

Information Technology

Digital Literacy

Computer Science Theory

Computer Science Programming

E-Safety starters to be included at the start of each lesson:

St Kentigern's R.C Primary School	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Nursery	It's good to be me Use household appliances in role play: microwave, telephone, calculator and remote controls Use iPads to take photographs of friends Introduction to pop ups and in app purchasing using Smartie the Penguin stories – look into this not enough material	Once upon a time ... Use iPads to take photos - seasonal walk Use of photocopier in school Introduction to inappropriate websites using Smartie the Penguin stories	Let's explore outside Work on IWB Explore instruments Use microphone and iPad to record findings Introduction to cyber bullying using Smartie the Penguin stories Mouse bots	Who lives here Use IWB to develop manipulation skills Use paint app - pictures of animals/habitats Introduction to upsetting images using Smartie the Penguin stories	On the farm Use keyboard to book appointments to a vet - role play Use iPads to record life cycles Introduction to unreliable information using Smartie the Penguin stories	Superheroes and real heroes Use phones/laptops to take emergency phone calls - role play Mouse bots Introduction to talking to strangers online using Smartie the Penguin stories
Reception Check ICT area in EYFS.	I wonder who I am? Pop ups and In Apps purchasing Use iPads to take pictures of the outdoor environment. Draw on the IWB. - Issues with ipads/computer program	I wonder about changing seasons? Inappropriate websites Draw information from a digital map. (Google Maps)	I wonder about my world? Cyber-bullying Continue to draw information from a digital map Use iPads to record and take pictures	I wonder how it grows? Upsetting images Use iPads to record growth of plants and flowers Digital painting Use CD player/headphones - listen to audio books	I wonder how to be a storyteller? Unreliable Information Mouse Bots Use iPads to record performance of Little Red Hen Use iPads to record/take pictures of their peers work	I wonder what lives in the ocean? Talking to strangers online Mouse bots QR Codes (to use QR codes) Develop typing skills Introduce to logging on and logging off
Y1	Logging on Typing and mouse skills (developing control of the mouse through dragging, clicking and resizing of images to create different effects)	Word Document based on class learning (implementing word processing skills from A1) Christmas Digital Art (use an online paint tool) QR Codes	Use Book Creator app – (insert a picture with a caption) Technology beyond school (recognise common uses) YouTube Safety	Controlling Beebots (write simple algorithms and fix bugs in my algorithm) Algorithms (what algorithms are, understand the sequence of	Discovery coding Level 1 - On the move – busythings coding (move objects in different directions and click events)	Discovery coding Level 1 - Simple inputs (combine start and input events to create more advanced apps and programs using precise instructions)

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		(to use and create QR codes)	(top tips for staying safe online, how we share information on the internet and the importance of a password)	algorithms is important) Use Beebots in maths – cross curricular) Technology in a supermarket (what forms of technology are used and how) E-Safety rules (recognising when someone has been unkind online) Parts of a computer (identify and label parts of a computer, inputs and outputs of a computer)		Image searching, editing and inserting (use Internet to find an image and edit using a basic range of tools within graphic editing software) Word collage (use wordart.com to create a collage about a topic. Type words into a suitable shape. Change the font)
Y2	Typing skills (use space bar only once between words, caps lock, dictate longer passages with accurate punctuation, introduce to keyboard shortcuts) Word processing skills (altering text, copy and paste images) Data handling - tally and bar charts (use j2data.com to create tally and bar charts with titles and labelled axis. Interpret data) Using child friendly sites	Word Document base on class learning (implementing word processing skills from A1) Internet Research (use a search engine to research Remembrance day and to recognise that not all information found online is factual) Use Book Creator app based on class learning (type and reformat text to create a simple story animation) Christmas Digital Art (use a variety of tools	Features of a website (understand and label features) Booster of IT skills needed (teacher judgement) Use Book creator app - Present own story for World Book Day (dictate longer passages with accurate punctuation, add images and edit text)	Components of a robot (Design a robot and label its components. Explain the functions of each component. Explain the purposes of different input and output devices) Technology in an airport (Use Popplet to create diagram of real-life intranet. Describe the main parts of an airport intranet. Explain how: barcodes, ticket scanners, baggage carousel and security gates work.)	Discovery coding Level 2 - Different sorts of inputs (learn that programs respond to different sorts of inputs, and that the keyboard can be used to control objects on screen, not just by clicking them directly)	Discovery coding Level 2 - Buttons and instructions (learn that one object can be used to control another object, e.g. writing code so clicking a button gives an instruction to make a lorry move) Word Document based on class learning (implementing word processing skills from A1, more successfully and with confidence)

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	(be familiar with a range of child friendly sites and their purposes)	including different brushes and colours)		Easter image (searching, editing and inserting image) Controlling Beebots (using angles turns and direction, use logical reasoning to predict outcomes) Writing simple programs (debug programs of increasing complexity)		
Y3	Word processing skills Formatting text, text boxes (edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows. Use cut, copy and paste to quickly duplicate and organise text) Pic Collage based on class learning (create a photo collage using images from the internet and pictures taken on iPads. Links to science topic. Format text and backgrounds) Book creator app based on class learning	Comic Touch 2 app (use app to explore lettering and practise typing. Link to class vocabulary and spellings. Change fill and border colour, page colour, lettering style and reshape, add shadow effects and arrange neatly) Digital communication methods (know how to communicate online) Features of emailing (describe what it is, why it's popular, how to send and read emails, how to stay safe) Strong passwords (what they should include) Word Document	Gaming safely (create poster. Write rules for staying safe and why they should be followed. Where to go for advice) Exploring digital maps (explore maps and aerial photos of places. What they are and why they're useful. Create word document poster. Rotate, zoom in and out, search for places, tilt view, screenshot images, label screenshots, compare with aerial photos of the same place) Word Document (continue to implement and revise word processing skills from A1 and A2) Comic Touch 2 app Popular websites	Robots (Video describing what a robot is, tasks they're used for and why) Simulations (Use Pic Collage app to create poster. Describe how they copy real life events, explain how to control computer simulations and how they can be helpful) Drones (Create word document poster using learnt skills. Describe what drones are, how they're used, why they're helpful but not always liked) Lifecards - Postcard from school trip (design postcard. Type and format text, add	Discovery coding Level 3 - Sequence and animation (learn to make things happen in a sequence, creating simple animations and simulations)	Discovery coding Level 3 - Conditional events (learn to code with 'if statements', which select different pieces of code to execute depending on what happens to other objects) Algorithm steps of real systems - Pic Collage app (use the app to create a poster to describe real life systems using algorithms) The connected home (smart devices and voice assistants) (create word document poster using learnt skills. Describe what a 'smart home' is,

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	(create multimedia e-book to present knowledge gained from geography topic. Type text and include images)	(implementing word processing skills from A1)	(research a list of child friendly websites. Create a poster about one. Borders, text boxes, format text, background) Uses of technology (use Popplet to create a mind map about uses of technology. Add pictures of technology and name examples)	images and stickers, resize and move objects, change frames and warp text) Word Document (continue to implement and revise word processing skills from A1, A2 and S1)		identify 'smart' devices, describe dangers, how to be safe)
Y4	Word Document (confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text. Use font sizes appropriately for audience and purpose. Use spell check and thesaurus. Include images and format text, bullet points, change borders and background) How the internet works (use Popplet to present features of the internet. The internet, internet server, fibre optic cable, undersea internet cable, broadband exchanges, internet service providers, routers, WiFi signal)	Movie (produce a multimedia video. Add and order photos, apply a theme, add music/record a voiceover, filters, transitions, adding text, edit timeline) Age restrictions (Understand definitions: age restrictions, privacy settings, moderator, terms and conditions. Use Comic Life 2 app to create poster describing ways to communicate digitally, explain why they exist and how some websites are safe for children to join. Add and format text, change background, add	Flowcharts (create flowchart to show algorithm steps. Describe algorithms with 2 to 4 processes in them) Now Press Play - Online permission and usage (Understand definitions: viral, hacker, threat, abuse, trust, copyright. Read story cards about digital ownership and decide the right response to each. Record responses) Control object along a route (Use the advanced Beebots app to input commands to move, turn and change position. Input commands to draw	Discovery coding Level 4 - Variables (learn how computers use variables to count things and keep track of what is going on, then create simple games which use a score variable) Booster of IT skills (teacher judgement)	Discovery coding Level 4 - Repetition and loops (learn how computers use repetition and loops to do things over and over again)	Searching using the internet (Use Book Creator app to create an e-book explaining what an internet service provider is in more detail. Describe the internet, a search engine and ISP, explain how search engines work and why they're useful. Record a narration, use shapes to add text boxes) Tri-fold leaflet (type and design a printable document. Type and format text, add text boxes, images, borders, edit shapes, overlap images) Input and Output devices

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	icon. Use images, label features and explain them) Comparing search engines (try out different types of web searches and compare results in different search engines)	images, rotate and resize) Google forms quiz (create an interactive activity. Set colour scheme, add multiple choice quiz questions and set correct answers, add images, add points)	different shapes. Use knowledge of angles. Draw shapes using a repeat event)			(identify computer components. Understand definitions: input, processing, output, hardware. Name, show and explain the function of some input and output devices. Describe computer systems people rely on at home)
Y5	Effective internet research (use dkfindout.com. Create word document poster. Take screenshots and label features of an online encyclopaedia. Describe top tips for online research. Format text, use arrows for labels and text boxes) Introduction to spreadsheets (enter + – * / formulae. Enter formulae to solve decimal calculations. Enter formulae with multiple operations. Create a spreadsheet that uses formulae to calculate the cost of a shop. Make the table look neat. Use trial and error to solve	Databases (understand what a database is and what records are. Use Excel to create tables that mimic real databases. Describe real uses of databases. Use filters to find statistics from databases) Exploring drawing tools (create self-portraits using shapes on Microsoft word. Rotate and resize shapes. Copy and paste shapes. Fill colours, change shape, border styles and group shapes) Animated GIF - pication.com (create an animated GIF. Change the	E-Safety - Personal Information & Zip It, Block It, Flag It (Create word document poster. Describe online hazards, how to respond and explain the Zip It, Block It, Flag It slogan. Compare online and offline conversations. Watch a video showing the effects of revealing personal information online. Discuss mistakes. Identify what is and what isn't personal information) Linear onscreen presentation (create presentation using PowerPoint. Transitions, animate	GPS (understand how GPS is used. Use Popplet to create a mind map. Define and include images. Explain different uses and research issues in the news) Vlogging (video defining words associated with online video sharing, describe online hazards for vloggers and how they can stay safe) E-Safety - messaging safely (Identify ways to keep safe when messaging online) Photo editing - animated GIF (Use Pic Collage to create self-portraits using shapes edit and enhance a photo using crop, filters and frames.	Discovery coding level 5 - Speed, direction, coordinates (learn how computers use numbers to represent things such as how fast things are moving, and where they are)	Discovery coding level 5 - Random numbers and simulations (learn how computers can generate random numbers and how these can be used in simulations) Impact of technology on society (Create word document poster. Describe advantages and disadvantages of using technology. Explain what the 'digital divide' is. Research future uses of technology) Booster of IT skills (teacher judgement)

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	a problem in a spreadsheet. Create a spreadsheet to find totals of your own sets of numbers using =SUM formulae. Find and calculate the minimum and maximum of sets of numbers. Use =IF() formulae)	speed of the animated GIF. Go back and edit the slides to improve the animation)	objects, bullet points and a neat, consistent scheme)	Make a greyscale background. Add a text label. Combine edited photos into an animated GIF) Phishing (Use Comic Life 2 app to describe motives for fraudsters, identify messages that are likely phishing scams, features of phishing scam messages) Booster of IT skills (teacher judgement)		
Y6	Internet services mind map (Understand the four main services offered on the internet. Sort images of Internet services into groups. Explain what different Internet services let you do. Describe safety tips for each type of Internet service. Use microsoft to create a mind map. Drag the dots to join boxes. Change the box colours) Online consent (Define consent. Use Pic Collage to create collages about stories involving consent. Identify who is the victim and why.	E-Safety - Sharing photos of friends (create poster about sharing safely online, Write questions to think about before sharing a photo or video online. Write rules to follow when sharing a photo or video of a friend to keep safe. Explain why each rule must be followed) E-Commerce (Create word document defining e-commerce, name some online shops and services. Describe some advantages and disadvantages of e-commerce. Explain safety rules for shopping online)	Writing algorithms - Pure flow app (understand definitions: sensors, computer system, control system, conditional events and actuators. Use Pure Flow app to create flow chart describing algorithms with an input and a process in. Describe algorithms with at least one decision in. Add images of flowcharts into Pic Collage) Discovery coding level 6 - Complex variables (learn to use variables in more complex ways, and to manipulate inputs	Discovery coding level 6 - Object properties (learn more about how computers use property values and parameters to store information about objects) Advanced spreadsheets (revise formulas and functions. Use =SUM() functions to find totals of data sets. Use functions to find statistics of data sets. Write formulae to solve maths problems. Use =IF comparison functions. Use < > in comparisons. Include a variable in the conditions)	Photo editing foreground/background (insert a photograph of yourself into. Re-size and mask the foreground image. Change the colours in the images) Digital maps - Planning routes (use Google Maps to find maps and satellite images of places. Add screenshots, label a map with lines and text labels. Change the style of text and lines. Crop and put a border on screenshots. Find out journey times and distances. Use a mixture of photos: 3D, aerial and Streetview)	Future jobs (read fact cards about future technology jobs. Select one that interests them. Create a collage of future jobs with fun facts and ratings) E-safety concept cartoons (create e-safety response posters on word. Write rules to follow to keep safe in each situation and reasons to follow them. Add speech bubbles, format text and backgrounds) Binary numbers (understand how and why binary numbers work. Convert 6-bit binary numbers to decimal numbers. Write and solve

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	Explain what safety rule hasn't been followed. Explain how the situation could be resolved) Touch App Creator – gone and using something new (plan, design and create an app. Icon, text, colour themes, sub pages, photos, slideshow, hyperlinks, quiz)	Nativity PowerPoint presentation (Use pre-saved images and sounds to create presentation. Speech bubbles, format text, slides, transitions, grouping shapes, hyperlinks, change direction and duration of animations)	to create useful outputs)			calculations using binary numbers. Write words in binary numbers) History of computing pioneers (research a range of computing pioneers: BME, local, female etc. E.g. Kimberley Bryant, John Henry Thompson, Alan Turing, Ada Lovelace)
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