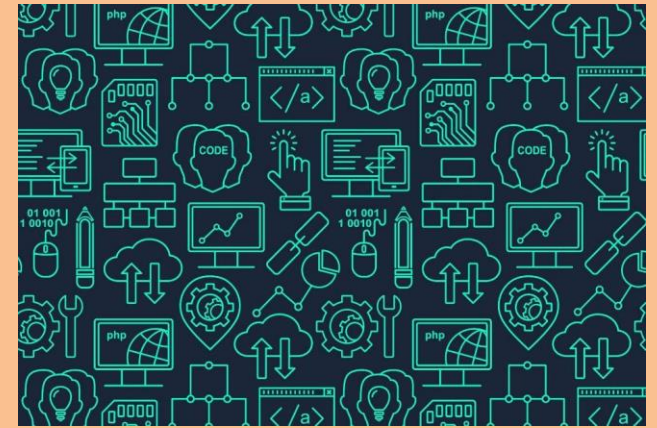# Curriculum Skills and Progression Map Computing: 2023 to 2024 (Cycle 1)

The Computing Curriculum and Christian Distinctiveness

at Horsford CofE VA Primary School

At Horsford C of E Primary School, our values **compassion**, **courage** and **responsibility** are promoted and heavily featured in our Computing curriculum. Pupils are living within an increasingly technological world and aim to develop confidence and knowledge in this area and to share their Christian values through different elements of technology. In school we strive to take responsibility for our actions and learning attitudes using technology. We reflect on the story 'The wise and foolish man' and take responsibility by not always taking the easy option and try something that might challenge us but will broadly benefit ourselves and people around us. Online safety continues to be at the forefront of learning and we have a huge focus on online behaviour and how to have a positive online presence. We take courage from Esther who spoke out when she saw her people being treated unfairly (Esther 2-9) to help us report any online incidents or concerns children may have.

'Spirituality is the bitter-sweet yearning for beauty, truth, love and wonder beyond ourselves. It is a longing we pursue together and a treasure we glimpse in ourselves and one another and seek beyond us into eternity. It is life in all its fullness.'

The Computing Curriculum and Provision for Pupils with SEND

At Horsford C of E VA Primary school, we believe all pupils should have the opportunity to learn to the best of their capabilities through a broad and balanced, inclusive curriculum. For our pupils with a Special Educational Need, we scaffold their learning to provide them with the strongest opportunities for success in our school. We believe firmly in the SEND Code of Practice's statement that 'every teacher is a teacher of SEN' and that our pupils with SEN should be provided with the same opportunities as their peers in our school. This means that, with their learning being personalised to meet their areas of need, they feel included in the classroom and make progress year on year. Reasonable adjustments are made in all lessons to enable this.

The Computing curriculum can be adapted to meet the needs of children with SEND in the following ways.

Word Banks for pre-learning and to support during topics and themes	Visual Timetables – class and individual
Breaking down lessons into short, manageable chunks	Fidget toys available
Mixed ability groups – using peers as support and role models	Word lists of key vocabulary for pre-learning and as prompts
Adult assistance nearby	Trying a 1:1 adult/adult nearby
Using another student as a reader/support	Checking seating position – sight problems – near the back for sensory needs
Knowledge map/Mind Maps	A safe/quiet space in or near the classroom
Recording devices to record their answers/sentences – talking tins, iPad	Extra time for the trickier tasks
Printing work larger and in smaller chunks	Use of a scribe
Breaks	Simplified work
Now/Next	

When planning for Computing class teachers should adapt their lessons where necessary using ideas taken from this list, however it is important to remember this list is not exhaustive and other adaptations may be needed for children with specific needs.

COMPUTING
AGE RELATED STATUTORY COVERAGE

EYFS	KEY STAGE ONE LEARNING	KEY STAGE TWO LEARNING
No statutory EYFS guidance and ELG for this area	● 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.	● 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 on a range of digital devices to design and create a range of programs, systems and content to accomplish given goals ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Computational Thinking Skills

Tinkering	Making	Collaboration	Persevering	Logic	Pattern	Abstraction	Algorithms & Decomposition

Other Ideas

Here are a few ideas to support with creating questions or next steps to develop the children's deeper thinking of computing.

● Odd one out ● Sometimes, always, never ● True or False	● Convince me (Convince me that I need to be safe on the internet) ● Prove it- Prove that algorithms need to be put in the correct order. ● What's the same/difference?

Further Information

See Appendix A for long term plan for each combined year groups.
See Appendix B for Assembly plan overview
See Appendix C for Skills Ladder Matrix

Deeper Learning

Blooms Taxonomy Questions (See Appendix C)
● Using the pyramid choose one of the words to form a deeper learning question for the children. These will vary all depending on the child, lesson outcomes and the skills taught within the lesson but as a starting point use the question words and question stems to support with this.
● Statements- Josie thinks all technology needs the internet to work. Do you agree/disagree? Why? Give examples.

Computing
EYFS Curriculum
Early Years Foundation Stage Statutory Guidance
No statutory EYFS guidance and ELG for this area
Vocabulary

Instructions Plan	Technology Test	Safely

Inquiry
Computing is covered throughout the year through weekly themes taken from the interests of the children. A weekly hook sheet is published, and specific projects are identified on them. Weekly enhanced provision is planned to ensure the children have the opportunity to explore computing skills independently throughout the week. *'Computational thinking'* skills will also be encouraged as an element of computing in reception and support them in giving the children problem solving skills that they use in everyday life.

Early Years – Computing Can they begin to recognise ICT around them and explore it safely? (All Year)	
A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	**B. Creating Content**
1. Identify technology around them. 2. Create rules for using technology responsibly. 3. Act/find someone who can help if they find something they are unsure about. 4. Understand some things are private.	1. Make marks using technology. 2. Create own content, with support.
C. Programming - Algorithms	**D. Programming – Designing & Debugging**
1. Sequence things in the correct order. 2. Follow instructions.	1. Begin to test instructions. 2. Begin to change and correct instructions.
Early Years - Greater Depth	
• Can they follow and evaluate a set of instructions (simple algorithm)? • Can they save or capture and retrieve their original content?	

Computing Skills Map – KS1
Can they recognise ICT around them? Can they explore information from various ICT sources? (All Year)

National Curriculum Statutory Guidance

- 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.

Vocabulary

Algorithm	Application	Coding		Debug		Edit	E-Safety	Font		Icon	Keyboard
Link	Log on/off	Password	Print	Save	Search	'SMART'	Software	Text	Tinker	Toolbar	Username

Year 1

A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content
1. Identify a laptop and its main parts with support.	1. Create original content using digital technology.
2. Log on and off with support with a username, and a password that is private.	2. Use a keyboard to type simple words.
3. Begin to understand the need to follow 'SMART' rules to remain safe online.	3. Begin to understand that if you create something you own it.
4. 'Open' a locally saved document with support.	4. Select an image in a document and resize.
5. Retrieve information from a given website.	5. Print a document with support.
	6. Understand that my work must be saved before closing if I need to access it in the future.

C. Programming - Algorithms	D. Programming – Designing & Debugging
1. To tinker independently.	1. Solve a problem by breaking it down into smaller parts.
2. To explain what an instruction is.	2. Debug your own algorithm.
3. To understand an instruction is known as an 'algorithm' in computing.	3. Begin to write and debug a code.
4. Follow and create a simple series of algorithms.	
5. Understand how to make something move.	
6. Give a single instruction to make something happen.	

Year 2

A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content
1. Identify a laptop and its main parts independently.	1. Use a keyboard to edit text.
2. Log on and off a computer independently with a username, and a password that is private.	2. Save & retrieve own original content.
3. Demonstrate a deeper understanding of 'SMART' rules to stay safe online.	3. Explore features of content creating programs.
4. Independently 'open' a locally saved document.	4. Choose a relevant image from a selection in a document to keep and resize, deleting the rest.
5. Select a website from search results from which to retrieve information.	5. Independently print a document.

C. Programming - Algorithms	D. Programming – Designing & Debugging
1. Create and record a simple series of algorithms.	1. Use logical reasoning to solve a problem.
2. Predict the outcome of a series of algorithms with increasing accuracy.	2. Debug someone else's algorithm.
3. Explain what has happened when using ICT for control.	3. Plan, create and debug a simple program.

Year 1/2 - Greater Depth

- Can they use and apply logical thinking to solve a problem involving programming? (e.g. programming a toy)
- Can they use digital technology to organise and edit content? (e.g. text in an app, editing images)
- Can they appreciate that some algorithms are more efficient than others and use methods of efficiency to test these?

Computing Skills Map – Lower KS2
Can they recognise the importance of ICT in the real world? Can they use ICT across subjects? (All Year)

National Curriculum Statutory Guidance

- 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 on a range of digital devices to design and create a range of programs, systems and content to accomplish given goals.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Vocabulary

Attachment	Browser	Curser	Cyber-Bullying	Digital Citizen	Email	Format	Insert	Network	Permission	Programming
Search Engine	Sequence	Social Media	Spam	Spell-check	Spreadsheet	Stop-Frame Animation	Text box	World Wide Web (WWW)		

Year 3

A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content
1. Share their understanding of what 'SMART' means and why it is important with support. 2. Explore a website by clicking on links with support. 3. Know that not everything on the internet is true. 4. Use '@' to send appropriate email communication and attachments with support. 5. Begin to understand the impact computer technology has had on individuals. 6. Understand what 'social media' is and that you must be at least 13 to use it. 7. Search an image-hosting site responsibly. 8. With support identify and understand what cyberbullying looks like and that it is not acceptable. 9. Understand that it is against the law to do some things on a computer. 10. Understand that you need permission to use content created by other people.	1. Select an appropriate type of software for different tasks with support. 2. Organise and present information as lists, tables or spreadsheets with support. 3. Highlight text and change its size, style and font. 4. Use an automatic spelling checker to edit spelling errors. 5. Create a folder to save/retrieve own original content to/from with support. 6. Insert an image into a document with support. 7. Edit own original content created using digital technology with support. 8. Create a short stop-frame animation.

C. Programming – Algorithms	D. Programming – Designing & Debugging
1. Make predictions about the outcome of a program they have written. 2. Use algorithms to control movement. 3. Understand the need for clear instructions. 4. Write a program with a short sequence of instructions.	1. Use a variety of software to design to accomplish a given goal with support. 2. Understand what is important and unimportant when designing. 3. Decompose a game into its parts with support. 4. Design, program, debug, present and evaluate a game with support.

Year 4

A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content
1. Independently share their understanding of what 'SMART' means and why it is important. 2. Use a search engine to find a specific website and navigate to it. 3. Independently use '@' to send appropriate email communications with attachments. 4. Begin to identify 'spam' emails. 5. Begin to understand the reasons why it is against the law for companies to allow under 13s to use their services. 6. Begin to understand the impact computer technology has had on the wider world. 6. Independently identify and understand what cyberbullying looks like and that it is not acceptable. 7. Browse a search engine responsibly while exercising caution to find appropriate images. 8. Understand that 'Cyber-Crime' is illegal and identify possible victims. 9. Explain how to be a responsible 'digital citizen'.	1. Independently select an appropriate type of software for different tasks. 2. Use automatic functions to organise and present information in alphabetical order. 3. Format text purposefully to achieve a specific goal, considering the audience. 4. Use an automatic spelling and grammar check to improve suitability for different audiences. 5. Independently create a folder to/from which to save/retrieve own original content. 6. Independently insert an image into a document. 7. Independently edit own original content created using digital technology. 8. Create a stop-frame animation.

C. Programming – Algorithms	D. Programming: Designing & Debugging
1. Make accurate predictions about the outcome of a program they have written. 2. Use algorithms to accurately control movement. 3. Understand the need for clear and precise instructions. 4. Write a program with a sequence of instructions.	1. Independently use a variety of software to design to accomplish a given goal. 2. Understand the importance of considering what is included and ignored in computer simulations and design. 3. Decompose a game into its parts. 4. Design, program, debug, present and evaluate a game.

Year 3/4 - Greater Depth

- Can they recognise the impact of keyword choice on search engine results? (e.g. results ranked according to relevance or reliability of content and credibility of sources)
- Can they evaluate content (created/researched) against a given goal?
- Can they can give reasons for errors in programs and explain how they have corrected these through decomposition and debugging?

Computing Skills Map – Upper KS2
Can they recognise the importance of ICT in the real world? Can they use ICT across subjects? (All Year)

National Curriculum Statutory Guidance

- 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 on a range of digital devices to design and create a range of programs, systems and content to accomplish given goals.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Vocabulary

Abstraction	Align	Component	Computer network	Consent	Decomposition	Digital footprint	Formula	Hyperlink
Input	Manipulate	Output	Phishing	Plagiarism	Repetition	Selection	Tab	Variable

Year 5

A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content	
1. Be able to understand and explain 'SMART' rules for using the internet and be good role-models. 2. Solve problems by using communication tools to connect with others within school and beyond with support. 3. Identify some of the risks of working online or with internet communication tools. 4. Understand that photos of other people should not be published without their permission. 5. Understand that individuals should not be 'tagged' in posts without their permission. 6. Know that content put online is extremely difficult to remove. 7. Understand that our personal information can be used by people acting maliciously to cause harm. 8. Know that some material online is copyrighted and may not be copied or downloaded. 9. Talk about the law in relation to online activities, cyber-bullying and cyber-crime. 10. Understand that poor input equals unreliable results.	1. Select and create the best page set-up for the task when creating a new document with support. 2. Know how to 'copy', 'cut' and 'paste' an object or text with support. 3. Use a 'special effect' to enhance the look of an image. 4. Use automatic functions to organise and present information in numerical order. 5. In a spreadsheet, enter a formula to find the total. 6. Begin simple film editing.	

C. Programming - Algorithms	D. Programming – Designing & Debugging	
1. Explain how an algorithm works. 2. Begin to understand the importance of successful sequence, code and algorithms. 3. Write a program that uses the repeat command. 4. Write a program using selection with support.	1. Create and use a 3D modelling application with support. 2. Create a 3D shape and add detail. 3. Evaluate their content. 4. Adapt and modify programs and add refinement. 5. Design and code in Kodu with support.	6. Detect errors in a program and correct them with support. 7. Explain 'what if' scenarios. 8. Begin to plan a solution to a problem using decomposition.

Year 6

A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content	
1. Be able to understand and explain 'SMART' rules for using the internet and be outstanding role-models. 2. Solve problems by using communication tools to connect with others within school and beyond. 3. Identify common features of a 'scam' and of 'phishing'. 4. Understand what is meant by getting or giving consent in relation to online activities. 5. Understand that what we do online creates a 'digital footprint' that could be there forever. 6. Understand and explain the term 'plagiarism'. 7. Rank information found on the internet in order of importance and relevance. 8. Know how to distinguish between good and bad information found on the internet. 9. Talk knowledgeably about the law in relation to online activities, cyber-bullying and cyber-crime. 10. Conduct a safe internet search and refine it for both speed and accuracy.	1. Select and create the best page set-up for the task when creating a new document with support. 2. Know how to 'copy', 'cut' and 'paste' an object or text. 3. Use a range of 'special effects' to enhance the look of images. 4. Use automatic functions to organise and present information in chronological order. 5. In a spreadsheet, use 'filters' to sort information. 6. Edit film with more confidence.	

C. Programming: Algorithms	D. Programming: Designing & Debugging	
1. Explain in detail what will happen in their program. 2. Understand the importance of successful sequence, code and algorithms. 3. Explain what the repeats in the program do 4. Independently write a program using selection.	1. Independently create and use a 3D modelling application. 2. Create a complex 3D design. 3. Evaluate their content and that of others. 4. Design, write and debug their own programme. 5. Design and code in Kodu.	6. Independently detect errors in a program and correct them. 7. Explore 'what if' questions by planning different scenarios for controlled devices. 8. Independently plan a solution to a problem using decomposition.

Year 5/6 - Greater Depth

- Can they compare the information provided on two tabbed websites looking for bias and perspective? (e.g. evaluating the source of content, reliability and credibility of content, sharing information on secure and encrypted websites)
- Can they apply a range of logical and computational thinking to a program and simulate this using an appropriate application?

COMPUTING VOCABULARY MAP			
EYFS	**KEY STAGE ONE**	**LOWER KEY STAGE TWO**	**UPPER KEY STAGE TWO**
- Instructions - Technology - Safely - Plan - Test	- Algorithm - Application - Coding - Debug - Edit - E-safety - Font - Icon - Keyboard - Link - Log on/off - Password - Print - Save - Search 'SMART' - Software - Text - Tinker - Toolbar - Username	- Attachment - Browser - Cursor - Cyber-Bullying - Digital Citizen - Email - Format - Insert - Network - Permission - Programming - Search engine - Sequence - Social Media - Spam - Spell-check - Spreadsheet - Stop-Frame Animation - Text box - World Wide Web (WWW)	- Abstraction - Align - Component - Computer network - Consent - Decomposition - Digital footprint - Formula - Hyperlink - Input - Manipulate - Output - Phishing - Plagiarism - Repetition - Selection - Tab - Variable

Appendix A: Computing Long Term Plan Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle 1						
Years 1 & 2	*Computer skills*	*Online Safety*	Programming-Algorithms	Programming-designing and debugging	Computer Art	Using and applying skills
Years 3 & 4	*Computer skills Microsoft Word*	Programming-Sequence and Abstraction	Online Safety and Being Cyber Smart	Programming-designing and debugging	Internet Research and Communication	Using and Applying Skills Desktop Publishing
Years 5 & 6	*Microsoft Application Recap*	Online safety	Excel	Programming-Algorithms and debugging	Understanding the Internet	Programming-Developing Games
Cycle 2						
Years 1 & 2	*Computer skills Microsoft PowerPoint*	*Online Safety*	Programming-Algorithms	Programming-designing and debugging	Computer Art	Internet and PowerPoint
Years 3 & 4	*Computer skills Microsoft PowerPoint*	Computer Animation	Online Safety	Programming-algorithms designing and debugging	Excel	Using and Applying Skills
Years 5 & 6	*Microsoft Application Recap*	Online Safety	Kodu	Programming-Algorithms and debugging	*3D Modelling*	*Using & Applying Skills*

Appendix B: Computing Skills Map	
Whole School E – Safety Assemblies	
Knowledge and Understanding	**Skills**
- Do they understand the need for rules to keep them safe when exchanging learning and ideas online? - Can they recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion? - Do they understand that the internet contains fact, fiction and opinion and begin to distinguish between them? - Do they understand the need for caution when using an internet search for images and what to do if they find an unsuitable image? - Do they understand that copyright exists on most digital images, video and recorded music? - Do they understand the need to keep personal information and passwords private? - Do they understand that if they make personal information available online it may be seen and used by others? - Do they know how to respond if asked for personal information or feel unsafe about content of a message? - Can they recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy? - Do they know how to report an incident of cyber bullying?	- Do they follow the school's safer internet rules? - Can they begin to identify when emails should not be opened and when an attachment may not be safe?

Appendix C: Computational Skills Ladder

	A. Computing Systems, Network, E-Safety & Being 'Cyber-Smart'	B. Creating Content	C. Programming - Algorithms	D. Programming – Designing & Debugging
R	1. Identify technology around them. 2. Create rules for using technology responsibly. 3. Act/find someone who can help if they find something they are unsure about. 4. Understand some things are private.	1. Make marks using technology. 2. Create own content, with support.	1. Sequence things in the correct order. 2. Follow instructions.	1. Begin to test instructions. 2. Begin to change and correct instructions.
Y1	1. Identify a laptop and its main parts with support. 2. Log on and off with support with a username, and a password that is private. 3. Begin to understand the need to follow 'SMART' rules to remain safe online. 4. 'Open' a locally saved document with support. 5. Retrieve information from a given website.	1. Create original content using digital technology. 2. Use a keyboard to type simple words. 3. Begin to understand that if you create something you own it. 4. Select an image in a document and resize. 5. Print a document with support. 6. Understand that my work must be saved before closing if I need to access it in the future.	1. To tinker independently. 2. To explain what an instruction is. 3. To understand an instruction is known as an 'algorithm' in computing. 4. Follow and create a simple series of algorithms. 5. Understand how to make something move. 6. Give a single instruction to make something happen.	1. Solve a problem by breaking it down into smaller parts. 2. Debug your own algorithm. 3. Begin to write and debug a code.
Y2	1. Identify a laptop and its main parts independently. 2. Log on and off a computer independently with a username, and a password that is private. 3. Demonstrate a deeper understanding of 'SMART' rules to stay safe online. 4. Independently 'open' a locally saved document. 5. Select a website from search results from which to retrieve information.	1. Use a keyboard to edit text. 2. Save & retrieve own original content. 3. Explore features of content creating programs. 4. Choose a relevant image from a selection in a document to keep and resize, deleting the rest. 5. Independently print a document.	1. Create and record a simple series of algorithms. 2. Predict the outcome of a series of algorithms with increasing accuracy. 3. Explain what has happened when using ICT for control.	1. Use logical reasoning to solve a problem. 2. Debug someone else's algorithm. 3. Plan, create and debug a simple program.
Y3	1. Share their understanding of what 'SMART' means and why it is important with support. 2. Explore a website by clicking on links with support. 3. Know that not everything on the internet is true. 4. Use '@' to send appropriate email communication and attachments with support. 5. Begin to understand the impact computer technology has had on individuals. 6. Understand what 'social media' is and that you must be at least 13 to use it. 7. Search an image-hosting site responsibly. 8. With support identify and understand what cyberbullying looks like and that it is not acceptable. 9. Understand that it is against the law to do some things on a computer. 10. Understand that you need permission to use content created by other people.	1. Select an appropriate type of software for different tasks with support. 2. Organise and present information as lists, tables or spreadsheets with support. 3. Highlight text and change its size, style and font. 4. Use an automatic spelling checker to edit spelling errors. 5. Create a folder to save/retrieve own original content to/from with support. 6. Insert an image into a document with support. 7. Edit own original content created using digital technology with support. 8. Create a short stop-frame animation.	1. Make predictions about the outcome of a program they have written. 2. Use algorithms to control movement. 3. Understand the need for clear instructions. 4. Write a program with a short sequence of instructions.	1. Use a variety of software to design to accomplish a given goal with support. 2. Understand what is important and unimportant when designing. 3. Decompose a game into its parts with support. 4. Design, program, debug, present and evaluate a game with support.
Y4	1. Independently share their understanding of what 'SMART' means and why it is important. 2. Use a search engine to find a specific website and navigate to it. 3. Independently use '@' to send appropriate email communications with attachments. 4. Begin to identify 'spam' emails. 5. Begin to understand the reasons why it is against the law for companies to allow under 13s to use their services. 6. Begin to understand the impact computer technology has had on the wider world. 6. Independently identify and understand what cyberbullying looks like and that it is not acceptable. 7. Browse a search engine responsibly while exercising caution to find appropriate images. 8. Understand that 'Cyber-Crime' is illegal and identify possible victims. 9. Explain how to be a responsible 'digital citizen'.	1. Independently select an appropriate type of software for different tasks. 2. Use automatic functions to organise and present information in alphabetical order. 3. Format text purposefully to achieve a specific goal, considering the audience. 4. Use an automatic spelling and grammar check to improve suitability for different audiences. 5. Independently create a folder to/from which to save/retrieve own original content. 6. Independently insert an image into a document. 7. Independently edit own original content created using digital technology. 8. Create a stop-frame animation.	1. Make accurate predictions about the outcome of a program they have written. 2. Use algorithms to accurately control movement. 3. Understand the need for clear and precise instructions. 4. Write a program with a sequence of instructions.	1. Independently use a variety of software to design to accomplish a given goal. 2. Understand the importance of considering what is included and ignored in computer simulations and design. 3. Decompose a game into its parts. 4. Design, program, debug, present and evaluate a game.
Y5	1. Be able to understand and explain 'SMART' rules for using the internet and be good role-models. 2. Solve problems by using communication tools to connect with others within school and beyond with support. 3. Identify some of the risks of working online or with internet communication tools. 4. Understand that photos of other people should not be published without their permission. 5. Understand that individuals should not be 'tagged' in posts without their permission. 6. Know that content put online is extremely difficult to remove. 7. Understand that our personal information can be used by people acting maliciously to cause harm. 8. Know that some material online is copyrighted and may not be copied or downloaded. 9. Talk about the law in relation to online activities, cyber-bullying and cyber-crime. 10. Understand that poor input equals unreliable results.	1. Select and create the best page set-up for the task when creating a new document with support. 2. Know how to 'copy', 'cut' and 'paste' an object or text with support. 3. Use a 'special effect' to enhance the look of an image. 4. Use automatic functions to organise and present information in numerical order. 5. In a spreadsheet, enter a formula to find the total. 6. Begin simple film editing.	1. Explain how an algorithm works. 2. Begin to understand the importance of successful sequence, code and algorithms. 3. Write a program that uses the repeat command. 4. Write a program using selection with support.	1. Create and use a 3D modelling application with support. 2. Create a 3D shape and add detail. 3. Evaluate their content. 4. Adapt and modify programs and add refinement. 5. Design and code in Kodu with support. 6. Detect errors in a program and correct them with support. 7. Explain 'what if' scenarios. 8. Begin to plan a solution to a problem using decomposition.
Y6	1. Be able to understand and explain 'SMART' rules for using the internet and be outstanding role-models. 2. Solve problems by using communication tools to connect with others within school and beyond. 3. Identify common features of a 'scam' and of 'phishing'. 4. Understand what is meant by getting or giving consent in relation to online activities. 5. Understand that what we do online creates a 'digital footprint' that could be there forever. 6. Understand and explain the term 'plagiarism'. 7. Rank information found on the internet in order of importance and relevance. 8. Know how to distinguish between good and bad information found on the internet. 9. Talk knowledgeably about the law in relation to online activities, cyber-bullying and cyber-crime. 10. Conduct a safe internet search and refine it for both speed and accuracy.	1. Select and create the best page set-up for the task when creating a new document with support. 2. Know how to 'copy', 'cut' and 'paste' an object or text. 3. Use a range of 'special effects' to enhance the look of images. 4. Use automatic functions to organise and present information in chronological order. 5. In a spreadsheet, use 'filters' to sort information. 6. Edit film with more confidence.	1. Independently create and use a 3D modelling application. 2. Create a complex 3D design. 3. Evaluate their content and that of others. 4. Design, write and debug their own programme. 5. Design and code in Kodu. 6. Independently detect errors in a program and correct them. 7. Explore 'what if' questions by planning different scenarios for controlled devices. 8. Independently plan a solution to a problem using decomposition.	1. Independently create and use a 3D modelling application. 2. Create a complex 3D design. 3. Evaluate their content and that of others. 4. Design, write and debug their own programme. 5. Design and code in Kodu. 6. Independently detect errors in a program and correct them. 7. Explore 'what if' questions by planning different scenarios for controlled devices. 8. Independently plan a solution to a problem using decomposition.