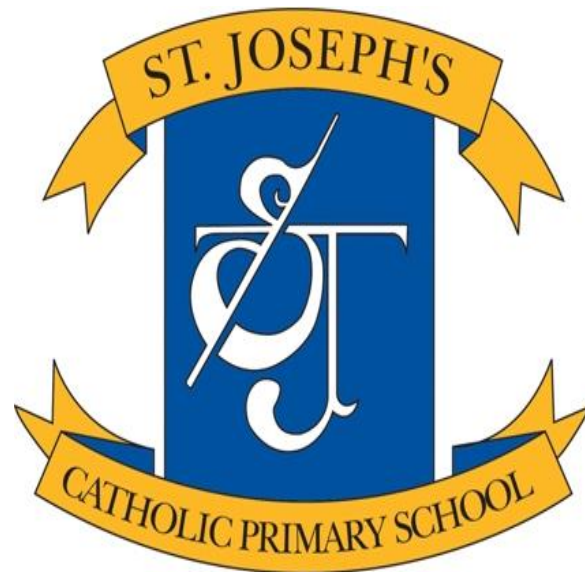# St Joseph's Catholic Primary School

## Computing: Yearly Overviews

# Computing Curriculum Yearly Overview (DARES Projects)

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| EYFS | Ongoing activities - See EYFS Computing progression document | | | | | |
| Year 1 | **Programming** – Robot Maze | **Programming** - Animations in ScratchJr | **Sound** - Podcasting | **Animation** - Bringing Character to Life | **Data Handling** - Digital Pictograms | **Animation** - Creating a Cartoon |
| Year 2 | **Programming** - My Robot Helper ScratchJr | **Data Handling** - Digital Venn Diagrams | **Photography** – Simple Photoshopping | **Animation** - Stop Motion Animation | **Presentations** - Speech Bubble Pictures | **Video Creation** - Masking Storytime |
| Year 3 | **Computer Networks** - Network Explorer | **Programming** - Animations in Scratch | **Presentation** - Interactive Comics | **Data Handling** - Interactive Story Graphs | **AR & VR** - Creating 360 Images | **Video Creation** - Voiceover Film |
| Year 4 | **Programming** - Makey Makey Games Controller | **Sound** - Movie Soundtrack | **Presentation** - Digital Posters | **Video Creation** - Visual Storytelling | **Data Handling** - Online Questionnaire | **Animation** - Line Draw Animation |
| Year 5 | **Sound** - Four Chord Remix | **Programming** - Scratch Platform Game | **Programming** - Quizzes in Scratch | **Computer Networks** – Search Engines | **Video Creation** - Greenscreen News Report | **AR & VR** - Interactive Displays |
| Year 6 | **Computer Networks** - HTML | **Programming** - Scratch Game | **Animation** - 3D Animated Cartoon | **Video Creation** - Greenscreen Special Effects | **Presentation** - App Prototype<br>Sound - Podcasting | **Programming** - 3D Letters Beetle Blocks |

Year 4 will also cover **Computer Networks** - Understanding The Internet

# EYFS– Computing Overview

# EYFS Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/ Typing | Computer, Keyboard, Device, Tablet, Dictate, type | Seesaw, Word, Pages Google Docs Pic Collage, |
| Data Handling | Chart, sort, data, count, list | Seesaw, |
| Presentations, web design and eBook Creation | Record, image, digital, collage, move, resize, pinch | Seesaw |
| Animation | Animation, character, record | Puppetpals, ChatterPix Kids, |
| Video Creation | Photography, video, record, camera roll, play, pause, microphone | Camera App Shadow Puppets Edu, |
| Photography and Digital Art | Photograph, digital, paint, capture | Camera, Mark up, Photo booth, Seesaw, Draw & Tell |
| Augmented Reality and Virtual Reality | Scan, image, 360, digital image, | AR Makr, LEO AR Camera |
| Sound | Record, sound, microphone, echo, | Seesaw, Voice Memos, Keezy, |
| Computational Thinking | Instruction, follow, first, next, | Resources from MrPICT.com, Barefoot Computing |
| Coding and Programming | Mouse, touch screen, move, command, device | Beebot, Daisy The Dinosaur |
| Artificial Intelligence | Machine, Computer, Robot, | MrPICT.com/ai |
| Digital Lit/E-Safety | Online, offline, communicate, internet, information, feelings, rules | ProjectEvolve.com MrPICT.com |

# EYFS Computing Overview - Information Tech

| Computing Strand | NC Objectives | Knowledge Statements | Date covered | | |
|---|---|---|---|---|---|
| **Word Processing/ Typing** | Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. | • I know how to play on a touch screen game and use computers/keyboards/mouse in role play <br> • I know how to type letters with increasing confidence using a keyboard and tablet. <br> • I know how to dictate short, clear sentences into a digital device. | | | |
| **Data Handling** | | • I know how to identify a chart. <br> • I know how to sort physical objects, take a picture and discuss what I have done. <br> • I know how to present simple data on a digital device. | | | |
| **Presentations, web design and eBook Creation** | | • I know how to record my voice over a picture. <br> • I know how to create a simple digital collage. <br> • I know how to move and resize images with my fingers or mouse. | | | |
| **Animation** | | • I know how to animate a simple image to speak in role <br> • I know how to create a simple animation to tell a story including more than one character. | | | |
| **Video Creation** | | • I know the difference between a photography and video. <br> • I know how to record a short film using the camera <br> • I know how to record and play a film <br> • I know how to watch films back | | | |
| **Photography and Digital Art** | | • I know how to take a photograph <br> • I know how to take a photograph and use it in an app <br> • I know how to use a painting app and explore the paint and brush tools | | | |
| **Augmented Reality and Virtual Reality** | | • I know how to scan a QR code. <br> • I know how to explore a 360 image. <br> • I know how to talk about AR objects in my class | | | |
| **Sound** | | • I know how to record sounds with different resources <br> • I know how to find ways to change your voice (tube, tin can, shouting to create an echo) <br> • I know how to record sounds/voices in storytelling and explanations | | | |

# EYFS Computing Overview - Computer Science

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | | |
|---|---|---|---|---|---|---|
| Computational Thinking | Creative and critical thinking<br><br>Active learning (through unplugged activities) | • I begin to understand an algorithm is a sequence of instructions or set of rules to get things done. (Algorithms)<br>• I know how to follow a simple algorithm by responding to oral instructions. (Algorithms)<br>• I can begin to make my own simple algorithms by sequencing actions. (Algorithms)<br>• I can start to explain my thought process and justify my decisions. (Logical reasoning)<br>• I can explain what is the same and what is different<br>• (Pattern) | | | | |
| Coding and Programming | Playing and Exploring<br><br>Creative and critical thinking | • I can learn how digital toys and apps work through exploration (Tinkering)<br>• I can input more than one command into a programmable toy or simple app<br>• I can input a sequence of commands into a programmable toy or simple app<br>• I fix things through trial and error (Debugging)<br>• I can fix things and explain my approach (Debugging) | | | | |
| Artificial Intelligence | | • I know that machines and computers can be used to perform tasks.<br>• I know interact with simple AI such as Siri and dictation. | | | | |

# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | EYFS | Skills | Date Covered | | |
|---|---|---|---|---|---|
| Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. | Self Image and Identity | • I can recognise that I can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset.<br>• I can explain how this could be either in real life or online. | | | |
| | Online Relationships | • I can recognise some ways in which the internet can be used to communicate.<br>• I can give examples of how I (might) use technology to communicate with people I know. | | | |
| | Online Reputation | • I can identify ways that I can put information on the internet. | | | |
| | Online Bullying | • I can describe ways that some people can be unkind online.<br>• I can offer examples of how this can make others feel. | | | |
| | Managing Online Information | • I can talk about how to use the internet as a way of finding information online.<br>• I can identify devices I could use to access information on the internet. | | | |
| | Health ,Well-being and Lifestyle | • I can identify rules that help keep us safe and healthy in and beyond the home when using technology.<br>• I can give some simple examples of these rules. | | | |
| | Privacy and Security | • I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).<br>• I can describe who would be trustworthy to share this information with; I can explain why they are trusted. | | | |
| | Copyright and Ownership | • I know that work I create belongs to me.<br>• I can name my work so that others know it belongs to me. | | | |

# Year 1 – Computing Overview
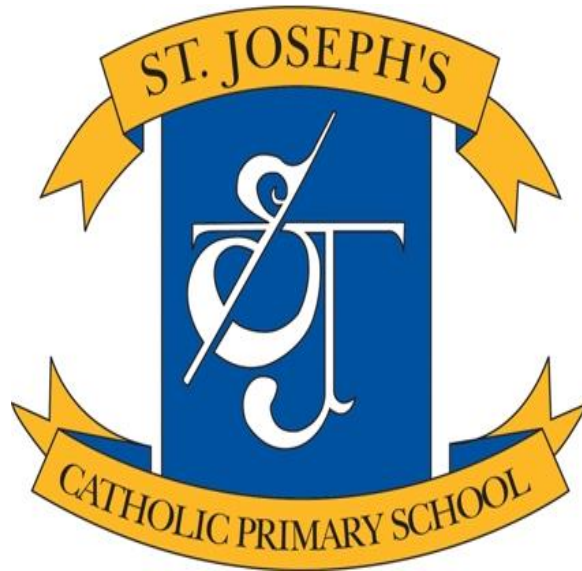
# Year 1 Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/Typing | Space Bar, Delete, Return Key, Enter, Mouse, Trackpad, arrow keys, cursor, select, | Seesaw, Word, Pages Google Docs Pic Collage, Book Creator, |
| Data Handling | Columns, category, tally chart, pictograms, explain, | Seesaw, Pic Collage |
| Presentations, web design and eBook Creation | Labels, order, storyboard, sequence, spider diagram, text box, style | Seesaw, Pic Collage |
| Animation | Filters, stickers, scene | Puppetpals, ChatterPix Kids, I Can Animate, Seesaw, |
| Video Creation | Voiceover, highlight, zoom, countdown, playback, delete, pause, rewind, fast forward. | Doink Greenscreen, Shadow Puppets Edu, |
| Photography and Digital Art | Edit, drawing, cut, layer, mark up, erase, | Camera Mark up, Photobooth, Seesaw, Keynote, Pic Collage, Notes |
| Augmented Reality and Virtual Reality | Surroundings, objects, interact, | AR Makr, LEO AR Camera |
| Sound | Sequence, instruments, short, long, effects | Seesaw, Voice Memos, Keezy, |
| Computational Thinking | Algorithm, sequence, order, bug, fix, precise | Resources from MrPICT.com, Barefoot Computing |
| Coding and Programming | Digital, program, follow, code, bugs, fix, order, | Beebot, Scratch Jnr, Kodable, |
| Artificial Intelligence | Program, algorithm, data, AI, technology, voice assistant, text, recognise | MrPICT.com/ai |
| Digital Lit/E-Safety | Online, offline, communicate, internet, information, feelings, rules | ProjectEvolve.com MrPICT.com |

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# Year 1 Computing Overview - Information Tech

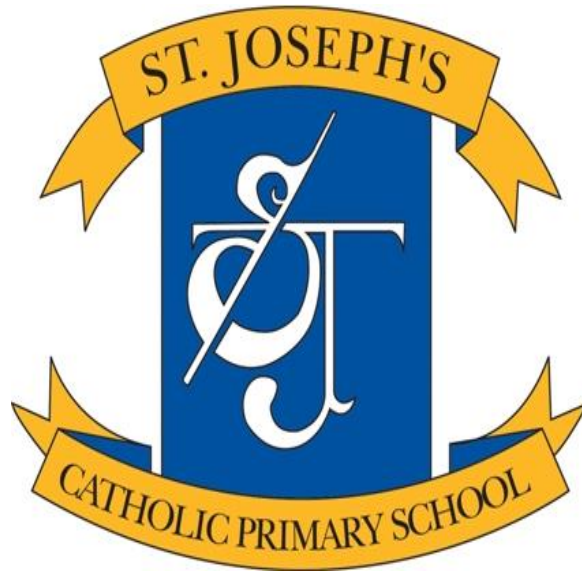| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | | |
|---|---|---|---|---|---|---|
| Word Processing/ Typing | Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content | • I know how to play on a touch screen game and use computers/keyboards/mouse in role play<br>• I know how to type letters with increasing confidence using a keyboard and tablet.<br>• I know how to dictate short, clear sentences into a digital device. | | | | |
| Data Handling | | • I know how to sort images or text into two or more categories on a digital device.<br>• I know how to collect data on a topic.<br>• I know how to create a tally chart and pictogram.<br>• I know how to record myself explaining what I have done and what it shows me. | | | | |
| Presentations, web design and eBook Creation | | • I know how to add labels to an image<br>• I know how to order images to create a simple storyboard.<br>• I know how to create a simple spider diagram.<br>• I know how to sequence a pictures to explain my understanding of a topic. | | | | |
| Animation | | • I know how to add filters and stickers to enhance an animation of a character.<br>• I know how to create an animation to tell a story with more than one scene.<br>• I know how to add my own pictures to my story animation. | | | | |
| Video Creation | | • I know how to record a film using the camera app.<br>• I know how to select images and record a voiceover.<br>• I know how to highlight and zoom into images as I record. | | | | |
| Photography and Digital Art | | • I know how to edit a photo with simple tools<br>• I know how to use a paint/drawing app to create a digital image<br>• I know how to begin to cut out an image to layer on another image. | | | | |
| Augmented Reality and Virtual Reality | | • I know how to explore an interactive 360 image.<br>• I know how to scan a trigger image to begin a AR experience.<br>• I know how to pretend to interact with AR objects. | | | | |
| Sound | | • I know how to create a sequence of sounds (instruments, apps/software)<br>• I know how to explore short and long sounds.<br>• I know how to record my voice and add different effects. | | | | |

# Year 1 Computing Overview - Computer Science

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| Computational Thinking | • Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions<br>• Co2/1.2 create and debug simple programs<br>• Co2/1.3 use logical reasoning to predict the behaviour of simple programs | • I understand what algorithms are<br>• I know how to write simple algorithms<br>• I understand the sequence of algorithms is important<br>• I know how to debug simple algorithms | | | |
| Coding and Programming | | • I know how to create a simple program on a digital device e.g. Bee Bot or tablet<br>• I know how to use sequence in programs<br>• I know how to locate and fix bugs in my program | | | |
| Artificial Intelligence | | • I know how to use simple AI technology and can talk about what it does<br>• I know that data is used by computers to store and process information. | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 1 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| Co2/1.5 recognise common uses of information technology beyond school<br><br>Co2/1.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies | **Self Image and Identity** | • I can recognise that there may be people online who could make me feel sad, embarrassed or upset.<br>• If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust. | | | |
| | **Online Relationships** | • I can recognise some ways in which the internet can be used to communicate.<br>• I can give examples of how I (might) use technology to communicate with people I know. | | | |
| | **Online Reputation** | • I can recognise that information can stay online and could be copied.<br>• I can describe what information I should not put online without asking a trusted adult first | | | |
| | **Online Bullying** | • I can describe how to behave online in ways that do not upset others and can give examples. | | | |
| | **Managing Online Information** | • I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching).<br>• I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke.<br>• I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened | | | |
| | **Health ,Well-being and Lifestyle** | • I can explain rules to keep myself safe when using technology both in and beyond the home. | | | |
| | **Privacy and Security** | • I can explain that passwords are used to protect information, accounts and devices.<br>• I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names).<br>• I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. | | | |
| | **Copyright and Ownership** | • I can explain why work I create using technology belongs to me.<br>• I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it").<br>• I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content).<br>• I understand that work created by others does not belong to me even if I save a copy. | | | |

# Year 2 – Computing Overview

# Year 2 Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/ Typing | Cut, copy, paste. Caps Lock, Insert, Image, Save, clipboard, editing, header, highlight | Seesaw, Word, Pages Google Docs Pic Collage, Keynote Book Creator, Popplet |
| Data Handling | Venn diagrams, carroll diagrams, bar charts, database, table | Seesaw, Pic Collage, Plickers Google Sheets, Google Forms, Excel, Numbers, |
| Presentations, web design and eBook Creation | Voice labels, import, tag, add to, right click, layout, format, | Seesaw, Pic Collage, Balloon Stickies +, Thinglink, Book Creator, |
| Animation | Stop motion, ghosting, timing, cartoon | Puppetpals, ChatterPix Kids, I Can Animate, Seesaw, |
| Video Creation | Teleprompter, pace, rate, effects, titles, Greenscreen, layer, masking, drag | Doink Greenscreen, iMovie, Shadow Puppets Edu, Adobe Spark Video, |
| Photography and Digital Art | Crop, filters, fill, export, JPEG, zoom, flash, undo | Camera, Mark up, Photobooth, Seesaw, Keynote, Pic Collage, Notes |
| Augmented Reality and Virtual Reality | Markers, Augmented Reality, trigger, | AR Makr, Thinglink, Keynote, |
| Sound | Sound effects, loops, | Seesaw, Voice Memos, Garageband, Anchor, Keezy, |
| Computational Thinking | Decomposition, debug, reason, detail, breakdown, task | Resources from MrPICT.com, Barefoot Computing |
| Coding and Programming | Precise, logical reasoning, prediction, debug, sequence | Beebot, Scratch Jnr, Kodable, Tynker, |
| Artificial Intelligence | Input, output, artificial intelligence, voice assistant, text, recognise | MrPICT.com/ai |
| Digital Lit/E-Safety | Online gaming, sharing, pressure, accept, consent, bullying, home, forward, links, tabs, sections, Siri, untrue, wellbeing, private, AI, comments, | ProjectEvolve.com MrPICT.com |

# Year 2 Computing Overview - Information Tech

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| Word Processing/ Typing | Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content | • I know how to use the space bar only once between words and use touch to navigate to words letter to edit<br>• I know how to copy and paste images and text<br>• I know how to use caps locks for capital letters.<br>• I know how to add images alongside text in a word processed document.<br>• I know how to dictate longer passages into a digital device with accurate punctuation. | | | |
| Data Handling | | • I know how to sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software.<br>• I know how to orally record myself explaining what the data shows me.<br>• I know how to create a branching database using questions | | | |
| Presentations, web design and eBook Creation | | • I know how to add voice labels to an image.<br>• I know how to add a voice recording to a storyboard.<br>• I know how to add speech bubbles to an image to show what a character thinks.<br>• I know how to import images to a project from the web and camera roll<br>• I know how to use some build in animations in presentation software | | | |
| Animation | | • I know how to create multiple animations of an image and edit these together.<br>• I know how to create a simple stop motion animation.<br>• I know how to explain how an animation/flip book works | | | |
| Video Creation | | • I know how to write and record a script using a teleprompter tool.<br>• I know how to use tools to add effects to a video<br>• I know how to begin to use green screen techniques with support | | | |
| Photography and Digital Art | | • I know how to edit a photo (crop, filters, mark up etc)<br>• I know how to select and use tools to create digital imagery - controlling the pen and using the fill tool<br>• I know how to cut images with accuary to layer on other images. | | | |
| Augmented Reality and Virtual Reality | | • I know how to draw my own 360 image and explore it in VR.<br>• I know how to bring objects into my surroundings using Augmented Reality.<br>• I know how to create my own QR code. | | | |
| Sound | | • I know how to create a musical composition using software<br>• I know how to record my own sound effects.<br>• I know how to record my voice over a compositions to perform a song. | | | |

# Year 2 Computing Overview - Computer Science

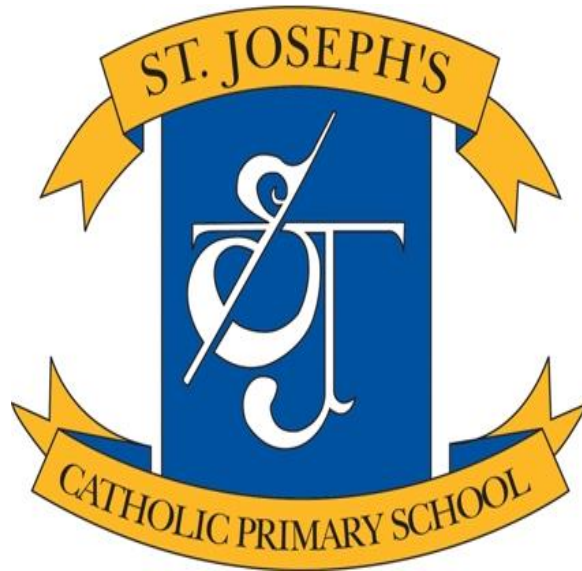| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| Computational Thinking | • Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions<br>• Co2/1.2 create and debug simple programs<br>• Co2/1.3 use logical reasoning to predict the behaviour of simple programs | • I know how to write algorithms for everyday tasks<br>• I know how to use logical reasoning to predict the outcome of algorithms<br>• I understand decomposition is breaking objects/processes down<br>• I know how to debug algorithms | | | |
| Coding and Programming | | • I understand programs follow precise instructions<br>• I know how to create programs using different digital devices E.g. Bee Bot or ScratchJr on a tablet<br>• I know how to debug programs of increasing complexity<br>• I know how to use logical reasoning to predict the outcome of simple programs | | | |
| Artificial Intelligence | | • I can explain some advantages and disadvantages of using simple AI technology<br>• I know that artificial intelligence can be used to simulate human-like abilities in a computer. | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 2 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| Co2/1.5 recognise common uses of information technology beyond school<br><br>Co2/1.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies | **Self Image and Identity** | • I can explain how other people may look and act differently online and offline.<br>• I can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help | | | |
| | **Online Relationships** | • I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).<br>• I can explain who I should ask before sharing things about myself or others online.<br>• I can describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure.<br>• I can explain why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do.<br>• I can identify who can help me if something happens online without my consent.<br>• I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online.<br>• I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online | | | |
| | **Online Reputation** | • I can explain how information put online about someone can last for a long time.<br>• I can describe how anyone's online information could be seen by others.<br>• I know who to talk to if something has been put online without consent or if it is incorrect. | | | |
| | **Online Bullying** | • I can explain what bullying is, how people may bully others and how bullying can make someone feel.<br>• I can explain why anyone who experiences bullying is not to blame<br>• I can talk about how anyone experiencing bullying can get help. | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 2 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| Co2/1.5 recognise common uses of information technology beyond school<br><br>Co2/1.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies | **Managing Online Information** | • I can use simple keywords in search engines.<br>• I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).<br>• I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri).<br>• I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.<br>• I can explain why some information I find online may not be real or true | | | |
| | **Health ,Well-being and Lifestyle** | • I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.<br>• I can say how those rules / guides can help anyone accessing online technologies. | | | |
| | **Privacy and Security** | • I can explain how passwords can be used to protect information, accounts and devices.<br>• I can explain and give examples of what is meant by 'private' and 'keeping things private'<br>• I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords).<br>• I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions). | | | |
| | **Copyright and Ownership** | • I can recognise that content on the internet may belong to other people.<br>• I can describe why other people's work belongs to them. | | | |

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# Year 3 – Computing Overview

# Year 3 Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/ Typing | Touch type. Edit, format, font, size, borders, shadows, duplicate, organise, undo, redo, autocorrect, clipart | Seesaw, Word, Pages, Google Docs Keynote Book Creator, Popplet |
| Data Handling | Table, column, row, cell, spreadsheet, graph, | Google Sheets, Google Forms, Excel, Numbers, |
| Presentations, web design and eBook Creation | Media, interactive, audio, annotate, background, clip art, prototype, web page, timeline, | Balloon Stickies +, Google Sites, Book Creator, Keynote, Adobe Spark Page, Thinglink, Marvel, |
| Animation | Frame, framerate, layout, onion skinning, trim | Puppetpals, ChatterPix Kids, Animate Anything, Talkr, I Can Animate, iFunFace, Seesaw, Puppetmaster, Toontastic, |
| Video Creation | Sequence, trim, cut, transition, trailer, close up, action shot, timeline | Doink Greenscreen, iMovie, Shadow Puppets Edu, Videorama, Apple Clips Explain Everything |
| Photography and Digital Art | Manipulate, brush size, transparent, instant alpha, PNG, framing, | Camera and Mark up, Notes, Seesaw, Keynote, Pic Collage, Sketches Pro, Paper |
| Augmented Reality and Virtual Reality | Field of view, Holograms, Virtual Reality, explore, slide size, | AR Makr, Thinglink, Keynote, EyeJack, Halo AR, AR Portal |
| Sound | Input, output, selection, mix | Seesaw, Voice Memos, Garageband, Anchor, Keezy, |
| Computational Thinking | Abstraction, information, relevant, pattern, same, different, complex | Resources from MrPICT.com, Barefoot Computing |
| Coding and Programming | Sequence, inputs, outputs, code, design, programming language, Scratch | Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds, |
| Networks | Network, server, client, LAN (Local Area Network), switch | Resources from MrPICT.com, Barefoot Computing |
| Artificial Intelligence | Machine learning, expert system, bias, data, class, pattern | MrPICT.com/ai |
| Digital Lit/E-Safety | Identify, represent, avatar, likes, trusting, uncomfortable, cyberbullying, accurate, autocomplete, belief, opinion, fact, mood, engaged, age restrictions, data, copyright, digital footprint, | ProjectEvolve.com MrPICT.com |

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# Year 3 Computing Overview - Information Tech

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | | |
|---|---|---|---|---|---|---|
| **Word Processing/ Typing** | 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. | • I know how to use index fingers on keyboard home keys (f/j), use left fingers for a/s/d/f/g, and use right fingers for h/j/k/l<br>• I know how to edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows.<br>• I know how to use cut, copy and paste to quickly duplicate and organise text. | | | | |
| **Data Handling** | | • I know how to create my own sorting diagram and complete a data handling activity with it using images and text.<br>• I know how to start to input simple data into a spreadsheet.<br>• I know how to create a feelings chart exploring a story or character's feelings. | | | | |
| **Presentations, web design and eBook Creation** | | • I know how to create an interactive comic with sounds, formatted text and video.<br>• I know how to annotate an image with videos<br>• I know how to create a simple web page.<br>• I know how to design a simple app prototype.<br>• I know how to create a simple digital timeline/mindmap | | | | |
| **Animation** | | • I know how to create animations of faces to speak in role with more life-like realistic outcomes.<br>• I know how to improve stop motion animation clips with techniques like onion skinning.<br>• I know how to code a simple animation | | | | |
| **Video Creation** | | • I know how to sequence clips of mixed media in a timeline and record a voiceover<br>• I know how to trim and cut film clips and add titles and transitions<br>• I know how to independently create a green screen clip.<br>• I know how to create my own movie trailer. | | | | |
| **Photography and Digital Art** | | • I know how to confidently take and manipulate photos<br>• I know how to create a digital image using a range of tools, pens, brushes and effects<br>• I know how to create transparent images with Instant Alpha | | | | |
| **Augmented Reality and Virtual Reality** | | • I know how to create my own digital 360 image and explore it in VR<br>• I know how to create my own images and bring it into my surroundings through AR. | | | | |
| **Sound** | | • I know how to create and edit purposeful compositions using music software to create mood or a certain style<br>• I know how to experiment with live loops to create a song. | | | | |

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# Year 3 Computing Overview - Computer Science

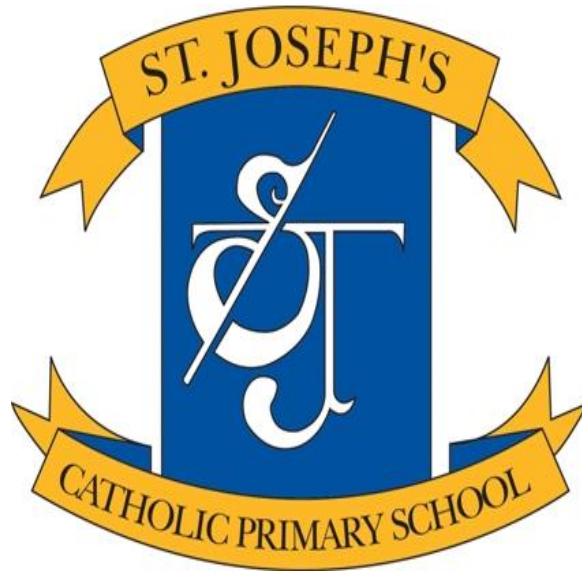| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| **Computational Thinking** | • Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br>• Co2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and output<br>• Co2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs<br>• 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<br>• Co2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | • I know how to create algorithms for my programming projects<br>• I know how to decompose projects (such as an animation) into steps to create an algorithm<br>• I understand abstraction is focusing on important information<br>• I know how to identify patterns in an algorithm | | | |
| **Coding and Programming** | | • I know how to design a program<br>• I know how to create a program using a design<br>• I know how to create a sequence of code<br>• I know how to work with a variety of inputs and outputs<br>• I know how to evaluate my program | | | |
| **Computer Networks** | | • I understand that the computers in a school are connected together in a network<br>• I understand why computers are networked | | | |
| **Artificial Intelligence** | | • I understand data is used to train AI technology<br>• I know the basics of machine learning and how computers can be trained to perform tasks using data and algorithms. | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 3 | Skills | Date Covered | | | |
|---|---|---|---|---|---|---|
| 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 | Self Image and Identity | • I can explain what is meant by the term 'identity'.<br>• I can explain how people can represent themselves in different ways online<br>• I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why | | | | |
| | Online Relationships | • I can describe ways people who have similar likes and interests can get together online.<br>• I can explain what it means to 'know someone' online and why this might be different from knowing someone offline.<br>• I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.<br>• I can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried.<br>• I can explain how someone's feelings can be hurt by what is said or written online.<br>• I can explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos. | | | | |
| | Online Reputation | • I can explain how to search for information about others online.<br>• I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal.<br>• I can explain who someone can ask if they are unsure about putting something online | | | | |
| | Online Bullying | • I can describe appropriate ways to behave towards other people online and why this is important.<br>• I can give examples of how bullying behaviour could appear online and how someone can get support. | | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 3 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| 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<br><br>Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | Managing Online Information | • I can demonstrate how to use key phrases in search engines to gather accurate information online.<br>• I can explain what autocomplete is and how to choose the best suggestion.<br>• I can explain how the internet can be used to sell and buy things.<br>• I can explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc.<br>• I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed).<br>• I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened. | | | |
| | Health ,Well-being and Lifestyle | • I can explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged (e.g. doing homework, games, films, videos).<br>• I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites). | | | |
| | Privacy and Security | • I can describe simple strategies for creating and keeping passwords private.<br>• I can give reasons why someone should only share information with people they choose to and can trust.<br>• I can explain that if they are not sure or feel pressured then they should tell a trusted adult.<br>• I can describe how connected devices can collect and share anyone's information with others. | | | |
| | Copyright and Ownership | • I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause. | | | |

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# Year 4 – Computing Overview

# Year 4 Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/ Typing | Group, crop, source, object, posters, documents, eBooks, scripts, leaflets. CTRL, spell check, thesaurus, record, | Seesaw, Word, Pages Google Docs Keynote Book Creator, Popplet |
| Data Handling | Formatting, questionnaire, Active Cell, Autofit, multiple choice, checkbox, | Google Sheets, Google Forms, Excel, Numbers, Kahoot, Blooket |
| Presentations, web design and eBook Creation | Animation, design template, effects, multimedia, eBook, ePub, export, hyperlinks | Google Sites, Book Creator, Keynote, Powerpoint, Adobe Spark Page, Thinglink, |
| Animation | 3D, line draw, build in, build out, exposure, dynamic | Puppetpals, ChatterPix Kids, Animate Anything, Talkr, I Can Animate, iFunFace, Seesaw, Puppetmaster, Toontastic |
| Video Creation | Clips, media library, import, ken burns, subtitles, crop, overlay, adjust, playback, pan, tilt | Doink Greenscreen, iMovie, Shadow Puppets Edu, Videorama, Apple Clips Explain Everything |
| Photography and Digital Art | Brightness, contrast, resize, digital shapes, focus, artificial, natural, lighting | Camera and Mark up, Notes, Seesaw, Keynote Pic Collage, Sketches Pro, Paper |
| AR & VR | Target image, recognition, panoramic, | AR Makr, Thinglink, Keynote, EyeJack, Halo AR, AR Portal |
| Sound | Podcast, clipping, crossfade, fade, gain, | Seesaw, Voice Memos, Garageband, Anchor, Keezy, |
| Computational Thinking | Logical reasoning, design, algorithmic thinking, selection, repeat | Resources from MrPICT.com, Barefoot Computing |
| Coding and Programming | Repetition, loop, forever loop, count controlled loop, selection, condition, systematic | Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds, |
| Networks | Internet, router, data, web page, submarine cable | Resources from MrPICT.com, Barefoot Computing |
| Artificial Intelligence | Neural network, deep learning, big data, data, train, model, image, class, pattern | MrPICT.com/ai |
| Digital Lit/E-Safety | Interact, livestream, healthy, unhealthy online behaviours, analyse, fake news, in-app purchases, pop-ups, bots, distraction, screen time, geolocation, adware, cookies, | ProjectEvolve.com MrPICT.com |

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# Year 4 Computing Overview - Information Tech

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| Word Processing/ Typing | 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. | • I know how to combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets.<br>• I know how to confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text<br>• I know how to use font sizes appropriately for audience and purpose. Use spell check and thesaurus including through Siri and other AI technology | | | |
| Data Handling | | • I know how to create my own online multiple choice questionnaire.<br>• I know how to input data into a spreadsheet and export the data in a variety of ways: charts, bar charts, pie charts.<br>• I understand how data is collected. | | | |
| Presentations, web design and eBook Creation | | • I know how to create an interactive quiz eBook introducing hyperlinks.<br>• I know how to create an eBook with text, images and sound.<br>• I know how to create a presentation demonstrating my understanding with a range of media.<br>• I know how to create a digital timeline/mindmap and include different media - sound and video. | | | |
| Animation | | • I know how to take multiple animations of a character I have created and edit them together for a longer video.<br>• I know how to use software to create a 3D animated story.<br>• I know how to create flip book animation using digital drawings and export as a GIF or video<br>• I know how to use line draw tool to create animations. | | | |
| Video Creation | | • I know how to add music and sound effects to my films<br>• I know how to add animated titles and transitions<br>• I know how to add simple subtitles to a video clip.<br>• I know how to use confidently use green screen adding animated backgrounds. | | | |
| Photography and Digital Art | | • I know how to enhance digital images and photographs using crop, brightness, contrast & resize<br>• I know how to use shapes and drawing tools to create digital art.<br>• I know how to draw a series of images and export as an animated GIF | | | |
| Augmented Reality and Virtual Reality | | • I know how to create my own 360 video.<br>• I know how to use the camera to create a 360 image.<br>• I know how to add multiple objects into my surroundings through AR to explain a concept. | | | |
| Sound | | • I know how to edit sound effects for a purpose.<br>• I know how to create a simple four chord song following the correct rhythm.<br>• I know how to record a radio broadcast or audiobook. | | | |

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# Year 4 Computing Overview - Computer Science

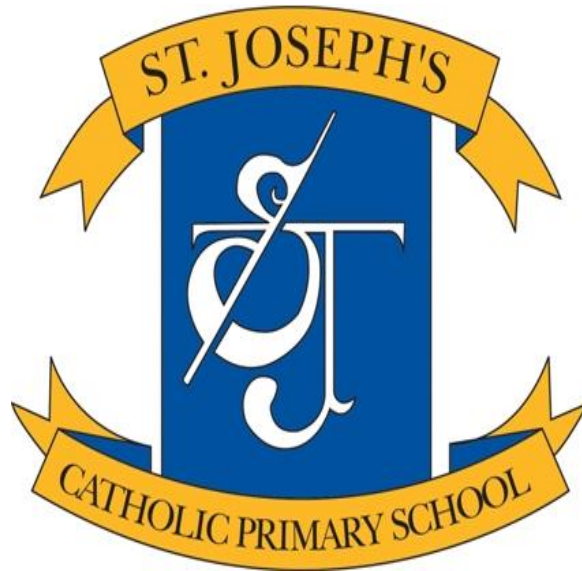| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | | |
|---|---|---|---|---|---|---|
| Computational Thinking | • Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts | • I know how to use abstraction to focus on what's important in my design<br>• I know how to write more precise algorithms for use when programming<br>• I know how to use simple selection and repetition in algorithms<br>• I know how to use logical reasoning to detect and correct errors in programs | | | | |
| Coding and Programming | • Co2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and output<br>• Co2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | • I know how to use repetition in programs<br>• I know how to use simple selection in programs<br>• I know how to work with a variety of inputs and outputs<br>• I know how to use logical reasoning to systematically detect and correct errors in programs | | | | |
| Computer Networks | • 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 | • I understand that servers on the Internet are located across the planet<br>• I understand the difference between the Internet and WWW<br>• I understand how web pages are viewed across the internet | | | | |
| Artificial Intelligence | • Co2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | • I can train an AI model and investigate how more data can make it more accurate<br>• I know about big data and how it can be used to inform decision-making and improve machine learning algorithms. | | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 4 | Skills | Date Covered | | | |
|---|---|---|---|---|---|---|
| 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 | Self Image and Identity | • I can explain how identity online can be copied, modified or altered.<br>• I can demonstrate responsible choices about my online identity, depending on context. | | | | |
| | Online Relationships | • I can describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms).<br>• I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.<br>• I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs. | | | | |
| | Online Reputation | • I can describe how to find out information about others by searching online.<br>• I can explain ways that some of the information about anyone online could have been created, copied or shared by others. | | | | |
| | Online Bullying | • I can recognise when someone is upset, hurt or angry online.<br>• I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat).<br>• I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation). | | | | |

# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 4 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| 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<br><br>Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | Managing Online Information | • I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.<br>• I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites).<br>• I can describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online.<br>• I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.<br>• I can explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be.<br>• I can explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't. | | | |
| | Health ,Well-being and Lifestyle | • I can explain how using technology can be a distraction from other things, in both a positive and negative way.<br>• I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time. | | | |
| | Privacy and Security | • I can describe strategies for keeping personal information private, depending on context.<br>• I can explain that internet use is never fully private and is monitored, e.g. adult supervision.<br>• I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure.<br>• I know what the digital age of consent is and the impact this has on online services asking for consent.<br>• | | | |
| | Copyright and Ownership | • When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.<br>• I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images. | | | |

# Year 5 – Computing Overview

# Year 5 Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/ Typing | Import, export, hyperlinks, animate, build in, build out, italics, bold, arrange, bullets, | Seesaw, Word, PagesGoogle Docs Keynote Book Creator, Popplet |
| Data Handling | Formula bar, Autosum, Autofill, value | Google Sheets, Google Forms, Excel, Numbers, Mentimeter |
| Presentations, web design and eBook Creation | Blog, collaboration, share, slide layout, slide show, transitions, embed, publish, instant alpha | Google Sites, Book Creator, Keynote, Powerpoint, Wakelet, Adobe Spark Page, Thinglink, |
| Animation | Chroma Key, Flipbook, export, GIF, publish, | Puppetpals, ChatterPix Kids, Animate Anything, Talkr I Can Animate, iFunFace, Seesaw, Plotagon, Toontastic |
| Video Creation | Split screen, cutaway, montage, fade, | Doink Greenscreen, iMovie, Shadow Puppets Edu, Videorama, Apple Clips Explain Everything |
| Photography and Digital Art | Photoshop, landscape, portrait, | Camera and Mark up, Notes, Seesaw, Keynote Pic Collage, Sketches Pro, Paper |
| Augmented Reality & Virtual Reality | Markup, | AR Makr, Adobe Aero, Thinglink, Keynote, EyeJack, Merge Cube, AR Portal |
| Sound | Channel, feedback, chorus, compose | Seesaw, Voice Memos, Garageband, Anchor, Keezy, |
| Computational Thinking | Evaluation, effectiveness, complexity, data, prediction, condition | Resources from MrPICT.com, Barefoot Computing |
| Coding and Programming | Data, memory, variables, value, initialisation, control, simulate, physical system | Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds, |
| Networks | Search engine, spiders, index, ranked, ranking algorithm, keyword | Resources from MrPICT.com, Barefoot Computing |
| Artificial Intelligence | Cloud computing, cognitive computing, robotics | MrPICT.com/ai |
| Digital Lit/E-Safety | Copied, modified, altered, choices, responsible, emojis, memes, social media, perceive, childlike, block, abusive, sceptical, trustworthy, adverts, validity, reliability, scams, disinformation, echo chamber, | ProjectEvolve.com MrPICT.com |

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# Year 5 Computing Overview - Information Tech

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| Word Processing/ Typing | 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. | • I know how to apply other useful effects to my documents such as hyperlinks.<br>• I know how to import sounds to accompany and enhance the text in my document.<br>• I know how to organise and reorganise text on screen to suit a purpose | | | |
| Data Handling | | • I know how to create and publish my own online questionnaire and analyse the results.<br>• I know how to use simple formulae to solve calculations including =sum and other statistical functions<br>• I know how to edit and format difference cells in a spreadsheet. | | | |
| Presentations, web design and eBook Creation | | • I know how to collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365<br>• I know how to create and export an interactive presentation including a variety of media, animations, transitions and other effects.<br>• I know how to create an interactive guide to a image by embedding digital content and publishing it online.<br>• I know how to create a webpage and embed video. | | | |
| Animation | | • I know how to record animations of different characters and edit them together to create an interview.<br>• I know how to effectively use animation tools in presenting software to create animations.<br>• I know how to add green screen effects to a stop motion animation. | | | |
| Video Creation | | • I know how to use cutaway and split screen tools in iMovie.<br>• I know how to evaluate and improve the best video tools to best explain my understanding.<br>• I know how to further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool. | | | |
| Photography and Digital Art | | • I know how to make a digital photo using camera settings<br>• I know how to enhance digital photos and images using crop, brightness and resize tools<br>• I know how to link and explain how to photoshop images and how this is used in the media<br>• I know how to manipulate shapes to create digital art. | | | |
| Augmented Reality and Virtual Reality | | • I know how to create an interactive VR experience.<br>• I know how to create an animated object and bring it into my surroundings through AR<br>• I know how to create an AR experience using objects I have created to explain a concept. | | | |
| Sound | | • I know how to add voice over and edit sound clips (volume, pitch, fade, effect) to create a podcast.<br>• I know how to create a remix of a popular song. | | | |

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# Year 5 Computing Overview - Computer Science

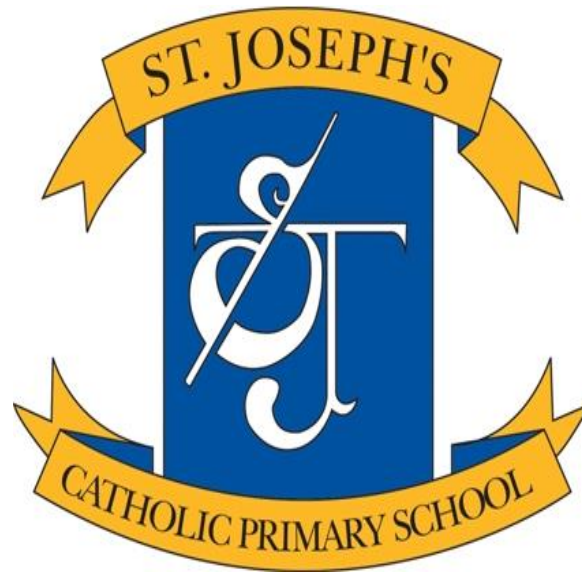| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | | |
|---|---|---|---|---|---|---|
| Computational Thinking | • Co2/1.1    design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br>• Co2/1.2    use sequence, selection, and repetition in programs; work with variables and various forms of input and output<br>• Co2/1.3    use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs<br>• 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<br>• Co2/1.5    use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | • I know how to solve problems by decomposing them into smaller parts<br>• I know how to use selection in algorithms<br>• I know how to use logical reasoning to explain how a variety of algorithms work<br>• I know how to evaluate the effectiveness of algorithms | | | | |
| Coding and Programming | | • I know how to create programs by decomposing them into smaller parts<br>• I know how to use a variety of selection commands in programs<br>• I know how to use conditions in repetition commands<br>• I know how to work with variables<br>• I know how to create programs that control or simulate physical systems<br>• I know how to evaluate my work and identify errors | | | | |
| Computer Networks | | • I know how to use search technologies effectively<br>• I understand that web spiders index the web for search engines<br>• I appreciate how pages are ranked in a search engine | | | | |
| Artificial Intelligence | | • I can can create and train an AI invention using image recognition<br>• I know about computer vision and how computers can be trained to recognize and interpret images. | | | | |

# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 5 | Skills | Date Covered | | | |
|---|---|---|---|---|---|---|
| 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 | Self Image and Identity | • I can explain how identity online can be copied, modified or altered.<br>• I can demonstrate responsible choices about my online identity, depending on | | | | |
| | Online Relationships | • I can give examples of technology specific forms of communication (e.g. emojis, memes and GIFs).<br>• 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.<br>• 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).<br>• I can explain how someone can get help if they are having problems and identify when to tell a trusted adult. | | | | |
| | Online Reputation | • I can search for information about an individual online and summarise the information found.<br>• 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 | | | | |
| | Online Bullying | • I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.<br>• I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying.<br>• I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult<br>• I can identify a range of ways to report concerns and access support both in school and at home about online bullying<br>• I can explain how to block abusive users.<br>• I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix). | | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 5 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| 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 | Managing Online Information | • 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 aim presented with e.g. voice-activated searching giving one result.<br>• I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'.<br>• I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.<br>• I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence<br>• I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads.<br>• 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).<br>• 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.<br>• I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.<br>• I can explain what is meant by a 'hoax'. I can explain why someone would need to think carefully | | | |
| Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | Health ,Well-being and Lifestyle | • I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.<br>• I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology.<br>• 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.<br>• 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 | | | |
| | Privacy and Security | • I can explain what a strong password is and demonstrate how to create one.<br>• 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.<br>• I can explain what app permissions are and can give some examples. | | | |
| | Copyright and Ownership | • I can assess and justify when it is acceptable to use the work of others.<br>• I can give examples of content that is permitted to be reused and know how this content can be found online. | | | |

# Year 6 – Computing Overview

# Year 6 Computing Overview - Vocabulary

| Computing Strand | Key Vocabulary | Apps |
|---|---|---|
| Word Processing/Typing | Alignnment, application, tabs, toolbar, build order, layout, shift key, PDF, columns, graphics, | Seesaw, Word, Pages Google Docs Keynote Book Creator, Popplet |
| Data Handling | Range, =, fill, conditional formatting, | Google Sheets, Google Forms, Excel, Numbers, |
| Presentations, web design and eBook Creation | Placeholder, dropdown, navigation, homepage, footer, sidebar, HTML, URL, design, application | Google Sites, Book Creator, Keynote, Powerpoint, Wakelet, Adobe Spark Page, Thinglink, |
| Animation | Staging, aspect ratio, computer generated imagery (CGI) angles, overlay, claymation, cut scene | Puppetpals, ChatterPix Kids, Animate Anything, Talkr I Can Animate, iFunFace, Seesaw, Plotagon, Toontastic |
| Video Creation | Picture in Picture, | Doink Greenscreen, iMovie, Shadow Puppets Edu, Videorama, Apple Clips Explain Everything |
| Photography and Digital Art | Exposure, | Camera and Mark up, Notes, Seesaw, Keynote, Pic Collage, Sketches Pro Paper |
| Augmented Reality and Virtual Reality | ARKit and ARCore, | AR Makr, Adobe Aero, Thinglink, Keynote, EyeJack, Merge Cube, AR Portal |
| Sound | Compression, reverb, BPM, | Seesaw, Voice Memos, Garageband, Anchor, Keezy, |
| Computational Thinking | Generalisation, pattern, reuse, modify, remix, critical | MrPICT.com, Barefoot Computing |
| Coding and Programming | Procedure, abstraction, conditional loop, logic, operator, implement | Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds, |
| Networks | HTML (HyperText Markup Language), opening tag, closing tag, code | MrPICT.com, Barefoot Computing |
| Artificial Intelligence | Internet of Things (IoT), chatbot, computer vision, voice recognition, pattern, selection, condition | MrPICT.com/ai |
| Digital Lit/E-Safety | Inappropriate, stereotypes, gender, screen grabs, boundaries, unintended consequences, inappropriate images, anonymity, digital personality, URL, profile, ad targeting, persuasive design, phishing, terms and conditions, encryption | ProjectEvolve.com, MrPICT.com |

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# Year 6 Computing Overview - Information Tech

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered |
|---|---|---|---|
| Word Processing/ Typing | 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. | • I know how to confidently choose the best application to demonstrate my learning.<br>• I know how to format text to suit a purpose.<br>• I know how to publish my documents online regularly and discuss the audience and purpose of my content. | |
| Data Handling | | • I know how to write spreadsheet formula to solve more challenging maths problems.<br>• I know how to create and publish my own online quiz with a range of media (images and video) | |
| Presentations, web design and eBook Creation | | • I know how to create a web site which includes a variety of media.<br>• I know how to design an app prototype that links multimedia pages together with hyperlinks.<br>• I know how to choose applications to communicate to a specific audience.<br>• I know how to evaluate my own content and consider ways to improvements. | |
| Animation | | • I know how to mix animations and videos recordings of myself to create video interviews.<br>• I know how to plan, script and create a 3D animation to explain a concept or tell a story.<br>• I know how to choose and create different types of animations to best explain my learning.<br>• I can make an animated talking GIF of a cartoon character. | |
| Video Creation | | • I know how to use the green screen masking tool with more than one character.<br>• I know how to use picture in picture tools in iMovie.<br>• I know how to add animated subtitles to my film to further enhance my creation.<br>• I know how to create videos using a range of media - green screen, animations, film and image. | |
| Photography and Digital Art | | • I know how to edit a picture to remove items, add backgrounds, merge 2 photos<br>• I know how to evaluate and discuss images explaining effects and filters that have been used to enhance the media.<br>• I know how to use a 3D drawing app to create a realistic representation of world objects | |
| Augmented Reality and Virtual Reality | | • I know how to create an interactive VR experience.<br>• I know how to create an interactive poster using AR<br>• I know how to explain how VR and AR works. | |
| Sound | | • I know how to add voice over and edit sound clips (volume, pitch, fade, effect) to use in a film or radio broadcast (podcast)<br>• I know how to compose a soundtrack that can be added to a film project. | |

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# Year 6 Computing Overview - Computer Science

| Computing Strand | NC Objectives | Skills/Knowledge | Date covered | | |
|---|---|---|---|---|---|
| Computational Thinking | • 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 | • I know how to decompose a design or code to focus on specific parts<br>• I know how to use abstraction to hide complexity in my design or code<br>• I know how to recognise and make use of patterns in my design and code<br>• I know how to critically evaluate my work and suggest improvements | | | |
| Coding and Programming | • Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output<br>• Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | • I know how to use a range of sequence, selection and repetition commands to implement my design<br>• I know how to identify the need for, and work with, variables<br>• I know how to create procedures to hide complexity in programs<br>• I know how to critically evaluate my work and suggest improvements | | | |
| Computer Networds | • 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 | • I understand what HTML is and recognize HTML tags<br>• I know a range of HTML tags and can remix a web page<br>• I know how to create a webpage using HTML | | | |
| Artificial Intelligence | • Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | • I can train an AI model and use it within a program<br>• I know about chatbots and how they can be used to simulate conversation with a computer. | | | |

# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 6 | Skills | Date Covered | | | |
|---|---|---|---|---|---|---|
| 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 | Self Image and Identity | • I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.<br>• I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline.<br>• I can explain the importance of asking until I get the help needed. | | | | |
| | Online Relationships | • I can explain how sharing something online may have an impact either positively or negatively.<br>• I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not.<br>• I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.<br>• I can explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this. | | | | |
| | Online Reputation | • I can explain the ways in which anyone can develop a positive online reputation.<br>• I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity. | | | | |
| | Online Bullying | • I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.<br>• I can explain how someone would report online bullying in different contexts. | | | | |

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# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 6 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| 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<br><br>Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | Managing Online Information | • I can explain how search engines work and how results are selected and ranked.<br>• I can explain how to use search technologies effectively.<br>• I can describe how some online information can be opinion and can offer examples.<br>• I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.<br>• I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news).<br>• I understand the concept of persuasive design and how it can be used to influences peoples' choices.<br>• I can demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important.<br>• I can explain how companies and news providers target people with online news stories they are more likely to engage with and how to recognise this.<br>• I can describe the difference between online misinformation and dis-information.<br>• I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation or disinformation).<br>• I can identify, flag and report inappropriate content. | | | |
| | Health ,Well-being and Lifestyle | • I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.<br>• I recognise and can discuss the pressures that technology can place on someone and how / when they could manage this.<br>• I can recognise features of persuasive design and how they are used to keep users engaged (current and future use).<br>• I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise). | | | |

# Digital Literacy/ESafety - Education For a Connected World Objectives

| NC Objectives | Year 6 | Skills | Date Covered | | |
|---|---|---|---|---|---|
| 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<br><br>Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | Privacy and Security | • I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser).<br>• I can explain what to do if a password is shared, lost or stolen.<br>• I can describe how and why people should keep their software and apps up to date, e.g. auto updates.<br>• I can describe simple ways to increase privacy on apps and services that provide privacy settings.<br>• I can describe ways in which some online content targets people to gain money or information illegally;<br>• I can describe strategies to help me identify such content (e.g. scams, phishing). I know that online services have terms and conditions that govern their use. | | | |
| | Copyright and Ownership | • I can demonstrate the use of search tools to find and access online content which can be reused by others.<br>• I can demonstrate how to make references to and acknowledge sources I have used from the internet. | | | |