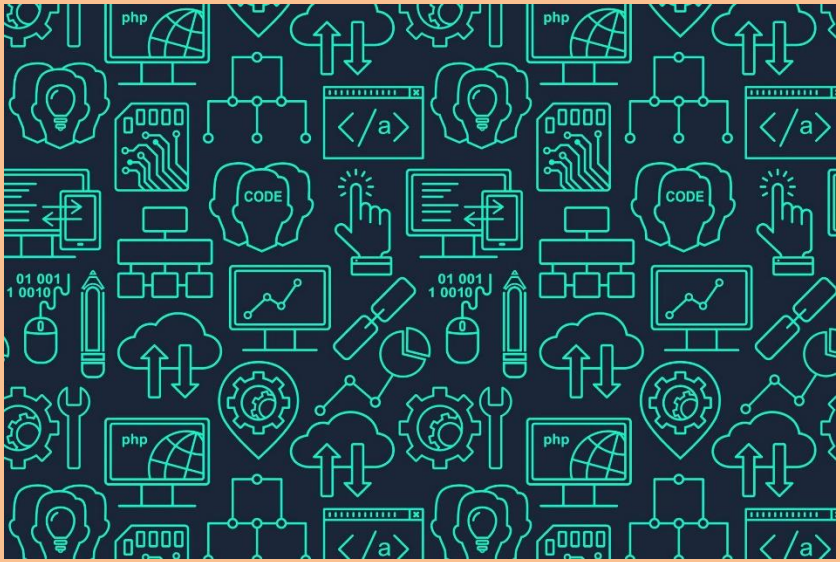
2019

Curriculum Skills and Progression Map
Computing



Nebula
where stars are born

The Nebula Federation

Frettenham Primary School

Computing Curriculum		
Early Years	**Key Stage One**	**Key Stage Two**
• 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	• 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 (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Skills Map – Computing	
Early Years	
Exploring the Digital World	**Communicating in the Digital World**
Most children should be able to: • With help search for and choose images from the internet • With support enter text into a search engine to find specific given web sites • Contribute to whole class creation of pictograms • Begin to develop simple classification skills by carrying out simple sorting activities • Start to recognise simple technologies in the world around them	Most children should be able to: • Begin to understand that technology can be used to communicate ideas in different ways • Begin to use a keyboard (with support) and notice the effect on screen • Understand there are a variety of tools in an art package • Understand that cameras can take still and moving image (video) • Understand that technological devices can be used to record and play back sounds
Shaping the Digital World	**Online Safety**
Most children should be able to: • Play with equipment that simulates control devices (push button toys) • Play with simple adventure programme or simulation • Explore outcomes when individual buttons are pressed on a robot	Most children should be able to: • With help save their own content in their own electronic folder • Understand their logon to a site is personal to them • Know some personal information (name, address, age) • Know to tell a trusted adult if anyone asks them to do something that makes them feel sad, embarrassed or upset • Know to tell someone if they view content they think is inappropriate or upsetting

Skills Map – Computing		
Year 1		
Information Technology Skills – Creating Content and Searching		
• The child can use digital technology to store and retrieve content • The child can create original content using digital technology		
Painting Unit	**Computer Skills Unit**	**Word Processing Skills Unit**
Most children should be able to: • Paint with different colours • Paint with different shapes • Create shapes Some children will be able to: • Save their paintings in their folder • Fill an area with colour • Undo and redo • Add text	Most children should be able to: • Click and drag with a mouse or trackpad. • Switch on and shutdown a computer independently • Launch an application by double clicking it Some children will be able to: • Log on and log off on a computer independently • Manipulate an application window by moving and resizing it	Most children should be able to: • Type with two hands • Use shift, space and enter correctly • Use undo and redo • Make text bold, italic or underline Some children will be able to: • Save their work in their folder • Edit text using backspace, delete and the arrow key • Format the font • Select single words.
Computer Science Skills – Problem Solving, Programming, and Logical Thinking		
• The child can understand algorithms as sequences of instructions in everyday contexts • The child can program toys using sequences of instructions to implement an algorithm • The child can give a sequence of instructions to a toy • The child can give explanations for what they think a program will do		
Programming Toys Unit	**Programming with ScratchJr Unit**	
Most children should be able to: • Create step-by-step instructions using pictures • Write and follow detailed step-by-step instructions • Direct a Bee-Bot to a toy • Program a Bee-Bot, one instruction at a time, using the arrow buttons Some children will be able to: • Say what an algorithm is • Say why it is important to be precise when writing an algorithm • Check their work for mistakes (debug) • Program a Bee-Bot using the arrow buttons	Most children should be able to: • Open the ScratchJr app and start a new project • Add new characters and backgrounds • Use blocks for movement in different directions • Create short sets of sequenced instructions Some children will be able to: • Use different end blocks, including repeat forever • Change the size of characters to grow or shrink • Hide and show characters with an instruction block • Program two or more characters with instructions at the same time	

• Start their programming sequence again if they need to • Check their work for mistakes to debug a program • Plan and check an algorithm	

Digital Literacy Skills – E-Safety and Using ICT Beyond School

- The child can keep themselves safe while using digital technology
- The child can understand that information on the internet can be seen by others
- The child can understand what to do if they see disturbing content online at home or at school
- The child can show an awareness of how IT is used for communication beyond school

Online Safety Unit

Most children will be able to:

- Type their name on a piece of work they have created
- Open a web browser
- Recall some of the SMART rules for Internet safety
- Know who to tell if someone online asks for personal information
- Understand why email is a good way to communicate

Some children will be able:

- Type their name and the date on a piece of work they have created
- Choose the correct Safe Search filter when using a search engine
- Make links between the online and offline world
- Recall all of the SMART rules for Internet safety
- Recognise which personal information they should keep safe from strangers
- Help to construct an email

Greater Depth

Painting Unit	Computer Skills Unit	Word Processing Skills Unit
• Format text • Resize text and images	• Confidently double click with a mouse or trackpad • Save their work in their folder independently.	• Have some knowledge of the location of letters and symbols on the keyboard • Select text in different ways

Programming Toys Unit	Programming with ScratchJr Unit
• See how a product changes when they change the instructions • Evaluate and improve their sequence (debug)	• Use a repeat block for a section of instructions and specified number of times • Predict the behaviour of a character, based on a sequence of instructions • Edit the colours and other features of characters or sprites • Create longer sequences of more complex instructions

Online Safety Unit

- Save images to a folder of their choice
- Construct an email using a computer or digital device
- Apply their knowledge of online safety to help others make safe choices

<table>
<tr><th colspan="3">Skills Map – Computing</th></tr>
<tr><th colspan="3">Year 2</th></tr>
<tr><th colspan="3">Information Technology Skills – Creating Content and Searching</th></tr>
<tr><td colspan="3">• The child can store, organise and retrieve content on digital devices for a given purpose
• The child can create and edit original content for a given purpose using digital technology</td></tr>
<tr><th>Computer Art Unit</th><th>Presentation Skills Unit</th><th>Using the Internet Unit</th></tr>
<tr>
<td>Most children should be able to:
• Access an appropriate program for achieving a specific task
• Switch between program tools to produce different techniques
• Alter the formatting of a tool to adjust the colour or size

Some children will be able to:
• Recreate a piece of art using a computer program
• Manipulate shapes and objects to recreate an art style</td>
<td>Most children should be able to:
• Insert slides, add and type in a text box

Some children will be able to:
• Create folders
• Print files
• Add images
• Format text and text boxes</td>
<td>Most children should be able to:
• Search using the words "for kids"
• Follow a weblink
• Locate their own blog
• Understand how to blog safely and responsibly.

Some children will be able to:
• Identify search results that will give some useful information
• Know where to find the address of a link
• Log in and post a blog or comments</td>
</tr>
<tr><th colspan="3">Computer Science Skills – Problem Solving, Programming, and Logical Thinking</th></tr>
<tr><td colspan="3">• The child can understand algorithms as sequences of instructions of sets of rules in everyday contexts
• The child can program on screen using sequences of instructions to implement an algorithm
• The child can give a simple program on screen, correcting any errors
• The child can give logical explanations for what they think a program will do</td></tr>
<tr><th colspan="2">Preparing for Turtle Logo Unit</th><th>Programming Turtle Logo and Scratch Unit</th></tr>
<tr>
<td colspan="2">Most children should be able to:
• Walk forward a number of steps

Some children will be able to:
• Turn accurately 90° (a quarter turn)
• Walk squares and rectangles
• Give and follow instructions</td>
<td>Most children should be able to:
• Draw lines of different lengths using the fd command
• Move blocks into the Scripts Area
• Snap blocks together to combine commands

Some children will be able to:
• Turn the turtle using rt 90 and lt 90
• Draw squares and rectangles
• Create simple algorithms using a number of different blocks
Use the repeat and green flag blocks to control algorithms</td>
</tr>
</table>

Digital Literacy Skills – E-Safety and Using ICT Beyond School
• The child can keep safe and show respect to others while using digital technology • The child can understand that they should not share personal information online • The child can understand what to do if they have concerns about content or being contacted online • The child can show an awareness of how IT is used for a range of purposes beyond school
Online Safety Unit
Most children will be able to: • Know what 'digital footprint' means • Know that people can use the information they put online • Know that a digital footprint contains information about a person • Identify keywords that will give good search results • Use a website to search for information • Begin to identify possible dangers online • Identify websites suitable for their age • Know when to ask an adult for advice about accessing a website • Know what to do if a website makes them uncomfortable • Talk about what people might want to know about a website • Give their opinion about a website • Say what they like and dislike about a website • Begin to consider who a website could be aimed at • Identify unkind online behaviour • Know what to do if they think someone is being unkind to them online • Know how to safely search for information online • Choose appropriate websites for their age Some children will be able: • Explain what 'digital footprint' means • Know how people can use the information they put online • Know that a digital footprint contains information about a person • Know how to use keywords to give better search results • Use a website to search for information • Identify possible dangers online • Explain how to identify websites suitable for their age • Know when and how to ask an adult for advice about accessing a website • Explain what to do if a website makes them uncomfortable

- Know what people might want to know about a website in order to determine its usefulness
- Explain their likes and dislikes about a website
- Identify who a website could be aimed at
- Identify unkind online behaviour
- Know the course of action to take if they think someone is being unkind to them online
- Safely search for information online
- Choose appropriate websites for their age

Greater Depth

Computer Art Unit	Presentation Skills Unit	Using the Internet Unit
• Select appropriate tools with confidence and independence	• Save files in an organised folder structure • Search for files on the computer • Set windows side by side • Format text boxes and images • Reorder slides and present their presentation	• Recognise common websites to which search results are linked • Upload photos to a blog

Preparing for Turtle Logo Unit	Programming Turtle Logo and Scratch Unit
• Write an algorithm for a shape or a route • Debug errors in an algorithm	• Write an algorithm for a shape • Use the repeat command • Combine a range of blocks to achieve a purpose • Use more than one sprite and combine algorithms

Online Safety Unit

- Explain what a 'digital footprint' is and how it is generated
- Use keywords to give better search results
- Use a website to safely search for information
- Identify dangers online and know what to do about them
- Know when and how to ask an adult for advice about accessing a website
- Explain what to do if a website makes them uncomfortable and why this is important
- Determine whether a website is useful or not
- Review a website
- Identify unkind online behaviour
- Know the course of action to take if they think someone is being unkind to them or others online
- Choose a range of appropriate websites for their age.

Skills Map – Computing			
Year 3			
Information Technology Skills – Creating Content and Searching			
• The child can use a range of programs on a computer • The child can design and create content on a computer • The child can collect and present information • The child can search for information within a single site • The child can understand that search engines select pages according to keywords found in the content • The child can understand that computer networks transmit information in a digital (binary) format • The child can understand that email and videoconferencing are made possible through the internet • The child can decide whether a web page is relevant for a given purpose or question • The child can use email and videoconferencing in class			
Drawing and Desktop Publishing Unit	**Word Processing Unit**	**Presentation Skills Unit**	**Internet Research and Communication Unit**
Most children should be able to: • Draw objects • Insert text boxes and images Some children will be able to: • Order and group objects • Move, resize and arrange text boxes and images effectively.	Most children should be able to: • Use undo and redo • Make text bold, italic or underline • Select text in different ways • Change case • Align text Some children will be able to: • Select single words • Cut, copy and paste text • Format the font • Insert images • Copy a screenshot into another application • Use a secure password • Use keyboard shortcuts	Most children should be able to: • Create a simple presentation • Create shapes Some children will be able to: • Create a hyperlink to another slide • Use slide transitions • Insert audio and video files • Record audio onto a slide • Plan a branching story • Create simple slide templates • Copy and organise slides as required	Most children should be able to: • To know and understand how word order affects the results • They will know how to bookmark or favourite a page and name different types of online communication • Children will know what to do if they feel uncomfortable when communicating online • They will be able to identify how they should behave online Some children will be able to: • Identify which word order gives the better results when searching online and be able to support this with examples • They will be able to share a webpage with others • Children will be able to

			research the different types of online communication used by their peers

Computer Science Skills – Problem Solving, Programming, and Logical Thinking

- The child can design and write a program using a block language, without user interaction
- The child can explore simulations of physical systems on screen
- The child can plan a project
- The child can use sequence in programs
- The child can write a program to produce output on screen
- The child can explain a simple, sequence-based algorithm in their own words
- The child can use logical reasoning to detect errors in programs

Programming Turtle Logo and Scratch Unit

Most children should be able to:

- Create and debug algorithms to draw regular polygons using the repeat command/ block (Turtle Logo and Scratch)

Some children will be able to:

- Draw shapes with spaces between using penup and pendown (Turtle Logo)
- Change and alter the pen settings (Scratch)

Digital Literacy Skills – E-Safety and Using ICT Beyond School

- The child can use digital technology safely and show respect for others when working online
- The child can recognise unacceptable behaviour when using digital technology
- The child can know who to talk to about concerns and inappropriate behaviour at school

Online Safety Unit

Most children should be able to:

- Recognise cyberbullying
- Identify a safe person to tell if they encounter cyberbullying
- Know that cyberbullying can happen via a range of devices
- Identify adverts online
- Identify a targeted advert
- Explore how companies use websites to promote products
- Create a strong password
- Explain why a strong password is important
- Explain what privacy settings are
- Discuss email as a form of communication

- Identify an email that they should not open
- Write an email with an address and subject
- Know how to safely send an email
- Know how to safely receive an email
- Identify online communities they are a part of
- Identify different forms of online communication
- Discuss the positive and negative aspects of online communities
- Discuss the differences between communication in real life and online
- Discuss what they have learnt about online safety
- Communicate their ideas with a group clearly and listen to others' contributions
- Use what they know about online safety to plan a party using online methods4

Some children will be able to:

- Recognise and define cyberbullying
- Identify safe people to report cyberbullying to
- Know how cyberbullying can happen via a range of devices
- Identify a range of targeted online adverts
- Explain how companies use websites to promote products
- Create a strong password, explaining why it is important
- Explain what privacy settings are and how to use them safely
- Discuss the benefits and disadvantages of email as a form of communication
- Identify an email that may be unsafe to open, explaining why
- Write a clear email, explaining why an address and subject is important
- Know how to safely send and receive emails
- Explain what an online community is, giving examples of ones they are a part of
- Identify and explain different forms of online communication
- Explain the positive and negative aspects of online communities
- Explain the differences between communication in real life and online
- Share and explain what they have learnt about online safety
- Communicate their ideas with a group clearly, listening to others' contributions and making connections
- Apply their learning to a planning activity

Greater Depth			
Drawing and Desktop Publishing Unit	**Word Processing Unit**	**Presentation Skills Unit**	**Internet Research and Communication Unit**
• Manipulate objects	• Select text in different ways	• Use animations to introduce	• Explain why particular results

• Create a layout of objects with no unnecessary space using colour and font effectively	• Format images • Use an effective layout • Use the Snipping Tool • Use bullets and numbering effectively • Insert and format text boxes effectively	objects to a slide • Find out which audio and video formats work in a particular presentation application • Can set when the audio or video plays • Can evaluate the layout of presentation slides effectively	are returned by a search engine • They will be able to explain who can access their online communication when they use different forums Children will know how and why online activity leaves a digital footprint
Programming Turtle Logo and Scratch Unit			
• Draw regular polygons using Logo to calculate the angle (Turtle Logo) • Create and debug algorithms to draw patterns by repeating regular polygons (Scratch)			
Online Safety Unit			
• Recognise and define cyberbullying and the affect it has • Give examples of people they can report cyberbullying to and explain why they are good choices • Give examples of how cyberbullying can happen via a range of devices • Identify a range of targeted online adverts and how they are used • Explain how companies use websites and other online methods to promote products • Create a strong password, explaining why it is important and giving tips to help others create a strong password • Explain what privacy settings are, why they are important and how they can be used safely • Discuss the benefits and disadvantages of email as a form of communication • Explain how to identify an email that may be unsafe to open • Write a clear email, explaining why an address and subject is important, and know how to send it • Explain what an online community is and how people belong to them • Identify and explain different forms of online communication • Share and explain what they have learnt about online safety, recalling key facts • Communicate their ideas with a group clearly, listening to others' contributions, making connections and suggesting improvements • Choose and apply their learning to a planning activity			

Skills Map – Computing	
Year 4	
Information Technology Skills – Creating Content and Searching	
• The child can use and combine a range of programs on a computer • The child can design and create content on a computer in response to a given goal • The child can collect and present data • The child can use a standard search engine to find information • The child can understand that search engines rank pages according to relevance • The child can understand that the internet transmits information as packets of data • The child can understand how the internet makes the web possible • The child can decide whether digital content is relevant for a given purpose or question • The child can work collaboratively with classmates on a shared wiki	
Animation Unit	**Word Processing Unit**
Most children should be able to: • Explain what is meant by animation • Create a series of linked frames that can be played as a short animation • Control and adjust a time slider to locate a different point in a film clip • Insert images to create a simple stop-motion animation short film clip • Evaluate the good and bad points about some animation software Some children will be able to: • Describe one or more traditional methods of animation • Make slight changes to an image using onion skinning, understanding the term • Use a time slider to find a specific point in a film clip to insert or edit an object • Edit and refine images in a stop-motion animation short film clip • Compare different animation software by analysing good and bad points.	Most children should be able to: • Select, edit and manipulate text in different ways • Insert an image into a document • Format an image • Use formatting tools to improve the layout • Use the spellcheck tool • Insert a simple table • Change the size of the page Some children will be able to: • Use some of the main keyboard shortcuts • Suggest ways to improve a layout • Apply specific effects to an image • Add a spelling to the spelling dictionary • Add or delete rows or columns in a table • Suggest ways to change a table • Type at an appropriate speed • Choose a relevant website to link a document to • Create a hyperlink
Computer Science Skills – Problem Solving, Programming, and Logical Thinking	
• The child can design and write a program using a block language to a given brief, including simple interaction • The child can develop their own simulation of a simple physical system on screen	

- The child can work with others to plan a project
- The child can use sequence and repetition in programs
- The child can write a program that accepts keyboard input and produces an on-screen output
- The child can explain an algorithm using sequence and repetition in their own words
- The child can use logical reasoning to detect and correct errors in programs

Programming Turtle Logo Unit	Scratch: Questions and Quizzes Unit
Most children should be able to: • Write procedures using simple algorithms • Change the colour of the pen • Write text using the label command Some children will be able to: • Draw shapes using setpos or setxy • Fill shapes in different colours • Draw arcs of different sizes as required	Most children should be able to: • Write a program which accomplishes a specific goal • Create a program that includes a logical sequence • Debug a program they have written Some children will be able to: • Use repetition and selection • Work with variables and adjust these depending on the effect they wish to create • Understand and use the duplicate function • Demonstrate that they understand how to combine a range of different effects to create their own quiz

Digital Literacy Skills – E-Safety and Using ICT Beyond School

- The child can demonstrate that they can act responsibly when using computers
- The child can understand the difference between acceptable and unacceptable behaviours when using digital technology
- The child can know who to talk to about concerns and inappropriate behaviour at home or in school

Online Safety Unit

Most children should be able to:
- Define cyberbullying
- Know how to respond to a hurtful message or comment online
- Access a trusted search engine
- Understand that different search terms give different results
- Know what plagiarism is
- Identify which information to keep private online
- Explain what digital citizenship is
- Tell someone else at least one way to stay safe online

Some children will be able to:
- Identify comments or messages that may be hurtful to others

- Edit their own messages and comments to make sure they are kind
- Understand that search results are ranked
- Choose an appropriate number of words for a search term
- Explain how to use other people's work respectfully
- Explain why it may be dangerous to share private information
- Explain how to be a good digital citizen
- Tell someone else more than one way to stay safe online

Greater Depth

Animation Unit	Word Processing Unit
• Explain how computer software has improved animation techniques • Edit and refine still images with multiple layers of onion skins • Make extensive use of a time slider to animate multiple objects simultaneously • Use webcam or digital camera to create their own images for a stop-motion animation short film clip • Recognise limitations of animation software and suggest improvements	• Change a homophone that is in the incorrect form • Format the borders of the cells within a table • Apply their knowledge of tools and techniques to improve the layout of a document • Change the background colour of the page • Format a hyperlink and find an appropriate place to insert it
Programming Turtle Logo Unit	**Scratch: Questions and Quizzes Unit**
• Create sophisticated algorithms and procedures • Include procedures with variables	• Design a program • Successfully decompose a problem into its smaller parts • Analyse the software to check it is fit for purpose • Build on their existing knowledge to experiment and innovate when programming

Online Safety Unit

- Understand why other people may be hurt by messages or comments
- Consider the differences and similarities between online and real-life communication
- Identify factors that affect the ranking of search results
- Use strategies which improve results when searching online
- Look for citations online
- Write a citation
- Understand why some websites ask for registration information
- Explain how being a good digital citizen is linked to being a good citizen in real life
- Advise others on the key ways to stay safe online

Skills Map – Computing		
Year 5		
Information Technology Skills – Creating Content and Searching		
• The child can use and combine a range of programs on multiple devices • The child can design and create programs on a computer in response to a given goal • The child can analyse and evaluate information • The child can use filters to make more effective use of a standard search engine • The child can understand that search engines use a cached copy of the crawled web to select and rank results • The child can understand how data routing works on the internet • The child can understand how web pages are created and transmitted • The child can decide whether digital content is reliable and unbiased • The child can work collaboratively with classmates on a class website or blog		
3D Modelling: SketchUp Unit	**Radio Station Unit**	**Internet Research and Webpage Design Unit**
Most children should be able to: • Draw 2D shapes or lines • Draw simple 3D models • Manipulate 2D shapes into 3D shapes • Import 3D models from the 3D warehouse • Use a range of SketchUp tools including: shape, push, pull, orbit, pan, zoom, erase and fill Some children will be able to: • Draw and manipulate 3D models independently • Use inference points to draw lines and shapes • Use a wide range of SketchUp tools and concepts including: the dimensions toolbar and guides, tape measure, zoom extents and the 3D warehouse	Most children should be able to: • Record and play their own sounds in recording software • Import an existing sound file into recording software to play • Choose appropriate software for sound recording • Plan and record a radio advert Some children will be able to: • Listen to and improve on their own recordings by re-recording • Locate and download existing sound files to be imported into recording software • Combine two or more tracks to make a new, original recording • Plan and record appropriate audio content for a podcast • Evaluate what features makes good quality audio content	Most children should be able to: • Comment on the features and layout of a webpage • Create a new webpage with a chosen layout and format text in the webpage • Independently search for images that can be used in document Some children will be able to: • Insert and format an image in a webpage • Independently create a hyperlink • Learn how to share a webpage so it can be viewed by anyone • Use the advanced features of Google's web search
Computer Science Skills – Problem Solving, Programming, and Logical Thinking		
• The child can design, write and debug a program using a block language, based on their own ideas		

- The child can experiment with computer controlled applications
- The child can plan a solution to a problem using decomposition
- The child can use sequence, selection and repetition in programs
- The child can write a program that accepts keyboard and mouse input and produces output on screen and through speakers
- The child can explain a rule-based algorithm in their own words
- The child can use logical reasoning to detect errors in algorithms

Scratch 3.0 Developing Games Unit	Controlling Devices: Flowol Unit
Most children should be able to: • Move and edit blocks as part of an algorithm Some children will be able to: • Program an algorithm as a sequence of game instructions with actions and consequences	Most children should be able to: • Follow written instructions to draw a simple flowchart • Insert symbols into a flowchart • Add inputs into a flowchart • Identify conventional symbols, understanding the process of each stage Some children will be able to: • Create a program to control a simple sequence • Modify symbols in a flowchart for effect • Create flowcharts for multiple inputs and outputs • Use decisions and subroutines • Program inputs and outputs

Digital Literacy Skills – E-Safety and Using ICT Beyond School

- The child can demonstrate that they can act responsibly when using the internet
- The child can discuss the consequences of particular behaviours when using digital technology
- The child can know how to report concerns and inappropriate behaviour in a range of contexts

Online Safety Unit

Most children should be able to:

- Identify a spam email
- Explain what to do with spam email
- Understand why they should cite a source
- Explain the rules for creating a strong password
- Create a strong password using a set of rules
- Know that not everything they see online is true
- Explain how to stay safe online
- Identify unsafe online behaviour

Some children will be able:

- Identify a dangerous spam email
- Create multiple strong passwords for use across different platforms
- Spot citations online
- Alter a photograph

Greater Depth

3D Modelling: SketchUp Unit	Radio Station Unit	Internet Research and Webpage Design Unit
• Draw and manipulate scale 3D models • Select the correct tools for different features • Independently use a wide range of SketchUp tools and concepts including: making groups and components, offset, inference, arc, scale and follow me (only on the large toolbar)	• Enhance sound recordings using software effects • Be discerning about the digital content of existing sound files and their suitability • Rehearse and improve script ideas based on their own evaluation • Present audio information confidently and clearly	• Understand and explain bias and authority in webpages • Know how to use the different share settings in Google Sites

Scratch 3.0 Developing Games Unit	Controlling Devices: Flowol Unit
• Add additional effects and features, such as sound or point scoring, to enhance the appeal of a game	• Solve a given problem independently with a flowchart solution, organized into multiple subroutines • Create a program to control a sequence with variables

Online Safety Unit

- Explain the steps to take to avoid receiving spam
- Cite a website
- Explain why having a strong password is important
- Understand how false photographs can make people feel bad about themselves

Skills Map – Computing	
Year 6	
Information Technology Skills – Creating Content and Searching	
• The child can select, use and combine a range of programs on multiple devices • The child can design and create systems in response to a given goal • The child can analyse and evaluate data • The child can make use of a range of search engines appropriate to finding information that is required • The child can appreciate that search engines rank pages based on the number and quality of in-bound links • The child can understand how mobile or other networks operate • The child can understand how domain names are converted into IP addresses on the internet • The child can form an opinion about the effectiveness of digital content • The child can use online tools to plan and carry out a collaborative project	
Film-Making Unit	**Spreadsheets Unit**
Most children should be able to: • Plan and write a script using appropriate software • Search for relevant information using appropriate websites • Use a digital video camera (or similar device) to record • Plan suitable questions to ask an interviewee • Import video files into video editing software Some children will be able to: • Plan additional elements for film-making such as locations and props • Evaluate whether information is reliable or not • Speak clearly into the camera when being recorded • Frame an appropriate filming shot when interviewing • Arrange video files to form a complete film	Most children should be able to: • Enter text and numbers into a spreadsheet • Identify and refer to cells by row and column • Begin to enter formulae with the SUM function Some children will be able to: • Be able to enter formulae into cells • Edit data and discuss the effect on results • Use further functions including AVERAGE, MIN and MAX • Create graphs • Design their own spreadsheet for a specific purpose
Computer Science Skills – Problem Solving, Programming, and Logical Thinking	
• The child can design, write and debug a program using a second programming language, based on their own ideas • The child can design, write and debug their own computer control application • The child can solve problems using decomposition, tackling each part separately • The child can use sequence, selection, repetition and variables in programs • The child can write a program that accepts inputs other than keyboard and mouse and produces outputs other than screen or speakers • The child can give clear and precise logical explanation of a number of algorithms • The child can use logical reasoning to detect and correct errors in algorithms (and programs)	
Scratch: Animated Stories Unit	**Kodu Programming Unit**

Most children should be able to: • Select appropriate characters to match a scene • Animate characters with movement and speech in a story scene • Use broadcast and receive blocks correctly in code • Use show and hide blocks correctly in code Some children will be able to: • Create a sequence of story scenes with added audio • Structure and sequence the animation of characters in each scene • Use the repeat command to create animation effect • Make a character visible or invisible at the correct times	Most children should be able to: • Open Kodu and navigate the programming environment using keyboard or mouse • Add objects to a world and program them using When and Do instructions • Plan and design the features of an original virtual environment • Program a character to move around a track • Create a path for a character to follow Some children will be able to: • Follow instructions given in the Kodu programming environment • Describe the actions of a sequence of Kodu commands • Use tools to change the size of the ground and raise or lower the landscape • Decompose code into smaller parts and explain it in their own words • Create a race track with an end goal for a game • Program a character to follow a path
Digital Literacy Skills – E-Safety and Using ICT Beyond School	
• The child can show that they can think through the consequences of their actions when using digital technology • The child can identify principles underpinning acceptable use of digital technologies • The child can know a range of ways to report concerns and inappropriate behaviour in a variety of contexts	
Online Safety Unit	
Most children should be able to: • Say what bullying and cyberbullying are • Say how people should deal with cyberbullying • Understand why I should ask an adult if I am unsure • Identify warning signs that a website might not be secure • Identify personal information • Explain what to do if I am asked or told something online which makes me uncomfortable • Explain some of the dangers of revealing personal information to an online friend • Choose an appropriate action online to stay safe • Identify a situation I should be careful in online • Understand how a stereotype can be harmful Some children should be able to:	

- Look in the address bar of a website so check for security
- Identify the lock symbol in an address bar
- Explain why someone might have an online friendship
- Explain what the SMART acronym means
- Explain what a stereotype is
- Compare gender stereotypes

Greater Depth

Film-Making Unit	Spreadsheets Unit
• Structure the timing of sections to meet a given running time • Cross-check information using different sources • Use a variety of camera angles and shots to record • Improvise and react to responses by an interviewee • Preview a movie project using software and refine, based on the preview	• Enter and edit text • Numbers and formulae purposefully and independently • Understand the advantages of spreadsheets over comparative manual methods • Explore further functions • Select data and create graphs with appropriate formatting Design their own spreadsheet for a specific purpose and present it appropriately
Scratch: Animated Stories Unit	**Kodu Programming Unit**
• Use rapid costume changes to give an animation effect • Add interactive features to a scene • Program the use of a single button to control background changes • Control smooth transitions between characters, scenes and audio	• View existing code and explain how it works • Create unique worlds with particular attention to detail in the addition of appropriate objects • Use ideas from existing codes to adapt and write their own programs • Edit and refine a race track design to improve playability • Adjust character and path settings to create an appealing game

Online Safety Unit

- Explain why cyberbullying can be as harmful as in-person bullying
- Find a link to a privacy policy
- Identify a gender stereotype in a media message