

Unlocking Every Child's Potential as a Unique Child of God

Year 5 Computing Curriculum 2023

Children Should be taught:

Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output

Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Co2/1.4 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

Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

Co2/1.6 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.

Co2/1.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Term 1 – Magical Mayhem	Term 2 – China	Term 3 – Romans
<p>Online Safety – Lessons 1 & 2</p> <p>Children will create strong passwords & be aware of the positive and negative aspects of online communication.</p> <p>Presentation Skills: Children will develop their use of presentation software to plan and create a branching story. They will gain a deeper understanding of how purpose and audience affect design choices.</p> <p>Programming 1: Music (Lessons 1 -5)</p> <p>Children will apply their Scratch programming skills to create a soundtrack for a particular genre.</p>	<p>Online Safety – Lesson 3</p> <p>Children will understand how online information can be used to form judgements.</p> <p>Computing systems and networks: Search engines (Lessons 1 -4)</p> <p>Children will refine their research skills and understanding that not everything on the internet is accurate. They will learn what a search engine is, how they work and use keywords and TASK effectively. They will also consider the issues around copyright and fair use when creating a poster.</p> <ol style="list-style-type: none"> 1. To understand what a search engine is and how to use it. 2. To be aware that not everything online is true. 3. To search effectively. 4. To create an informative poster. <p>To understand how search engines work.</p> <p>Programming: Micro:bits (Lessons 1 -4) Pupils will build on their knowledge of block-based coding by creating simple programs using Micro:bits. They will clip blocks together, predict outcomes, and recognise familiar features. Children will create animations and break programs into smaller steps. They will choose the right blocks to solve challenges and begin working more independently.</p> <ol style="list-style-type: none"> 1. To tinker with a new piece of software. 2. To program an animation. 3. To recognise coding structures. 4. To create a program for a specific task. (pedometer) 	<p>Online Safety – Lesson 4 & 5</p> <p>Children will discover ways to overcome online bullying and find out how technology can affect health and wellbeing.</p> <p>Creating Media: Stop Motion Animation (Lessons 1 -4)</p> <p>Pupils will discover original forms of animation, including the flip book, zoetrope and thaumatrope and then make one of these toys themselves. Taking inspiration from the Wallace and Gromit animations, they then learn how to take still images using a digital camera and how to edit these images together using Microsoft photos. Finally, children plan, create and record a themed stop motion animation themselves.</p> <ol style="list-style-type: none"> 1. To understand what animation is. 2. To understand what stop motion animation is. 3. To plan a stop motion video. 4. To create a stop motion animation.

<p>Key Vocab: presentation, slide, title slide, layout, audience, design, text box, font, alignment, consistency, readability, copyright, royalty-free, resize, crop, wrap text, animation, transition, entrance/exit, emphasis, sequence, notes pane, branching storyline.</p> <p>Debug, decompose, loop, output, pitch, repeat, Scratch, rhythm, tempo, timbre</p>	<p>Key Vocab: algorithm, copyright, credit, fake news, inaccurate, index, keywords, page rank, search engine, TASK, website, www</p> <p>algorithm, animation, code blocks, Bluetooth, Micro:bit, pedometer, pairing, polling, systematic, wireless</p>	<p>Key Vocab: animation, background, decomposition, digital device, fluid movement, onion skinning, stop motion, flip book, frames, storyboard</p>
<p>Curriculum enhancement:</p>	<p>Curriculum enhancement:</p>	<p>Curriculum enhancement:</p>
<p>Essential Skills & Knowledge:</p> <ul style="list-style-type: none"> • Create slide templates and organise slides with hyperlinks. • Add theme, transitions and animation to a presentation. • Evaluate slide layout and make improvements. • Recognise that Scratch is a coding application with music elements. • Predict the effects of different code blocks and explain discoveries from tinkering. • Code a soundtrack using sound blocks, loops and nested loops to enhance a scene. • Use loops to simplify a program and understand that nested loops can repeat a rhythm or pattern. • Decompose a program into smaller parts and remix existing code in new projects. • Identify errors in a program, debug them and evaluate the effectiveness of a program. 	<p>Essential Skills & Knowledge:</p> <ul style="list-style-type: none"> • Explain what a search engine is, suggest several search engines to use and explain how to use them to find websites and information. • Suggest that things online are not always true and recognise what to check for. • Explain why keywords are important and what TASK stands for, using these strategies to search effectively. • Recognise the terms 'copyright' and 'fair use' and combine text and images in a poster. • Clip blocks together and predict what will happen. Make connections with previous programming interfaces they've used, e.g. Scratch. • Create their own images to make the animation and recognise the difference between 'on start' and 'forever'. • Recognise blocks they've used previously, identifying inputs and outputs used and make predictions about how variables work. • Choose appropriate blocks to complete the program and attempt the challenges independently. 	<p>Essential Skills & Knowledge:</p> <ul style="list-style-type: none"> • Create a toy with simple images and a single movement. • Create a short stop motion with small changes between images. • Think of a simple story idea for their animation and then decompose it into smaller parts to create a storyboard with simple characters. • Make small changes to the models to ensure a smooth animation and delete unnecessary frames. • Add effects such as extending parts and titles.

Year 5 E-Safety – Follow education for a connected world statements/Project Evolve.

It is important that learning outcomes are interpreted within contexts that are relevant to the learner's experience and are achieved through learning that is matched to the readiness of the learner.

Self-image and identity	Online relationships	Online reputation
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<p>I can explain how identity online can be copied, modified or altered.</p> <p>I can demonstrate how to make responsible choices about having an online identity, depending on context.</p>	<p>I can give examples of technology-specific forms of communication (e.g. emojis, memes and GIFs).</p> <p>I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my / our fault.</p> <p>I can describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups).</p> <p>I can explain how someone can get help if they are having problems and identify when to tell a trusted adult.</p> <p>I can demonstrate how to support others (including those who are having difficulties) online.</p>	<p>I can search for information about an individual online and summarise the information found.</p> <p>I can describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect.</p>
<p>Online bullying</p>	<p>Health, well-being and lifestyle</p>	<p>Privacy and security</p>
<p>I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.</p> <p>I can describe how what one person perceives as playful joking and teasing (including "banter") might be experienced by others as bullying.</p> <p>I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult.</p> <p>I can identify a range of ways to report concerns and access support both in school and at home about online bullying.</p> <p>I can explain how to block abusive users.</p> <p>I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).</p>	<p>I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.</p> <p>I can describe some strategies, tips or advice to promote health and well-being with regards to technology.</p> <p>I recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals.</p> <p>I can explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing.</p>	<p>I can explain what a strong password is and demonstrate how to create one.</p> <p>I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</p> <p>I can explain what app permissions are and can give some examples.</p>
<p>Managing online information</p>	<p>Copyright and ownership</p>	

I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I am presented with e.g. voice-activated searching giving one result.

I can explain what is meant by 'being **sceptical**'; I can give examples of when and why it is important to be 'sceptical'.

I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.

I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence.

I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, **pop-ups**, targeted ads.

I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by **vloggers, content creators, influencers**).

I can explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others.

I can describe how **fake news** may affect someone's emotions and behaviour, and explain why this may be harmful.

I can explain what is meant by a '**hoax**'. I can explain why someone would need to think carefully before they share.

I can assess and justify when it is acceptable to use the work of others.

I can give examples of content that is permitted to be reused and know how this content can be found online.