



South Gosforth First School Computing – Year 3 Long Term Plan



Purpose of Study

At South Gosforth First School, our computing curriculum enables pupils to develop the computational thinking, creativity and confidence they need to understand and engage with an increasingly digital world. Rooted in the National Curriculum, our approach reflects the school's commitment to providing rich, ambitious and meaningful learning experiences from Early Years through to Year 4.

Computing at South Gosforth has strong connections with mathematics, science, and design and technology. At its core is computer science: pupils learn the fundamental principles of information, algorithms and logic, how digital systems operate, and how to apply this knowledge by designing, writing and debugging their own programs. Through carefully sequenced units informed by NCCE, code.org and iLearn2, pupils develop a secure and age-appropriate understanding of how technology works.

Building on this foundation, pupils use information technology purposefully to create digital content, solve problems, and communicate their ideas. They learn to select appropriate tools, use devices safely and effectively, and understand how technology supports their learning across the curriculum.

A central aim of computing at South Gosforth First School is to ensure that pupils become digitally literate—able to use technology confidently, responsibly and creatively. Pupils learn how to express themselves, collaborate with others, and begin to understand their place within an online world. Our curriculum prepares them not only for the next stage of their education, but also to participate safely and thoughtfully in a digital society.

Aims

In line with the National Curriculum for Computing it is our aim to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are responsible, competent, confident and creative users of information and communication technology



Autumn 1	Ebook Creation - Multimedia Book	
Character Culture Creativity Challenge	Prior Learning Pupils are familiar with using the ipads for creating digital media content. They have been introduced to insert photos and text boxes, formatting the size, shape and position of these objects. They are able to change the text size and font.	
	Key Learning Intentions To use technology to design and create content that accomplishes a specific goal To collect and present information To organise information To use multimedia to enhance understanding To create interactive navigation	
	Overview of Computing Knowledge This unit builds on Year 2 skills by introducing pupils to more advanced features of Book Creator. Linked to their Stone Age history topic, pupils plan and structure a multi-page, non-fiction digital book that includes labelled images and audio explanations and embedded video. They learn to use internal hyperlinks to create an interactive contents page and navigate their digital product effectively. The unit emphasises purposeful design, ensuring fonts, layouts and multimedia support the reader's understanding. Pupils also reflect on digital responsibility, including sourcing media appropriately. Their final product is an engaging, interactive information book for a chosen audience.	Key Vocabulary Multimedia, hyperlink, contents page, labelled diagram, navigation, paragraph, video clip, interactive, structure
	Milestones of Learning	
	To use technology to design and create content that accomplishes a specific goal	Pupils explore a range of examples of digital information books. They identify features that make a successful ebook. They create a simple plan of contents page and 3 main areas they are going to create content about
	To collect and present information	Pupils begin to add text boxes to their content. They format their text using bullet points, headings and alignment.
	To use multimedia to enhance understanding	Pupils combine different types of media to enhance their content. They use images or take photos and add them to their ebook.
	To organise information	Pupils will ensure there is consistent font and colour used throughout their ebook. They will add captions and labels to their multimedia they inserted in the previous lesson.
	To evaluate and review work	Pupils will peer review their work. They will then make an improvement to their ebook based on the feedback they have received. They will then export their creation to ibooks.
	Online Safety PSHE lessons:	



	Privacy and Security Know what is appropriate to share with friends, classmates, family and wider social groups including online Recognise what privacy and personal boundaries are, including online Know basic strategies to help keep themselves safe online e.g. passwords, using trusted sites and adult supervision
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Autumn 2	Stop Frame Animation (NCCE)	
Character Culture Creativity Challenge	Prior Learning Pupils are familiar creating digital images, they have completed the digital photography unit in year 2 so are confident in using ipads to capture and manipulate images.	
	Key Learning Intentions To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation	
	Overview of Computing Knowledge In this unit, pupils learn that animation is created by showing a sequence of still images very quickly , giving the illusion of movement. They explore simple flip-book-style animation and progress to making stop-frame animations using digital devices. They learn how small, consistent changes between frames help create smooth motion, and they plan and produce their own short animated sequences. Pupils will use ipads to capture the images and then use the iMotion app to create the animations.	Key Vocabulary animation, flip book, stopframe, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.
	Milestones of Learning	
	To explain that animation is a sequence of drawings or photographs	Pupils will discuss whether they think a picture can move. They will learn about simple animation techniques and create their own animations in the style of flip books (flick books) using sticky notes.
	To relate animated movement with a sequence of images	Drawing on knowledge of a paper-based animation, in this lesson, pupils will develop this knowledge and apply it to make a stop-frame animation using a tablet.
	To plan an animation	Pupils will be introduced to the job of an animator and will start to think like one in planning their creations. Pupils will plan out their own stop-frame animations in a storyboard.



	To identify the need to work consistently and carefully	Pupils will use tablets to carefully create stop-frame animations, paying attention to consistency.
	To review and improve an animation	Pupils will evaluate their animations and try to improve them by creating a brand-new animation based on their feedback.
	Online Safety PSHE Lessons: Online Bullying and Online Relationships Know about bullying online, and the similarities and differences to face-to-face bullying Know what to do and whom to tell if they see or experience bullying or hurtful behaviour	

Spring 1	Desktop Publishing (NCCE)	
Character Culture Creativity Challenge	Prior Learning Pupils are familiar with combining text and images to produce digital content. They are familiar with using apps on the ipads for their text and images but haven't yet explored desktop software. They are familiar with positioning and resizing images and choosing font style and size.	
	Key Learning Intentions To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider the benefits of desktop publishing	
	Overview of Computing Knowledge In this unit from NCCE, pupils learn how desktop-publishing tools can be used to create purposeful, attractive documents for a specific audience. They explore layout features such as text boxes, images, and formatting, developing an understanding of how design choices influence meaning and readability. Children compare digital and non-digital methods of creating documents, selecting appropriate tools to improve efficiency. They practise editing, organising content, and evaluating their work, building confidence in combining text and images effectively. This learning develops core digital literacy skills and supports cross-curricular communication. NCCE planning recommends using Canva https://www.canva.com/ but Microsoft Publisher could also be used.	Key Vocabulary text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.
	Milestones of Learning	
	To recognise how text and images convey information	Pupils will become familiar with the terms 'text' and 'images' and understand that text and images need to be used carefully to communicate messages clearly. Pupils will be able to give advantages and disadvantages of using text, images, emojis or both text.



		Images and emojis to communicate messages effectively online. *This is an unplugged lesson and could be used as an introduction, combined in lesson 2.*
	To recognise that text and layout can be edited	This lesson will build on last week's lesson, in which pupils looked at using images and text to communicate a message effectively. In this lesson they will look at desktop publishing. Pupils will think about how to make careful choices regarding font size, colour, and type in an invitation. The use of the Return, Backspace, and Shift keys will be explored and pupils will be taught how to type age-appropriate punctuation marks.
	To choose appropriate page settings	Pupils will look at the role of an editorial designer, being the person who is responsible for putting content together. Pupils will be introduced to the terms 'templates', 'orientation', and 'placeholders' within desktop publishing software. They will create their own magazine template, which they will add content to during the next lesson.
	To add content to a desktop publishing publication	In this lesson, pupils will think about the different ways information can be laid out on a page. They will look at a range of page layouts such as letters and newspapers, and begin to think about the purpose of each of these.
	To consider the benefits of desktop publishing	Pupils will explain what desktop publishing means in their own words. They will think about how desktop publishing is used in the wider world and consider the benefits of using desktop publishing applications.
	Online Safety Safer Internet Day Assembly and PSHE lesson on given theme	



Spring 2	Scratch Sequencing Sounds (NCCE - Programming A)	
Character Culture Creativity Challenge	Prior Learning Pupils have used Scratch Jnr previously and are familiar with block coding programs, using blocks for motion. They have experience with creating code that includes loops. They have predicted how their code will work, testing it and then debugging it to improve it.	
	Key Learning Intentions To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	
	Overview of Computing Knowledge This unit of work from NCCE builds on the learning in Year 2 where the pupils experienced building code with Scratch Jnr. Pupils develop their understanding of sequencing in programming by creating musical patterns using block-based coding using the web based Scratch platform. They learn that a sequence is a set of instructions executed in order, and explore how changes to sequence, timing, or repetition affect the outcome. Children experiment with selecting and combining sounds to compose simple digital music, debugging their work when it does not behave as expected. Through practical tasks, they build confidence in predicting program behaviour, applying logical reasoning, and recognising how programming can be used creatively to produce purposeful digital content.	Key Vocabulary Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code.
	Milestones of Learning	
	To explore a new programming environment	Pupils will begin by comparing Scratch to other programming environments they may have experienced, before familiarising themselves with the basic layout of the screen.
	To identify that commands have an outcome	Pupils will create movement for more than one sprite. In doing this, they will design and implement their code, and then will create code to replicate a given outcome. Finally, they will experiment with new motion blocks.
	To explain that a program has a start	Pupils will be introduced to the concept of sequences by joining blocks of code together. They will also learn how event blocks can be used to start a project in a variety of different ways. In doing this, they will apply principles of design to plan and create a project.
	To recognise that a sequence of commands can have an order	This lesson explores sequences, and how they are implemented in a simple program. Pupils have the opportunity to experiment with sequences where order is and is not important. They will create their own sequences from given designs.
	To change the appearance of my project	This lesson develops pupils' understanding of sequences by giving them the opportunity to combine motion and sounds in one sequence. They will also learn how to use costumes to change the appearance of a sprite, and backdrops to change the



		appearance of the stage. They will apply the skills in Activity 1 and 2 to design and create their own project, including sequences, sprites with costumes, and multiple backdrops.
	To create a project from a task description	Pupils will create a musical instrument in Scratch. They will apply the concept of design to help develop programs and use programming blocks — which they have been introduced to throughout the unit. They will learn that code can be copied from one sprite to another, and that projects should be tested to see if they perform as expected.
	Online Safety PSHE Lessons: Self image and identity Online Reputation Health, well being and lifestyle How can I identify what is safe and unsafe online? Know how the internet can be used positively for leisure, school and work Recognise that images and information online can be altered or adapted and the reasons for why this happens Recognise whether something they see online is true or accurate Be able to evaluate whether a game is suitable to play or a website is appropriate for their age-group Be able to make safe, reliable choices from search results Know how to report something seen or experienced online that concerns them e.g. images or content that worry them, unkind or inappropriate communication	



Summer 1	Branching Databases (NCCE)	
Character Culture Creativity Challenge	Prior Learning Pupils are familiar with using the j2data website to create pictograms. Their maths and science learning will have introduced sorting and classifying groups and data. They are familiar with creating questions and using question words as sentence stems.	
	Key Learning Intentions To create questions with yes/no answers To identify the attributes needed to collect data about an object To create a branching database To explain why it is helpful for a database to be well structured To plan the structure of a branching database To independently create an identification tool	
	Overview of Computing Knowledge This unit from NCCE builds on the Year 2 unit of Pictograms and develops their understanding of using, sorting and presenting data. In this unit, pupils learn how information can be organised and classified using branching databases. They explore yes/no questions and recognise how these help to group objects based on their characteristics. Children learn to create, test, and improve their own branching databases, selecting appropriate attributes and understanding how the structure affects the accuracy of identification. They compare digital and paper-based classification, discussing the advantages of using technology to organise data. Through this work, pupils develop logical thinking, refine their questioning skills, and gain an early understanding of how digital tools support decision-making in real-world contexts.	Key Vocabulary attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.
	Milestones of Learning	
	To create questions with yes/no answers	Learners will start to explore questions with yes/no answers, and how these can be used to identify and compare objects. They will create their own yes/no questions, before using these to split a collection of objects into groups.
	To identify the attributes needed to collect data about an object	Learners will develop their understanding of using questions with yes/no answers to group objects more than once. They will learn how to arrange objects into a tree structure and will continue to think about which attributes the questions are related to.
	To create a branching database	Learners will continue to develop their understanding of ordering objects/images in a branching database structure. They will learn how to use an online database tool to arrange objects into a branching database, and will create their own questions with yes/no answers. Learners will show that their branching database works through testing.
	To explain why it is helpful for a database to be well structured	Learners will continue to develop their understanding of how to create a well-structured database. They will use attributes to create questions with yes/no answers, and will apply these to given objects. Learners will compare the efficiency of different branching databases, and will be able to explain why questions need to be in a specific order.



	To plan the structure of a branching database	Learners will independently plan a branching database by creating a physical representation of one that will identify different types of dinosaur. They will continue to think about the attributes of objects to write questions with yes/no answers, which will enable them to separate a group of objects effectively. Learners will then arrange the questions and objects into a tree structure, before testing the structure.
	To independently create an identification tool	Learners will independently create a branching database to identify different types of dinosaur, based on the paper-based version that they created in Lesson 5. They will then work with a partner to test that their database works, before considering real-world applications for branching databases.
	Online Safety Project Evolve Copyright and Ownership To know why copying someone else's work from the internet without permission isn't fair. To explain what problems this might cause.	

Summer 2	Programming - Course D (Code.org)	
Character Culture Creativity Challenge	Prior Learning Pupils are familiar creating programmes that includes loops and sequences and they have started experience of events. They have had experience of using code to create things for a purpose such as music or games.	
	Key Learning Intentions To describe what an event is To use events to design simple game interactions To combine sequences, events and loops To use events to create a programme	
	Overview of Computing Knowledge In this unit, from code.org, pupils are accessing lessons 6-10. They will develop their understanding of events and interactive programming through creative tools. In Music Lab, pupils trigger sounds and actions using event blocks, building simple interactive musical sequences. In Bounce, they apply events to control characters, link inputs to on-screen actions, and debug simple game behaviours. The Star Wars game lesson extends this by combining events, sequences, and character interactions to create a themed game. In Dance Party, pupils code dancers to respond to music and modify visual properties, developing creativity and understanding of events in programming.	Key Vocabulary Algorithm, debugging, decompose, measure, sequence, event, hardware,
	Milestones of Learning	
	To describe what an event is	Pupils explore Music Lab and experiment with blocks that make sounds or actions happen when an event occurs. They create simple musical patterns by linking events to notes or animations, building interactive musical sequences.



	To use events to design simple game interactions	Pupils build a simple game where characters move or bounce when certain keys or clicks are pressed. They connect input events to actions on screen, test what happens, and debug any issues they find.
	To combine sequences, events and loops	Pupils follow guided steps to create a short Star Wars-themed game, using events , sequences, and character interactions. They make sprites move, respond to actions, and achieve basic goals within the game.
	To use events to create a programme	Pupils program dancers to appear, move, and react to music . They choose songs, add dancers, change their properties, and use events to make the performance interactive and creative.
	Online Safety Project Evolve Managing information online To explain the difference between a belief and a fact and where they might be shared online. To explain not all opinions shared may be accepted as true or fair by others.	