Slides, record, create and edit sounds, insert videos and capture still images.	Children will use software to capture photos/video for a purpose and plan an animation, moving items within each	Audio files to be recorded, stored and then uploaded and embedded within websites children have designed.	Collect audio and use existing clips as part of a piece of digital media e.g. an animation using Scratch.

				animation for playback.		
<b>Technology in our Lives</b>	Begin to recognise ways that technology is used in the home and community and how the offline and online worlds are linked.	Children will recognise age-appropriate websites. Children will understand they leave a 'digital footprint' and what that information might look like.	Children will use search tools to find and use an appropriate website and content and use strategies to improve results when searching online. To understand how email is used in practical daily scenarios and how to send emails responsibly ourselves.	Children will learn what plagiarism is. They will recognise appropriate and inappropriate amounts of personal information to divulge when creating online accounts.	To use strategies to check the reliability of information/website and to understand the implication of copyright. Children will become aware and be able to identify altered images and how they are presented as reality using image manipulation.	Children will have an appreciation that the media play a powerful role in shaping ideas about girls and boys.
<b>Coding &amp; Programming</b>		Children will control the nature of events: repeat, loops, single events and add and delete features, give a set of instructions to follow and predict what will happen. They will recognise vocabulary such as algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink.	To use Turtle Logo and Scratch to write a program, putting commands into a sequence to achieve a specific outcome e.g. drawing a specified shape.	To program a quiz in Scratch and use variables to create an effect, e.g. repetition, if, when, loop.	To program an algorithm as a sequence of game instructions with actions and consequences e.g. lose a life, go back to start, change score.	Simulate animation by showing and hiding sprites, using costume changes and through repeating commands.
<b>Online Safety</b>	Children will recognise which personal information they should keep safe from strangers and who know who to tell if someone online asks for personal information.	Children will continue to identify what is appropriate and inappropriate behaviour on the internet and understand they can seek help from an adult when they see something that is unexpected or worrying.	To reflect on their own digital footprint and behaviour online e.g. oversharing information, use of strong passwords.	To identify safe/risky online behaviour by themselves and others. Children will understand what it means to be a responsible digital citizen.	Develop the ability to identify spam/phishing attempts to protect their own data. Protect their accounts using strong passwords. Be responsible in their use of the internet by citing sources.	Be aware of strategies for dealing with cyberbullying. To be able to identify whether a website is secure or not and the implications for the type and quantity of personal data we share online with online services or with other users.
<b>Handling Data</b>	Children can use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape. To use applications and devices in order to communicate ideas, work, messages and demonstrate control.	Children will save, retrieve and organise work by adding text and/or images to a blog.				Children will choose the correct method to display data using software such as spreadsheets. Children also learn how to check the accuracy of data and compare data for a specific purpose e.g. using Google Sheets.

### St Christopher Curriculum

<b>Computing Themes</b>	<ul style="list-style-type: none"> <li>• Painting</li> <li>• Word Processing</li> <li>• Computer Skills</li> <li>• [Online Safety]</li> </ul>	<ul style="list-style-type: none"> <li>• Preparing for Turtle Logo</li> <li>• Programming Turtle Logo &amp; Scratch</li> <li>• Using the Internet</li> <li>• [Online Safety]</li> </ul>	<ul style="list-style-type: none"> <li>• Programming Turtle Logo &amp; Scratch</li> <li>• Presentation Skills</li> <li>• Internet Research &amp; Communication</li> <li>• [Online Safety]</li> </ul>	<ul style="list-style-type: none"> <li>• Animation</li> <li>• Scratch Questions &amp; Quizzes</li> <li>• Word Processing</li> <li>• [Online Safety]</li> </ul>	<ul style="list-style-type: none"> <li>• 3D Modelling: Sketchup</li> <li>• Internet Research &amp; Website Design</li> <li>• Scratch: Developing Games</li> <li>• [Online Safety]</li> </ul>	<ul style="list-style-type: none"> <li>• Spreadsheets</li> <li>• Scratch: Animated Stories</li> <li>• Film-making</li> <li>• [Online Safety]</li> </ul>
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