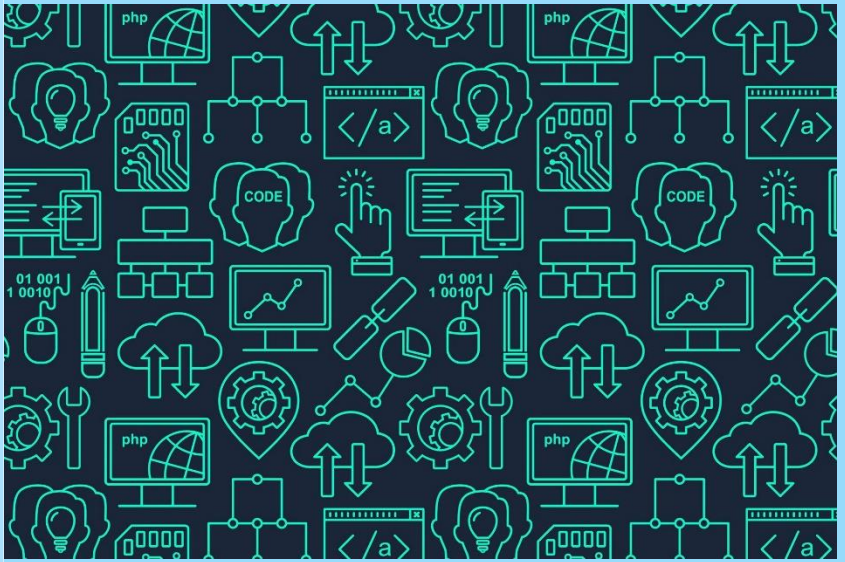
Curriculum Skills and Progression Map
Computing



The Nebula Federation

Horsford CE VA Primary School

COMPUTING: AGE RELATED STATUTORY COVERAGE		
EYFS	**KEY STAGE ONE LEARNING**	**KEY STAGE TWO LEARNING**
Understanding the World: **Technology** **40-60 months** • Completes a simple program on a computer. • Interacts with age-appropriate software. **ELG** Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	• 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. **Both Key Stages:** • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	• 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

COMPUTING: VOCABULARY MAP

EYFS

- Computer
- Software
- Mouse
- Ipad
- Touch screen
- Program
- Technology
- On/off
- Icon

KEY STAGE ONE

Cycle 1

Aut 1	Start up, shut down, save, application, text, program, mouse, keyboard
Aut 2	Communicate, e-safety, personal information, digital
Spr 1	Algorithm, program, command, debug, input, output
Spr 2	Algorithm, program, command, debug, rotate, repeat, backdrop, sprite, input, output
Sum 1	Save, keyboard, mouse, text, edit, format, font, type
Sum 2	Save, keyboard, mouse, text, edit, format, font, type

Cycle 2

Aut 1	Save, keyboard, mouse, text, edit, format, font, type
Aut 2	Appropriate content, digital footprint, search, internet, online, website, review, e-safety, retrieve
Spr 1	Program, sequence, record
Spr 2	Program, sequence, record, debug, algorithm,
Sum 1	Search, internet, results, safety, blog, camera, online, respectfully, comment, response
Sum 2	Folder, presentation, text, edit, save, print

KEY STAGE TWO

Cycle 1 - LKS2

Aut 1	Algorithm, pen up, move, variable, clear screen, pen down, degrees, instructions, sound, commands, forward, calculation
Aut 2	Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser, key words, multiple, trustworthy, spam, communicate, message, social media, Facebook, Twitter, Snapchat, Flickr, Instagram, email, social media, email, attachment, tweet, networ
Spr 1	Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser, key words, multiple, trustworthy, spam, communicate, message, social media, Facebook, Twitter, Snapchat, Flickr, Instagram, email, social media, email, attachment, twee
Spr 2	Hyperlink, insert, toolbar, text, format, edit, font type, font colour, font size, align, paste, copy, bullet, text box, wrap, save, spell check, review, highlight, curso
Sum 1	Hyperlink, insert, toolbar, text, format, edit, font type, font colour, font size, align, paste, copy, bullet, text box, wrap, save, spell check, review, highlight, curso
Sum 2	Debug, input, interface, output, program, prototype, repetition, variable, scratch, algorithms

UKS2

Aut 1	Data, formula, spreadsheet, calculate
Aut 2	Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser, key words, multiple, trustworthy, spam, communicate, message, social media, Facebook, Twitter, Snapchat, Flickr, Instagram, email, social media, email, attachment, tweet
Spr 1	Program, algorithm, create, custom, automatic
Spr 2	Narrative, animated, interactive, visible, sequence, control, timing
Sum 1	Digital content, recording, import, editing, interview
Sum 2	Program, algorithm, create, custom, automatic, narrative, animated, interactive, visible, sequence, control, timing

Cycle 2 - LKS2

Aut 1	Create, template, theme, transition, animation, action, video, audio, layout, evaluate, presentation
Aut 2	Record, timings, stop-start motion, analyse, evaluate, video, audio
Spr 1	Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser, key words, multiple, trustworthy, spam, communicate, message, social media, Facebook, Twitter, Snapchat, Flickr, Instagram, email, social media, email, attachment, tweet
Spr 2	Compare, decompose, program, debug, sequence, variable, block, command, algorithm
Sum 1	Case, text, align, bullets & numbering, control, format
Sum 2	Case, text, align, bullets & numbering, control, format, Compare, decompose, program, debug, sequence, variable, block, command, algorithm

UPK2

Aut 1	Internet, World Wide Web (WWW), search, search engine, results, Google, Bing, Yahoo, browser, key words, multiple, trustworthy, spam, communicate, message, social media, Facebook, Twitter, Snapchat, Flickr, Instagram, email, social media, email, attachment, tweet
Aut 2	3D, 2D, manipulate
Spr 1	Program, design, original, effects, sprite, levels
Spr 2	Text, layout, hyperlinks, publish, webpage
Sum 1	Research, plan, design, create, promote, evaluate, present.
Sum 2	Product Launch, market research, design, create, promote, evaluate, present.

E-saftey

All Year	Online, safety, cyber-bullying, message, search engine, search results, plagiarism, citation, social media, profile, account, private, public, digital citizen, responsibility, community, personal information, share, permission

Skills Map – Computing		
Early Years – Computing		
Network and Internet	**Using ICT**	**Making Things Happen**
E Safety ● Can they act if they find something they are unsure of (including identifying people who can help)?	● Can they make marks using technology?	● Can they explore and interact with their environment using a range of equipment? (e.g. using a camera to take photos, using an iPad to record videos) ● Can they recognize simple icons, buttons or shortcuts? ● Can they turn equipment on/off?
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
● Can they explore the functions of a simple programming tool? (e.g. beebot) ● Can they begin to plan and test instructions?	● Can they use available applications and software to create original content?	● Can they collect information using ICT? (e.g. take photographs, voice recordings, text)
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?	● Can they use appropriate icons, buttons or shortcuts to complete an action?

Skills Map – Computing		
Year 1 – Computing		
Network and Internet	**Using ICT**	**Making Things Happen**
● Can they recognise ICT around them? **(All Year)** ● Can they explore information from various ICT sources? **(All Year)** **E Safety** ● Do they know that personal information should not be shared online? **C1 Aut2** ● Can they act if they find something they are unsure of (including identifying people who can help; minimising screen; online reporting using school system etc.)? **C1 Aut2**	● Can they use names for ICT components – e.g. mouse? **All Year** ● Can they record their own voice and that of others? **C2 Sp1** ● Can they use a simple art program? **C1 Aut1 C2 Aut 1**	● Can they play computer games? **C2 Spr1** ● Can they move objects around on a screen? **C2 Spr1** ● Can they repeat a series of actions for a purpose? **C2 Spr1**
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
● Can they create a simple series of instructions - left and right? **C2 Spr1** ● Can they record their routes? **C2 Spr1** ● Do they understand forwards, backwards, up and down? **C2 Spr1** ● Can they put two instructions together to control a programmable device? **C2 Spr1** ● Can they begin to plan and test their instructions? **C2 Sp1**	● Can they create original content using digital technology? **C1 Aut1** ● Can they use digital technology to store and retrieve content? **C1 Aut1**	● Do they recognise the different forms of digital communication (e.g. emails address, twitter handle etc.)? **C1 Aut 2** ● Can they understand the appropriate vocabulary according to equipment available? **(All Year)** ● Can they develop awareness and use of keyboard layout and use navigation skills appropriately (e.g. backspace, enter, spacebar, mouse)? **C1 Sum**
Year 1 - Greater Depth		
● Can they use and apply logical thinking to solve a problem involving programming? (e.g. programming a toy) **C2 Spr2**	● Can they use digital technology to organise and edit content? (e.g. text in an app, editing images) **C1 Sum2**	● Can they apply their navigational skills for a specific function or purpose? (e.g. capturing a photo in the Camera app and importing this into another appropriate app) **C1 Sum2**

Skills Map – Computing		
Year 2 – Computing		
Network and Internet	**Using ICT**	**Making Things Happen**
• Can they find information on the internet? **C2 Aut2** **E Safety** • Can they recognise advertising on websites and learn to ignore it? **C2 Aut2** • Can they begin to evaluate websites and know that everything on the internet is not true? **C2 Aut2**	• Can they understand the importance of ICT? **All year** • Can they recognise different ways of using ICT and decide which to use? **All Year** • Can they use shape tools to draw? **C2 Aut1** • Can they resize a picture? **C2 Sum2** • Can they make a simple slide show? **C2Sum2**	• Can they understand how to make something move? **C1 Spr2** • Can they give a single instruction to make something happen? **C1Spr2** • Can they explain what has happened when using ICT for control? **C1 Spr2** • Can they predict what might happen when controlling something? **C1Spr2**
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
• Can they predict the outcomes of a set of instructions? **C1 Sp2** • Can they program using sequences of instructions to implement an algorithm? **C1 Sp2** • Can you create an algorithm for your partner to debug? **C1 Sp2** • Can they test and amend a set of instructions? **C1 Sp2**	• Can they find information on a website? **C2 Sum1** • Can they use a web page as a resource? **C2 Sum1** • Can they experiment with drawing tools, text, pictures and animation to create content (e.g. presentation, eBook)? **C2 Sum2** • Can they create content (e.g. presentation, video, animation) in a small group and record the narration? **C2Sum2**	• Can they communicate safely online (e.g. appropriate communication?) **C2 Aut2** • Can they create, edit and format text (insert/delete words, use bold/italics/underline)? **C2 Sum2**
Year 2 - Greater Depth		
• Can they appreciate that some algorithms are more efficient than others and use methods of efficiency to test these? (e.g. most efficient method to enable a sprite to move left and right along the x axis or up and down along the y axis) **C1 SPR2** • Can they use digital technology to create, organise and edit a range of content for a specific purpose using an appropriate app? **C2 Sum1** • Can they consider how text is presented and formatted and adapt this to suit the purpose of a document? **C2 Sum1**		

Skills Map – Computing

Year 3 – Computing

Network and Internet	Using ICT	Making Things Happen
• Can they understand different ways to send a message? **C1Aut2** • Can they recognise an email address? **C1Aut2** • Can they use @ in emails? **C1Aut2** • Can they send an email and reply to one? **C1Aut2** • Can they navigate a website by clicking on links? **C1Aut2** • Can they use the back button to return to a previous website page? **C1 Aut2** • Can they understand the importance of email safety? **C1Au2** **E Safety** • Can they recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy? **C2 Sp1** • Do they understand the need for caution when using an internet search for images? **C2 Sp1**	• Can they recognise the importance of ICT in the real world? **All Year round** • Can they use ICT to organise and present their work? **C1 Sum1** • Can they create and position text, alter font and align text? **C2Sum1**	• Can they understand the importance of clear and precise instructions? **C1 Aut1** • Can they use algorithms to control movement? **C1 Aut1** • Can they create and debug simple programs? **C1 Aut1**
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
• Can they give an on-screen robot directional instructions (e.g. 90/45 degree turns)? **C1 Aut1** • Can they use commands to draw a shape (e.g. square, rectangle and other regular shapes on screen) **C1 Aut1**	• Can they use editing software to manipulate media (e.g. crop, add effects, manipulate audio)? **C1 Spr2** • Can they combine text and images and show awareness of audience? **C2 Sum2**	• Can they find relevant information by browsing? **C1 Aut2** • Do they know how to manipulate text (e.g. underline text, centre text, change font and size)? **C2 Sum1** • Can they save files (e.g. word doc, pictures) to an appropriate folder? **C2 Sum1**

Year 3 - 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) **C1 Aut2**
- Can they evaluate content (created/researched) against a given goal? **C2 Sum2**

Skills Map – Computing

Year 4 – Computing

Network and Internet	Using ICT	Making Things Happen
• Can they recognise immediately when online safety is compromised and know how to get support? **C1 Spr1** • Can they use a search program and understand how to rank information? **C1 Aut2** **E Safety** • Do they recognise the difference between the work of others which has been copied (plagiarism) and restructuring and re-presenting materials in ways which are unique and new? **C2 Sp1** • What to do if they find an unsuitable image? **C1 Spr1**	• Can they recognise terms – e.g. cell, row, column? **C1 Sum1** • Can they format text towards a specific purpose? **C1 Sum1** • Can they use word count, bullets, numbering? **C1 Sum1** • Can they present information using a range of software? **C1 Sum2** • Can they use ICT across a range of subjects? **All Year** • Can they order and organise text using a word processing program? **C1 Sum1** • Can they fill in a data collection sheet? **C2 Spr2** • Can they record using video and sound, and amend what they have recorded? **C2 Aut1**	• Can they design and write simple programs? **C1 Aut1** • Can they debug programs when they go wrong? **C1 Aut1** • Can they use control commands to draw shapes? **C1 Aut1**
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
• Can they use repeat instructions to draw regular shapes on screen, using commands? **C1 Aut1** • Can they make turns specifying the degrees? **C1 Aut1** • Can they make accurate predictions about the outcome of a program they have written? **C1 Aut1**	• Can they capture images using a range of devices (e.g. webcams, screen capture, scanning, visualiser and internet)? **C2 Aut2** • Can they select media to download, import or export? **C2 Aut2** • Can they copy graphics from a range of sources and paste into a desktop publishing program? **C1 Spr2** • Can they insert media into a presentation (image, video, audio)? **C2 Aut1** • Do they know how to manipulate text, underline text, centre text, change font and size and save text to a folder? **C1 Sum1** • Can they create a presentation that is aimed at a specific audience? **C2 Sum2**	• Can they use the automatic spell checker to edit spellings? **C1 Sum1** • Can they use a search engine to find a specific website? **C1 Aut2** • Can they navigate using an internet browser (e.g. use tabbed browsing to open two or more web pages at the same time, open a link to a new window)? **C1 Aut2**

Year 4 - Greater Depth

- Can they design and create content on a computer in response to a given goal, paying attention to the needs of a known audience? (e.g. digital artwork linked to their topic, themes or core text) **C1 Sum2**
- Can they can give reasons for errors in programs and explain how they have corrected these through decomposition and debugging? **C1 Aut1**
- Can they explain an algorithm using sequence, repetition and selection in their own words? **C1 Aut1**

Skills Map – Computing

Year 5 – Computing

Network and Internet	Using ICT	Making Things Happen
• Can they conduct a safe internet search and refine it for both speed and accuracy? **C2 Aut1** • Know how to distinguish between good and bad information found on the internet. **C2 Aut1** • Can they rank information found on the internet in order of importance and relevance? **C2 Aut1** • Can they extrapolate the best information and summarise it using ICT? **C2 Aut1**	• Can they capture sound, still and video images using a range of hardware? **C1 Spr2** • Can they save documents and images into different formats for different purposes? **C2 Sum2** **E Safety** • Can they independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school? **C2 Aut1** • Do they understand they should not publish other people's pictures or tag them on the internet without permission? **C1 Aut2** • Do they know that content put online is extremely difficult to remove? **C1 Aut2**	• Can they adapt and modify programs and add refinements? **C1 Sum2** • Can they use simulations to explore patterns and relationships? **C2 Spr2** • Can they make predictions about what might happen in a game program? **C2 Spr1**
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
• Can they explore 'What is' questions by playing adventure or quest games? **C1 Spr1** • Can they plan a solution to a problem using decomposition (e.g. developing a computer game, creating a website)? **C1 Spr1**	• Can they listen, download, produce and upload a variety of broadcast media (e.g. live streaming, podcast) **C2 Spr1** • Can they work on simple film editing? **C1 Sum1** • Can they use a range of presentation applications? **C1 Sum2** • Can they make a home page for a website that contains links to other pages? **C2 Spr2** • Can they prepare and then present a simple film? (e.g. Storyboarding and then filming/editing). **C1 Sum1**	• Can they download a document and save it to the computer? **C1 Aut1** • Can they decide which sections are appropriate to copy and paste from at least two web pages? **C2 Sum2**

Year 5 - Greater Depth

- Can they create a multimedia project that contains an appropriately selected range of media? (e.g. audio, video clips) **C1 Sum1**
- Can they save an image using a range of commands? (e.g. 'control' and 'save image as' or 'drag and drop to 'downloads' folder) **C2 Spr2**
- Can evaluate content according to its effectiveness and impact on a target audience? **C2 Spr2**
- Can they write programs that have sequences, repetitions and variables? (e.g. creating a scoring system as part of a Scratch game) **C2 Spr1**
- Do they consider audience when editing media and justify their choices? **C2 Sum2**

Skills Map – Computing		
Year 6 – Computing		
Network and Internet	**Using ICT**	**Making Things Happen**
• Can they make a home page for a website? **C2 Spr2**	• Can they add, amend and combine different forms of information in different ways? **C2 Sum2** • Can they use a range of concepts and ideas when presenting across different subjects? **C2 Sum2** • Can they use and add menu options, including hyperlinks? **C2 Spr2** **E Safety** • Do they understand that some material on the internet is copyrighted and may not be copied or downloaded? **C1 Aut2** • Do they recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing)? **C1 Aut2** • Do they understand that some malicious adults may use various techniques to make contact and elicit personal information? **C1 Aut2**	• Can they understand that poor input equals unreliable results? **C1 Spr1** • Can they add special effects to work? **C1 Sum1** • Can they explore what-if scenarios? **C2 Sum2**
Problem Solving and Logical Thinking	**Creative Content**	**Digital Literacy**
• Can they explain how an algorithm works? **C1 Spr2** • Can they detect errors in a program and correct them? **C1 Spr2** • Can they explore 'what if' questions by planning different scenarios for controlled devices? **C1 Spr2** • Can they use input from sensors to trigger events? **C1 Spr2** • Can design, write and debug their own computer control application? **C1 Spr2**	• Can they explore the menu options and experiment with images (colour effects, options, snap to grid, grid settings etc.)? **C2 Spr2** • Can they add special effects to alter the appearance of a graphic? **C2 Spr2** • Can they make an information poster using their graphics skills to good effect? **C2 Sum2** • Can they present a film for a specific audience and then adapt same film for a different audience? **C1 Sum1** • Can they create a sophisticated multimedia presentation? **C2 Sum2**	• Can they confidently choose the correct page set up option when creating a document? **C2 Spr 2** • Can they use complex searches using such as '+' 'OR' "Find the phrase in inverted commas"? **C2 SPr2**
Year 6 - Greater Depth		
• Can they incorporate images within a document or project where appropriate, using the most effective text wrapping formats within documents? (e.g. selecting 'wrap to text' or layering images in the Photoshop app) **C2 Sum 2** • 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) **C2 Spr 2** • Can they apply a range of logical and computational thinking to program robotics and simulate this using an appropriate? **C2 Spr 1**		

Skills Map - Computing	
E - Safety	
Knowledge and Understanding	**Skills**
● Do they understand the need for rules to keep them safe when exchanging learning and ideas online? **C2Aut1** ● Can they recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion? **C1Aut2** ● Do they understand that the internet contains fact, fiction and opinion and begin to distinguish between them? **C2Aut1** ● Can they use strategies to verify information, e.g. cross-checking? **C2Aut1** ● Do they understand the need for caution when using an internet search for images and what to do if they find an unsuitable image? **C1Aut2** ● Do they understand that copyright exists on most digital images, video and recorded music? **C2Aut1** ● Do they understand the need to keep personal information and passwords private? **C1Aut2** ● Do they understand that if they make personal information available online it may be seen and used by others? **C2Aut1** ● Do they know how to respond if asked for personal information or feel unsafe about content of a message? **C2Aut1** ● Can they recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy? **C2Aut1** ● Do they know how to report an incident of cyber bullying? **C2Aut1** ● Do they know the difference between online communication tools used in school and those used at home? **C2Aut1** ● Do they understand the need to develop an alias for some public online use? **C2Aut1**	● Do they follow the school's safer internet rules? **C1Aut2** ● Do they recognise the difference between the work of others which has been copied (plagiarism) and re-structuring and re-presenting materials in ways which are unique and new? **C2Aut1** ● Can they begin to identify when emails should not be opened and when an attachment may not be safe? **C1Aut2**

Further Information
See Appendix A for long term plan for the combined year groups. See Appendix B for E-safety assembly plan overview for KS1 and KS2. Every half term there is an e-safety themed assembly. See Appendix C for examples of deeper learning questions.

Nebula
where stars are born

Appendix A: Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle 1						
Years 1 & 2	*Computer skills (Year 1 unit) Painting (Year 1 unit)*	*Online Safety (Year 1 unit)*	Preparing for Turtle logo (Year 2 unit)	Programming turtle logo and scratch (Year 2 unit)	Word Processing Skills (Year 1 unit)	Using and applying skills (Year 1 unit)
Years 3 & 4	*Programming Turtle Logo (Year 3 unit)*	Internet & Research Communication (Year 3 unit)	Online Safety (Year 4 unit)	Drawing & Desktop Publishing (Year 3 unit)	Word Processing (Year 4 unit)	Using and Applying Skills (Year 4 unit)
Years 5 & 6	*Spreadsheets (Year 6 unit)*	Online safety (Year 5 unit)	Kodu (Year 6 unit)	Scratch: Animated Stories (Year 5 unit)	Filmmaking (Year 6 unit)	Using and Applying Skills
Cycle 2						
Years 1 & 2	*Computer skills (Year 1 unit) Computer Art (Year 2 unit)*	*Online Safety (Year 2 unit)*	Programming with Scratch jnr (Year 1 unit)	Programming toys (Year 1 unit)	Using the internet (Year 2 unit)	Presentation skills (Year 2 unit)
Years 3 & 4	*Presentation Skills (Year 3 unit)*	Animation (Year 4 unit)	Online Safety (Year 3 unit)	Scratch: Questions & Quizzes (Year 4 unit)	Word Processing (Year 3 unit)	Using and Applying Skills (Year 3 unit)
Years 5 & 6	*Online Safety (Year 6 unit)*	3D Modelling (Year 5 unit)	Developing Games (Year 6 unit)	Website Design (Year 5 unit)	*Using & Applying Skills (Year 5 unit)*	*Using & Applying Skills (Year 6 unit)*

Additional Computing skills:

In addition to regular computing slots, ICT will be used to supplement other areas of the curriculum, particularly English and Maths. Apps and websites have been identified for practise in reading, times tables, spelling and place value, and will be used regularly across the school. Word Processing skills will be used for projects in English, Science and Humanities and the new IWB also provide opportunities for interactive learning in phonics and times tables.

Appendix B: E-safety assembly plan overview

KS1			
COMPUTING ELEMENT	Term	Assembly idea/plan	Resources
National Curriculum 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 technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Autumn 1	**Online Safety** Explain that every half term we will be having an internet safety assembly about how we keep safe on the internet. Discuss what we know about the internet. Show some pictures of websites the children might know. Discuss how we must make sure we are safe on the internet. Show the different posters and have a discussion about them. Children to put thumbs up if they always do this. Encourage thumbs up etc.	• Pictures of websites • Internet safety posters
	Autumn 2	**Buddy the dog internet safety story** Use the powerpoint to help understand the story and the purpose of the assembly beforehand Explain that today's assembly is continuing to think about internet safety. Explain that you have a story to tell them. Before you do that teach them the 'Buddy use your tablet safely' song. Ask for 4 volunteers to be the different characters (they just need to stand there holding the character). Read the story and when the characters are being talked about stand behind them speaking for the character. When the song comes up get all the children to sing and join in.	• Buddy the dog power point • A3 pictures of the characters of the story • Lyrics of song for teachers
	Spring 1 Internet safety day is in this term	**Safer internet day** Go through the poster cards quickly from AUT1 assembly remind children of how to stay safe on the internet. Explain that it is safer internet day today. Why do you think we have this day? Why is it important? Explain we are going to take part in a whole school quiz. Children to answer by A) hand on ears B) Hand on shoulders C) Hand on head. Etc. Discuss answers and how do they know that is the correct answer. Explain the internet safety day competition. Children in class or as homework to design an internet safety poster even online or using the poster given by teacher. Children to post it in a box and the winner gets some time on the computers or some technology reward.	• Internet safety posters • PPT quiz questions • Poster competition sheet
	Spring 2	**Chicken Clicking** Remind children about keeping safe on the internet. Go through the poster cards quickly. Read the story of Chicken Clicking and discuss what happens in the story. What can we learn from this story? What must we make sure we do?	• Internet safety posters • Chicken Clicking book
	Summer 1	**Troll Stinks** Remind the children of keeping safe on the internet. Go through the poster cards quickly. Then read the story 'Troll Stinks'. Discuss the story. What can we learn from this story? What must we make sure we do?	• Internet safety posters • Troll Stinks book
	Summer 2	**Introduce SMART (This then continues on into KS2)** Explain how we can keep safe on games and enjoy them. Ask 5 children to hold the letters in a row to spell out SMART. Go through the words. Ch to turn the letters over. Discuss each one briefly but explain over the year we will discuss each word in more detail to help us stay safe. Use the PPT definitions to explain the meaning.	• Letters and words of SMART • PPT slides print out

KS2			
COMPUTING ELEMENT	Term	Assembly idea/plan	Resources
National Curriculum 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Autumn 1	Introduce SMART Show pictures of different websites children go on. Explain that the internet is great because of all these different things. Get the children to name the different pictures. Explain how we can keep safe on games and enjoy them. Ask 5 children to hold the letters in a row to spell out SMART. Go through the words. Ch to turn the letters over. Discuss each one briefly but explain over the year we will discuss each word in more detail to help us stay safe. Use the PPT definitions to explain the meaning.	Pictures of different internet websites Letters and words of SMART PPT slides print out (or show if access to a board)
	Autumn 2	Focus on S from SMART- Safe Show the S Discuss the definition for safe- Keep your personal information safe! If you wouldn't say it to a stranger on the street, don't share it with strangers on the internet. Discuss real life examples. Discuss different scenarios. Is that safe? Why? Why not?	The letter S from the SMART letters.
	Spring 1 Internet safety day is in this term	Focus on M from SMART- Meeting Hold up S and remind children of what Safe means. Then get someone else to hold the M up. Discuss the definition of 'meeting'. Don't meet up! Online games can be a great place for chatting to your friends. Always know who you are talking to. If an adult who you don't know ever asks you to meet up, say no and report it… (Perhaps pre-plan a role play scenario with Y6 showing a conversation with a stranger asking to meet up). Discuss scenario. Did they do the right thing? Why? Why not?	The letter for S and M from the SMART letters.
	Spring 2	Focus on A from SMART- Accepting Hold up S and M and remind children of what Safe and meeting means. Then get someone else to hold the A up. Discuss the definition of 'accepting'. Think before you accept something from someone online e.g. a file, a download, a picture etc. It may contain a virus. If you don't know who it's from, and it has an attachment… DELETE IT! Come up with different files the children my be able to download. Give out different adult roles and children to put thumbs up or down whether they would accept a file from them. E.g- Mum, dad, someone you met on Minecraft etc.	The letter for S, M and A from the SMART letters.
	Summer 1	Focus on R from SMART- Reliable Hold up S, M and A remind children of what safe, meeting and accepting means. Then get someone else to hold the R up. Discuss the definition of 'Reliable'. *Not everyone online is trustworthy. Somebody may be lying about their age and who they are. Make sure you know who you are talking to and use reputable sites and services to protect you and your computer.* Children to come up with reliable people that they can trust. How can we check who we are talking to? What can we do if we are unsure? Show Slide 10 from the PPT highlight the report abuse button.	The letter for S, M, A and R from the SMART letters.
	Summer 2	Focus on T from SMART- Tell Hold up S, M, A, R and T reminding children of safe, meeting, accepting, reliable. Then get someone else to hold the T up. Discuss the definition of 'tell'. *Tell a parent, carer or trusted adult if someone, or something makes you feel worried or uncomfortable online. Also, tell someone if a friend of yours needs help online too.*After discussing and thinking about who they can tell. Read some of the different scenarios and the children can discuss what they would do and what part of SMART would that come under.	The letter for S, M, A, R and T from the SMART letters. Scenario cards

Appendix C: Deeper learning

Deeper Learning Ideas for Computing

Bloom's Taxonomy Questions

Using the tables below create deeper learning next steps and questions to support deeper learning in computing. These will all vary depending on the child, lesson outcomes, year group and the skills taught within the lesson but as a starting point use these to help with questions.

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.

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

- Odd one out- Show a mouse, key board and a ipad. Which is the odd one out?
- Sometimes, always, never- If I was unsure about something, I saw on the internet I would report it to an adult?
- True or False- I can click any button on a beebot and it will move forward.
- Convince me (Convince me that I need to be safe on the internet)
- Statements- I can take a picture of anyone and put it on the computer
- Prove it- Prove that algorithms need to be put in the correct order.
- What's the same/difference?
- Statements- Josie thinks all technology needs the internet to work. Do you agree/disagree? Why? Give examples.

See each year group's long term plan for deeper learning questions for each half term

Curriculum Skills and Progression Map

Competence	Skills Demonstrated				*Question Cues:*
Knowledge	• Observation and recall of information • Knowledge of dates, events, places/major ideas • Mastery of subject matter • Factual recall				list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc
Knowledge Question stems:	Tell me about …? Can you list …? How many …?	Where did …? Who are the …? Who said …?	When did …? Who wrote …? When was …?	What date did …? What is …? Where can you find …?	
Comprehension (understanding)	• Understanding information and grasp meaning • Translate knowledge into new context • Interpret facts, compare, contrast, order, group, infer causes and predict likely consequences • Suggest connections				summarise, describe, extend, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend.
Comprehension Question stems:	Can you list the sequence …? What happened after …? How do you know …?		Who can explain …? What is the difference between …? How would you describe …?		
Application	• Use information • Use methods, concepts, theories in new situations • Solve problems using required skills or Knowledge • Visualise actions in a real life/applied situation				apply, demonstrate, change, calculate, complete, classify, illustrate, show, solve, test, examine, modify, relate, do, make, construct, discover, manufacture, make.
Application Question stems:	How could this have happened in…? What factors would you change if …? How would you react when …?		What would you do if …? What questions would you ask if …? What would you need if …?		
Analysis	• Seeing patterns & organization of parts • Recognition of hidden meanings • Identification of components • systematically consider data sets				analyse, separate, order, explain, connect, classify, arrange, divide, compare, probe, explain, deduct, infer.
Analysis Question stems:	How was this similar / different to …? What was the problem with …? What evidence proves …?		Why did … precede/follow …? What are some of the motives behind …? Do you think that …?		
Synthesis	• Use old ideas to create new ones • Generalize from given facts • Relate knowledge from several areas • Predict and draw conclusions • Redefine what is known • Reconceptualise for new situations				combine, integrate, modify, re-arrange, substitute, plan, create, design, invent, what if?, speculate, compose, formulate, prepare, rewrite, generalise, propose, model.
Synthesis Question stems:	How would you design … for …? What would happen if …?		What if we found out that …? Could you see a possible solution to …?		
Evaluation	• Compare and discriminate between ideas • Assess value of theories, presentations • Make choices based on reasoned argument • Verify value of evidence • Recognise subjectivity • Balancing evidence using criteria				assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, appraise, summarise.
Evaluation Question stems:	Do you believe …? How would you choose/assess …? What would you judge …?		Do you think … is a good or bad thing? How effective is/are …? On balance, what is the argument for…?		
Creativity	• Applies all of the previous categories to inform thinking and actions • Identifies and solves problems • Thinks independently and in new ways, able to originate and innovate • Collaborate as part of a team or be independent • Can empathise and shift perspective as needed				design, imagine, conceive, innovate, hypothesise, investigate, produce, invent, experiment, craft, fashion, generate, inspire, excite, compose, vision, wrought,
Creativity Question stems:	How would you respond to …? How could you collaborate to …?		Can you imagine how …? If you had to find a new way to …?		

Bloom's Taxonomy to support Critical Thinking

Suggested Verbs to Use to define the level of thinking and active challenge for Learning

1. KNOWLEDGE **Identification and recall of information**	Define Fill in the blank List identify	Label Locate Match Memorise	Name Recall Spell	State Tell Underline
	Who ……..? What ……..? Where ……..? When ……..?		Who ……..? What ……..? Where ……..? When ……..?	
2. COMPREHENSION **Organisation and selection of facts and ideas**	Convert Describe Explain	Interpret Paraphrase Put in order	Restate Retell in your own words Rewrite	Summarise Trace Translate
	Re-tell …….. in your own words. What is the main idea of ……..?		What difference exists between …….. ? Can you write a brief outline?	
3. APPLICATION **Use of facts, rules and principles**	Apply Compute Conclude Construct	Demonstrate Determine Draw Find Out	Give an example Illustrate Make Operate	Show Solve State a rule or principle Use
	How is …….. an examples of ……..? How is …….. repeated to ……..? How is …….. significant?		Do you know of another instance where….? Could this have happened to ……..?	
4. ANALYSIS **Separating a whole into component parts**	Analyse Classify Categorise Compare	Contrast Debate Deduct Determine the factors	Diagrams Differentiate Dissect Distinguish	Examine Infer Specify
	What are the parts or features of……..? Classify …….. according to …….. Outline/diagram/web/map ……..		How does …….. compare/contrast with ……..? What evidence can you present for ……..?	
5. SYNTHESIS **Combining ideas to form a new whole**	Change Combine Compose Construct Create Design	Find an unusual way Formulate Generate Invent Originate Plan	Predict Pretend Produce Rearrange Reorganise Reconstruct	Revise Suggest Suppose Visualise Write
	What would you predict/infer from……..? What ideas can you add to ……..? How would you create/design a new…..?		What solutions would you suggest for…….? What might happen if you combined…….. with ……..?	
6. EVALUATION **Developing opinions, judgements or decisions**	Appraise Choose Compare Conclude	Decide Defend Evaluate Give your opinion	Judge Justify Prioritise Rank	Rate Select Support Value
	Do you agree that? Explain……..? What do you think about……..? What is most important?		Prioritise……..according to ……..? How would you decide about……..? What criteria would you use to assess……..?	