Castle Primary's *Computing* Curriculum
Skills Progression

Year 1/2	Year 3/4	Year 5/6
1. Multimedia: Text and Images a. Add text strings, text boxes and insert, move, remove and manipulate simple objects and images b. Use various icons and tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape c. Begin to use simple applications and devices to communicate ideas, work and messages d. Save, retrieve and organise work e. Use key vocabulary to demonstrate knowledge and understanding in this strand: paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present.sequence	**1. Multimedia: Text and Images** a. Create different effects with different technological tools, demonstrating control b. Use appropriate keyboard shortcut commands to amend text on a device c. Use a range of applications and devices to communicate ideas, work, and messages with increasing independence d. Save, retrieve and evaluate work, making amendments with increasing independence e. Insert a picture/text/graph from the internet or a personal file f. Use key vocabulary to demonstrate knowledge and understanding in this strand: draw, object, shape, line, line colour, fill colour, group, ungroup, font, size, text box, format, image, wrap text, plan, link, image, object, link, hyperlink, minimise, restore, size, move, screen, split, create, organise, file, folder, close, exit, search, print, password, screenshot, snipping tool, shift, undo, redo, menu, dictionary, highlight, cursor, toolbar, spellcheck	**1. Multimedia: Text and Images** a. Use the skills already developed to create content using unfamiliar technology b. Select, use and combine the appropriate technology tools to create an effect c. Review and improve their own work and support others to improve their work d. Save, retrieve and evaluate their work, making amendments independently e. Insert pictures, texts, graphs and hyperlinks from the internet or personal file f. Use key vocabulary to demonstrate knowledge and understanding in this strand: window, layout, text, font, colour, format, heading, hyperlink, 2d shape, 3d shape, orbit, pan, zoom, eraser, dimension, measurement, guide.
2. Multimedia: Sound and Motion a. Use software to record sounds, still images and video images b. Save, retrieve and organise work c. Use key vocabulary to demonstrate knowledge and understanding in this strand: commands, add sound	**2. Multimedia: Sound and Motion** a. Use software to record, create and edit sounds and still images b. Change recorded sounds, volume, duration and pauses c. Use software to capture video for a purpose d. Crop and arrange clips to create a short film e. Plan an animation and move items within each animation for playback f. Use key vocabulary to demonstrate knowledge and understanding in this strand: audio, sound, video, movie, embed, link, file format, animate, animation, still image, thaumatrope, zoetrope, zoopraxiscope, stereoscope, flip book, frame, onion skinning, loop, frame rate, record, stop, play, stop motion, stop frame.	**2. Multimedia: Sound and Motion** a. Collect audio from a variety of resources including own recordings and internet clips b. Use a digital device to record sounds and present audio c. Trim, arrange and edit audio levels to improve quality d. Publish their animation and use a movie editing package to edit/refine and add titles e. Use key vocabulary to demonstrate knowledge and understanding in this strand: audio, record, edit, play stop, skip, waveform, input, output, record, edit, play podcast, digital content, downloadable, backing track, voiceover, mute, gain, production, post-production, documentary, project, evaluation, screening, ceremony, upload.
3. Handling Data	**3. Handling Data** a. Talk about the different ways data can be organized b. Sort and organise information to use in other ways c. Search a ready-made database to answer questions d. Use key vocabulary to demonstrate knowledge and understanding in this strand: spreadsheet, database, insert, table	**3. Handling Data** a. Collate data on the most appropriate application b. Know how to interpret data, including spotting inaccurate data and comparing data c. Use keyboard shortcuts and functions to input data on spreadsheets and create formulas for spreadsheets d. Add data to an existing database e. Use key vocabulary to demonstrate knowledge and understanding in this strand: google docs, insert, table, spreadsheet, cell, row, column, formula/formulas, calculate, format, edit, insert, ascending, descending
4. Technology in our Lives a. Recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping b. Use links to websites to find information c. Recognise age-appropriate websites d. Use safe search filters e. Use key vocabulary to demonstrate knowledge and understanding in this strand: filter, google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure	**4. Technology in our Lives** a. Explain ways to communicate with others online b. Describe the world wide web as the part of the internet that contains websites c. Add websites to a favourites list d. Use search tools to find and use an appropriate website and content e. Use strategies to improve results when searching online f. Use key vocabulary to demonstrate knowledge and understanding in this strand: filter, search engine, image, keyboard, email, subject, address, communicate, sender, safe, secure, internet, world wide web, social media	**4. Technology in our Lives** a. Search for information using appropriate websites and advanced search functions within Google b. Use strategies to check the reliability of information (cross-check with another source such as books) c. Talk about the way search results are selected and ranked d. Check the reliability of a website, including the photos on a website e. Tell you about copyright and acknowledge the sources of information f. Use key vocabulary to demonstrate knowledge and understanding in this strand: world wide web, search, search engine, advanced search, results, Google, browser, terms of use, bias, authority, citation, plagiarism, source, website, secure, https, site, domain, website, browser, address bar
5. Coding and Programming a. Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn b. Control the nature of events: repeat, loops, single events and add and delete features c. Give a set of instructions to follow and predict what will happen d. Improve/change their sequence of commands by debugging e. Use key vocabulary to demonstrate knowledge and understanding in this strand: algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink.	**5. Coding and Programming** a. Use logical thinking to solve an open-ended problem by breaking it up into smaller parts b. Write a program, putting commands into a sequence to achieve a specific outcome c. Give a set of instructions to follow and predict what will happen d. Develop a strategy of testing a program as they go, and learn to recognise when it needs to be debugged e. Use variables to create an effect, e.g. Repetition, if, f. When, loop g. Use key vocabulary to demonstrate knowledge and understanding in this strand: decompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct, errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable	**5. Coding and Programming** a. Use external triggers and infinite loops to demonstrate control b. Follow a sequence of instructions (e.g. in a flowchart) and modify a flowchart using symbols c. Use conditional statements and edit variables d. Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program e. Keep testing more complex programs, recognise when they needs to be debugged and debug them independently f. Use key vocabulary to demonstrate knowledge and understanding in this strand: flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, kodu, world, object, tool palette, program environment, smooth, flatten, raise.
6. Online Safety a. Identify what things count as personal information b. Identify what is appropriate and inappropriate behaviour on the internet c. Agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords d. Seek help from an adult when they see something that is unexpected or worrying e. Demonstrate how to safely open and close applications and log on and log off from websites f. Use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet	**6. Online Safety** a. Reflect on their own digital footprint and behaviour online b. Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying c. Agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords; d. Seek help from an adult when they see something that is unexpected or worrying e. Demonstrate understanding of age-appropriate websites and adverts f. Use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public	**6. Online Safety** a. Protect their password and other personal information b. Be a good online citizen and friend c. Judge what sort of privacy settings might be relevant to reducing different risks d. Seek help from an adult when they see something that is unexpected or worrying e. Discuss scenarios involving online risk f. Use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, anonymous, victim, fraud/fraudulent, policy, private/personal

	Year 1/2	Year 3/4	Year 5/6
Autumn Term 1	**E-SAFETY (YEAR 1)**	**ONLINE SAFETY (YEAR 3)**	**ONLINE SAFETY (YEAR 6)**
	Skills: 6a, 6b, 6c, 6d, 6e, 6f	**Skills:** 6a, 6b, 6c, 6d, 6e, 6f	**Skills:** 6a, 6b, 6c, 6d, 6e, 6f
	Knowledge: • Name some instances where they use technology, and some different devices they use, such as tablets, PCs and games consoles. • Know that the internet is a network of computers, and that users can communicate with each other across the web by using hardware devices. • Explain that one must never share their name, age, address etc. with other people online because of online stranger danger. • Explain why they should tell an adult if they see or hear something online that worries them.	**Knowledge:** • Name some actions that fall under the definition of 'cyberbullying' • Explain what makes a password stronger and how to keep passwords safe • Use their school email accounts to safely send and receive emails • Understand that some platforms that may be unsafe for children their age e.g. online multiplayer gaming	**Knowledge:** • Find similarities and differences between in-person and cyberbullying. • Identify good strategies to deal with cyberbullying. • Identify secure websites by identifying privacy seals of approval. • Understand the benefits and pitfalls of online relationships. • Identify information that I should never share. • Identify how the media play a powerful role in shaping ideas about girls and boys.
Autumn Term 2	**WORD PROCESSING SKILLS** **INTERNET RESEARCH**	**INTERNET RESEARCH AND COMMUNICATION** **WORD PROCESSING SKILLS (YEAR 3)**	**HANDLING DATA:** **SPREADSHEETS**
	Skills: 1a, 1c, 1d, 1e, 4a, 4b, 4c, 4d, 4e, 6e	**Skills:** 1a, 1b, 1c, 1d, 1e, 1f, 4a, 4b, 4c, 4d, 4e, 4f,	**Skills:** 3a, 3b, 3c, 3d, 3e
	Knowledge: • Demonstrate how to type words, capital letters, spaces and full stops using a keyboard. • Know how to save their word processing documents in an appropriate file location and know how to give their file a unique and sensible name. • Show that they can use a word-processing app such as MS Word to edit a simple text e.g. a fairy story. • Demonstrate how to change the font size and colour. • Demonstrate how to access a webpage by following a hyperlink. • Know how to use a web browser (e.g. Google Chrome or MS Edge) to access a child-friendly search engine such as Kiddle. Use the search engine to find images and webpages by typing in key words given by the teacher.	**Knowledge:** • Select appropriate search terms for a search engine (e.g. Kiddle) in order to research their topic • Amend search terms to generate improved search results • Demonstrate how to bookmark and share webpages • Take screenshots • Change the case of a text • Align text • Use bullets and numbering • Use the <ctrl> key for function shortcuts • Insert and format text boxes	**Knowledge:** • Enter data and formulae onto a spreadsheet • Order and present the data entered • Plan and calculate a spending budget, for example, for Christmas presents or a Christmas party.
Spring Term 1	**E-SAFETY** **PAINTING**	**ONLINE SAFETY (YEAR 3)** **PROGRAMMING TURTLE LOGO AND SCRATCH**	**ONLINE SAFETY** **SCRATCH: DEVELOPING GAMES**
	Skills: 1a, 1b, 1c, 1d, 1e, 6d, 6e, 6f	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f, 5g, 6a, 6b, 6c	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f, 6a, 6b, 6c
	Knowledge: • Describe and explain the important ways they can keep themselves safe online. • Paint with different colours in a painting app such as MS Paint • Use different brush tools, draw and fill shapes, and use the undo and redo functions to paint simple pictures	**Knowledge:** • Follow online safety rules, seeking help from adults when needed • Use the move, rotate and repeat commands to create and debug algorithms • Use penup, pendown and draw regular polygons in Turtle Logo and Scratch • Draw patterns in Scratch	**Knowledge:** • Understand how privacy settings relate to online safety and know how to choose privacy settings that will help protect them online • Design characters and backdrops for games • Create original games with point-scoring and levels
Spring Term 2	**E-SAFETY (YEAR 1)** **PROGRAMMING TOYS**	**DRAWING AND DESKTOP PUBLISHING**	**FLOWOL**
	Skills: 5a, 5b, 5c, 5d, 5e, 6a, 6b, 6c	**Skills:** 1a, 1b, 1c, 1d, 1e, 1f	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f
	Knowledge: • Describe and explain the important ways they can keep themselves safe online. • Explain that an algorithm is a set of instructions. • Write algorithms for real-life tasks, e.g. building a simple Lego model. • Know that they must be precise when coding algorithms and say why. • Demonstrate that they can programme a Bee-Bot with a working algorithm, and debug a faulty algorithm.	**Knowledge:** • Draw, fill, recolour and resize objects in a DTP application (such as MS Publisher) • Order and group objects • Recognise effective layouts of posters • Combine text and images to produce a poster based on a current topic or theme (e.g. Ancient Egypt).	**Knowledge:** • Draw system flow charts • Understand what different symbols mean within the flow chart • Create flow charts for a simulated device, such as a zebra crossing • Use decision symbols and subroutines • Design, write and debug a flow chart for a given task, such as programming a toy robot for a child
Summer Term 1	**PROGRAMMING WITH SCRATCH JUNIOR**	**ONLINE SAFETY (YEAR 3)** **PRESENTATION SKILLS (YEAR 3)**	**ONLINE SAFETY** **3D MODELLING: SKETCHUP**
	Skills: 2a, 5a, 5b, 5c, 5d, 5e, 6e	**Skills:** 1a, 1b, 1c, 1d, 1e, 1f, 6d, 6e, 6f	**Skills:** 1a, 1b, 1c, 1d, 1f, 6d, 6e, 6f
	Knowledge: • Describe and use instructions to programme a character • Programme characters to move and different speeds and change sizes. • Programme algorithms to play sounds they have recorded, at set times or following conditional commands • Link more than one action together to write longer algorithms.	**Knowledge:** • Follow online safety rules, seeking help from adults when needed. • Plan and create a branching presentation using hyperlinks, slide templates and slide organisation • Manipulate the theme, transition and animation • Use action settings, audio and video • Evaluate the presentation they have created	**Knowledge:** • Recall key ways they can be a good online citizen and protect themselves when communicating online • Draw and add details to 3D models • Add to a saved 3D model and manipulate the shapes' properties • Create 3D models, e.g. of objects or rooms
Summer Term 2	**USING AND APPLYING (YEAR 1)**	**USING AND APPLYING (YEAR 3)**	**RADIO STATION (PODCASTS)**
	Skills: 1a, 1b, 1c, 1d, 1e, 6e	**Skills:** 1a, 1c, 1c, 1d, 1e, 1f, 2a, 2c	**Skills:** 2a, 2b, 2c, 2d, 2e
	Knowledge: • Type and format a short text in MS Word (or similar app) that is linked to topic e.g. about a British monarch • Paint a topic-related image in MS Paint (or similar) using the skills they have learnt. • Combine images and text they have created.	**Knowledge:** • Combine work between software (e.g. MS Word, PowerPoint, Publisher and Paint) • Create a presentation about a topic, such as their school or the Tudors • Research the topic using the internet safely • Use effective design and layout	**Knowledge:** • Record sounds using an app such as Audacity • Combine audio effects e.g. to create a radio jingle • Plan and research a topic for digital audio content • Record digital content such as radio podcasts or persuasive adverts and evaluate the content created

Castle Primary's *Computing* Curriculum
Long-Term Knowledge Plan B

	E- SAFETY (YEAR 2)	ONLINE SAFETY (YEAR 4)	ONLINE SAFETY (YEAR 5)
Autumn Term 1	**Skills:** 6a, 6b, 6c, 6d, 6e, 6f	**Skills:** 6a, 6b, 6c, 6d, 6e, 6f	**Skills:** 6a, 6b, 6c, 6d, 6e, 6f
	Knowledge: • Understand about leaving digital footprints • Use keywords to search safely online • Recognise appropriate and inappropriate websites and evaluate the quality of websites • Identify unkind online behaviour	**Knowledge:** • Know Identify and know how to respond to hurtful online messages • Accurately use a search engine • Understand how to avoid plagiarism • Know how to make a safe online profile • Explain how to be a responsible digital citizen	**Knowledge:** • Identify spam emails and what to do with them • Write citations for websites used in research • Create strong passwords • Recognise how, when and why photos online are sometimes edited • Apply online safety rules to real life situations.

	WORD PROCESSING USING THE INTERNET	PRESENTATION SKILLS WORD PROCESSING (YEAR 4)	INTERNET RESEARCH & PRESENTATION SKILLS (MS SWAY)
Autumn Term 2	**Skills:** 1a, 1c, 1d, 1e, 4a, 4b, 4c, 4d, 4e	**Skills:** 1a, 1b, 1c, 1d, 1e, 1f	**Skills:** 1b, 1c, 1d, 1e, 1f, 1g, 4a, 4b, 4c, 4d, 4e, 4f
	Knowledge: • Demonstrate how to type words, capital letters, spaces and full stops using a keyboard. • Know how to save their word processing documents in an appropriate file location and know how to give their file a unique and sensible name. • Show that they can use a word-processing app such as MS Word to edit a simple text e.g. a fairy story. • Demonstrate how to change the font size and colour. • Use a child-safe search engine (e.g. Kiddle) and simple key words to search the internet. • Follow hyperlinks • Take safe photos for, add text to, and comment on, online blogs.	**Knowledge:** • Use formatting tools to create and change layouts featuring text and images in MS Word and MS PowerPoint • Produce documents and presentations relating to topic or curriculum study • Alter transitions and animations in MS PowerPoint • Evaluate their own and their peers' work • Use spellcheck • Insert and format a table in MS Word • Create a hyperlink in MS Word • Save Word files as PDFs	**Knowledge:** • Learn the screen layout, menus and tools available in MS Sway • Create Sways in different ways: from new, from a template, from a document, from a topic • Add content such as text, images, videos, media • Learn to share a Sway safely and evaluate the documents created

	E-SAFETY PREPARING FOR TURTLE LOGO	ONLINE SAFETY PROGRAMMING TURTLE LOGO (YEAR 4)	ONLINE SAFETY SCRATCH: ANIMATED STORIES
Spring Term 1	**Skills:** 5a, 5b, 5c, 5d, 5e, 6a, 6b, 6c	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f, 5g	**Skills:** 2a, 2b, 5a, 5b, 5c, 5d, 5e, 5f, 6a, 6b, 6c
	Knowledge: • Create and follow algorithms for left turns, right turns, half and quarter turns, and 90 degree commands • Complete and debug simple algorithms	**Knowledge:** • Code procedures in Turtle Logo by creating and debugging algorithms • Use the 'setpos' command • Draw shapes and arcs • Use colours • Produce text	**Knowledge:** • Create appropriate animations for a story scene • Structure and control timing of events • Sequence events to create a story narrative • Add voice sounds to enhance an animated story • Add interactive user features to a scene/story

	PROGRAMMING LOGO AND SCRATCH	ONLINE SAFETY SCRATCH QUESTIONS AND QUIZZES	KODU PROGRAMMING
Spring Term 2	**Skills:** 5a, 5b, 5c, 5d, 5e, 6e	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f, 5g, 6d, 6e, 6f	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f
	Knowledge: • Use the 'repeat' command • Draw simple shapes with right angles (squares and rectangles), • Create algorithms featuring movement and sound. • Learn how to begin a set of commands (run an algorithm) • Change a sprite in Scratch	**Knowledge:** • Compare quizzes and decompose a problem into smaller parts • Use the 'if...else…' command for sequence and selection • Use repetition in programmes • Work with variables e.g. changing backdrops and using scoring systems •	**Knowledge:** • Investigate and evaluate the features of programming software • Program Kodu using 'When' and 'Do' instructions • Use tools and add features to create an original landscape in Kodu • Analyse and deconstruct code to work out its purpose • Program a character to be controlled around a custom track to reach a goal • Program a character to follow an automatic path

	E-SAFETY COMPUTER ART	ANIMATION	ONLINE SAFETY FILM-MAKING
Summer Term 1	**Skills:** 1b, 1c, 1d, 1e, 6d, 6e, 6f	**Skills:** 2a, 2b, 2c, 2d, 2e, 2f	**Skills:** 2a, 2b, 2c, 2d, 2e, 2f, 6d, 6e, 6f
	Knowledge: • Reproduce a style of art using a computer programme • Make an edit shapes • Change the shade of colour for effect • Retrieve saved files	**Knowledge:** • Learn about the history of animation • Animate stick figures or characters using software e.g. MovieSoup or Pivot Animator • Create short animated stories • Use a camera to capture images and create stop motion animations from them e.g. using Lego/Duplo figurines.	**Knowledge:** • Use MS Word to create a film script • Locate and check appropriate digital content, and provide accurate crediting of sources • Use digital recording devices to film and import into video editing software such as MS Video Editor • Use digital recording devices to film and import into video editing software • Create and present a short film using video editing software

	USING AND APPLYING (YEAR 2)	USING AND APPLYING SKILLS (YEAR 4)	USING AND APPLYING (YEAR 6)
Summer Term 2	**Skills:** 1a, 1b, 1c, 1d, 1e, 5a, 5b, 5c, 5d, 5e, 5f, 5g	**Skills:** 1a, 1b, 1c, 1d, 1e, 1f, 5a, 5b, 5c, 5d, 5e, 5f, 5g	**Skills:** 5a, 5b, 5c, 5d, 5e, 5f
	Knowledge: • Create computer art in the style of pointillism and cubism • Create a presentation with text and images in MS PowerPoint • Retrieve, edit and organise a presentation • Create precise coding for a character using speech and movement.	• Design and create an original character using appropriate software • Use appropriate software to tell a story involving a new character • Use other software to create an additional description or other materials linked to a character • Combine software to present information about a character	**Knowledge:** • Design and plan the launch of a new game or app • Research what promote are popular and exist currently on the market • Plan ideas for game/app development • Create and promote a product • Develop marketing/advertising material to promote their product