

Key Vocabulary-

Algorithm
 Online gaming
 Social Media
 Behaviour
 Event
 Sprite
 Loop

	Computer Science	Information Technology	E-Safety and research.
yr5	<p>Begin to identify patterns in algorithms that help to solve specific problems. Explore/ refine procedures using repeat to achieve solutions to problems Designs solutions by decomposing a problem and creates a sub-solution for each part of the problem (decomposition). Write down the steps required to achieve the outcome that is wanted and refer to this when programming Predict the outputs for the steps in an algorithm Use the process: plan, program, test and review Write a program which follows an algorithm to solve a problem for a digital device Group commands as a procedure/function to achieve a specific outcome within a program - using nested loops Use some operators and expressions. Start to apply these in the context of program control (e.g. input/process/output.) Use selection (events) blocks to give different outcomes.</p>	<p>Children should be given the opportunity to use their word processing skills in a range of contexts. Change the layout of a document using centring and justification. Import, position and manipulate graphics into word processing document. Move, resizing and reshaping text and graphics on a page. Create a formula in a spreadsheet and then check for accuracy and plausibility Search databases for information Create databases planning the fields, rows and columns Create graphs and tables to be copied and pasted into other documents Make a home page for a website that contains links to other pages To listen to and create a podcast. To use software to create digital content Can present information appropriate to the audience. To begin to talk about Binary code</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. 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. Be aware of the age requirements for social media apps. Understand the potential risk of providing personal information online Understand the benefits of developing a 'nickname' for online use Understand that some malicious adults may use various techniques to make contact and elicit personal information Know that it is unsafe to arrange to meet unknown people online Know how to report any suspicious behaviour Know that content put online is extremely difficult to remove Know what to do if they discover something malicious or inappropriate Understand that some messages may be malicious and know how to deal with this Make safe choices about use of technology Create strong passwords and manage them so that they remain strong. Understands how search engines rank search results and test some of these systems. They show an understanding that not all information on the internet is accurate. Recognise reasons that people might publish inaccurate content and check validity. Identify whether a file has copyright or can be legally downloaded and whether these can be used in their own work I understand that you should not publish other peoples' material without their permission I can explain in simple terms the differences between a network, the internet and the world wide web</p>
yr6	<p>Record in some detail the steps that are required to achieve an outcome Predict the outputs for the steps in an algorithm Use the process: plan, program, test and review a program Write a program which follows an algorithm to solve a problem and achieve a planned outcome Group commands as a procedure to achieve a specific outcome within a program Use variables to manipulate inputs to create useful outputs Use a range of operations and apply them in the context of program control (e.g. input/process/output.) To understand how variables are used in software and how programmes use these variables. - link to how sensors can be used to measure input in order to activate a procedure or sequence and</p>	<p>Children should be given the opportunity to use their word processing skills in a range of contexts. Know that there is a range of operating systems and application software for the same hardware. Can know how to check for or and spot inaccurate data · Can use formulae and functions in a spreadsheet · Can enter and use simple formula in a spreadsheet · Can understand that changing the numerical data effects a calculation · Can change data to satisfy 'What if' queries (conditionals) · Can use a spreadsheet to solve simple problems · Can make graphs from the calculations on my spreadsheet · Can use editing tools to alter the design of a graph · Can organise, refine and present information appropriate to the audience. Designs and creates own web pages for a purpose. Know that computers use IP addresses to identify each other</p>	<p>Discuss the positive and negative impact of the use of ict in their own lives and those of their peers and family Recognise the potential risks of using internet communication tools and understand how to minimise those risks (appropriate images of themselves) Use technology in ways which minimises risk, e.g. responsible use of online discussions, etc Understand that online environments have security settings, which can be altered, to protect the user. Can discuss and respond to scenarios involving online risk. To understand copyright. To understand and know a range of ways to report concerns and inappropriate behaviour. 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. Understands how search engines rank search results. Clearly evaluates these systems. Use a range of sources to check validity and recognise different viewpoints. To understand what HTML stands for and how this code works for websites</p>

UKS2-Aut1- Medium term planning: Computing

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Week	Knowledge (Subject leader)	Skills (Subject leader)	Lesson content (Class teacher)
1	<p>To be aware that their actions can also affect other members of their family and friends and how it can do this.</p> <p>To know what inappropriate behaviour might look like online . To know how to report concerns and what reporting these concerns means and what happens with them once they have reported a concern</p> <p>To know what risks communicating online can have. To know what steps you can take to reduce risks To know how to protect yourself from these risks</p>	<ul style="list-style-type: none"> • Discuss the positive and negative impact of the use of ict in their own lives and those of their peers and family • To understand and know a range of ways to report concerns and inappropriate behaviour. • Can discuss and respond to scenarios involving online risk. • Recognise the potential risks of using internet communication tools and understand how to minimise those risks (appropriate images of themselves) 	SoC 6.3 Safe social networkers.
2	<p>To understand the meaning of an algorithm.</p> <p>To know how to achieve a required outcome and the steps needed to get there.</p> <p>To be able to look at the coding and use their knowledge to predict the outcome of the programme</p> <p>To know how to group commands together effectively to reach a goal.</p>	<ul style="list-style-type: none"> • Record in some detail the steps that are required to achieve an outcome <ul style="list-style-type: none"> • Describe the importance of the 	See code.org lesson plan 2

	<p>To be able to decompose a programme and use the process, plan, programme, test and review effectively to solve the problem they are presented with.</p> <p>To know what operations the chn can use in programming.</p> <p>To be able to apply these into the input, process and output cycle.</p>	<p>user in the design process.</p> <ul style="list-style-type: none"> Identify sprites in a running computer program. 	
3	<p>Students will write programs and learn about the two concepts at the heart of Sprite Lab: sprites and behaviours.</p> <p>To understand the meaning of an algorithm.</p> <p>To know how to achieve a required outcome and the steps needed to get there.</p> <p>To know how to group commands together effectively to reach a goal.</p> <p>To be able to decompose a programme and use the process, plan, programme, test and review effectively to solve the problem they are presented with.</p> <p>To know what operations the chn can use in programming.</p> <p>To be able to apply these into the input, process and output cycle.</p>	<ul style="list-style-type: none"> Use the process: plan, program, test and review a program Write a program which follows an algorithm to solve a problem and achieve a planned outcome Use a range of operations and apply them in the context of program control (e.g. input/process/output.) Create an animation using sprites, and behaviors. Create new sprites and assign them costumes and behaviors. 	See code.org lesson plan 3

<p>4</p>	<p>Students will write programs and learn about the two concepts at the heart of Sprite Lab: sprites and behaviours.</p> <p>To understand the meaning of an algorithm.</p> <p>To know how to achieve a required outcome and the steps needed to get there.</p> <p>To know how to group commands together effectively to reach a goal.</p> <p>To be able to decompose a programme and use the process, plan, programme, test and review effectively to solve the problem they are presented with.</p> <p>To know what operations the chn can use in programming.</p> <p>To be able to apply these into the input, process and output cycle.</p>	<ul style="list-style-type: none"> • Use the process: plan, program, test and review a program • Write a program which follows an algorithm to solve a problem and achieve a planned outcome • Use a range of operations and apply them in the context of program control (e.g. input/process/output.) • Create an animation using sprites, and behaviors. • Create new sprites and assign them costumes and behaviors. 	<p>See code.org lesson plan 4</p>
<p>5</p>	<p>To understand the meaning of an algorithm.</p> <p>To know how to achieve a required outcome and the steps needed to get there.</p> <p>To be able to look at the coding and use their knowledge to predict the outcome of the programme</p> <p>To know how to group commands together effectively to reach a goal.</p>	<ul style="list-style-type: none"> • Write a program which follows an algorithm to solve a problem and achieve a planned outcome • Group commands as a procedure to achieve a specific outcome 	<p>See code.org lesson plan 5</p>

	<p>To be able to decompose a programme and use the process, plan, programme, test and review effectively to solve the problem they are presented with.</p> <p>To know what operations the chn can use in programming.</p> <p>To be able to apply these into the input, process and output cycle.</p>	<p>within a program</p> <ul style="list-style-type: none"> • Use a range of operations and apply them in the context of program control (e.g. input/process/output.) • Create an interactive virtual pet using events, behaviors, and custom art. • Program solutions to problems that arise when designing a virtual pet, like feeding it. 	
6	<p>To understand the meaning of an algorithm.</p> <p>To know how to achieve a required outcome and the steps needed to get there.</p> <p>To be able to look at the coding and use their knowledge to predict the outcome of the programme</p> <p>To know how to group commands together effectively to reach a goal.</p> <p>To be able to decompose a programme and use the process, plan, programme, test and review effectively to solve the problem they are presented with.</p> <p>To know what operations the chn can use in programming.</p> <p>To be able to apply these into the input, process and output cycle.</p>	<p>Write a program which follows an algorithm to solve a problem and achieve a planned outcome</p> <p>Group commands as a procedure to achieve a specific outcome within a program</p> <p>Use a range of operations and apply them in the context of program control (e.g. input/process/output.)</p>	<p>See code.org lesson plan 6</p>

	<p>To Determine the relationship between how a variable is defined, stored, and retrieved when we press "Run" on a program.</p>				
<p>7</p>	<p>To be aware that their actions can also affect other members of their family and friends and how it can do this.</p> <p>To know what inappropriate behaviour might look like online.</p> <p>To know how to report concerns and what reporting these concerns means and what happens with them once they have reported a concern</p> <p>To know what risks communicating online can have.</p>	<p>Discuss the positive and negative impact of the use of ict in their own lives and those of their peers and family</p> <p>To understand and know a range of ways to report concerns and inappropriate behaviour.</p> <p>Can discuss and respond to scenarios involving online risk.</p> <p>Recognise the potential risks of using internet communication tools and understand how to minimise those risks</p>	<p>See code.org lesson plan 6 - unplugged digital citizenship</p>		

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	To know what steps, you can take to reduce risks To know how to protect yourself from these risks		
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