



St Joseph's (Wallasey) - Computing across the Curriculum Long Term Planning Map - Y4

This is your long-term overview for Computing. Please add to or amend this plan throughout the year. Underneath each section are the key skills for that area of computing. These can be assessed using the Assessment tracker spreadsheet. More activities and suggestions can be added as other subject areas are added to the plan.

T = Tutorial Available

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
History and Geography	<p>The achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and a depth study of one of the following: Ancient Sumer; The Indus Valley; Ancient Egypt; The Shang Dynasty of Ancient China</p> <p>Ancient Egypt</p>	The human geography impact of immigration	The Roman Empire and its impact on Britain	The oceans and the impact of plastic pollution	Britain's settlement by Anglo-Saxons and Scots	A study of a UK location compared to a European one – Lake District to Occitanie

Key Skills
(used throughout all areas of Computing)

- KS4.1 When using a mouse or trackpad, be able to use left/right/double click and scroll.
- KS4.2 When typing, can hold two hands over different halves of the keyboard and use more than two fingers to enter text.
- KS4.3 Be able to save, name and retrieve work effectively to a suitable location.
- KS4.4 If appropriate, know how to print a document.
- KS4.5 Be able to navigate a folder system to locate a specific file e.g. Shared Drive, iPad camera roll or Dropbox.
- KS4.6 Know and can use keyboard function keys e.g. shift, caps lock, num lock, space bar, return.

Computer Science

Tutorial Link

Control and Programming	<p>Code Studio</p> <p>Code Studio. Create or print off existing user accounts for class on the website. Y4 should be working around Course D level, at a pace that is appropriate for the class. We would recommend teaching the whole class a lesson at a time, and using the extension materials to allow more able pupils to progress once they have completed the lesson materials, rather than moving on through the lessons independently. Track and target pupil progress using the built-in pupil tracker. T</p> <p>CS4.1, CS4.2, CS4.3, CS4.4, CS4.5</p>					
	<p>LightBot app</p> <p>Solve problems by sequencing directions and debugging, extending to the use of procedures (actually a function) by identifying repeating patterns. T</p> <p>CS4.1, CS4.2, CS4.3</p>	<p>Lego Fix the Factory app</p> <p>Work through a series of levels of increasing difficulty to sequence directional commands and conditionals. This activity provides many opportunities for practicing debugging and perseverance.</p> <p>CS4.1, CS4.2</p>	<p>Learn Code with El Chavo app</p> <p>Develop sequencing skills (Level 4).</p> <p>CS4.1, CS4.2</p>	<p>Tynker app (Dragon Quest)</p> <p>Work through the various levels in each of these different games within the app. Each game is broken into different sections, each focussing on different computing concepts such as, sequencing, debugging, repeats and conditionals (selection).</p> <p>CS4.1, CS4.2, SC4.3, SC4.5</p>	<p>Scratch Jr app T</p> <p>Make a presentation or story linked to Habitats. Add in sprites and backgrounds to a range of different habitats, and program the sprites to move appropriately. The speech command can be used to present information. Conditionals can be used to allow the sprites to interact with one another, using if, when, whilst, repeat until.</p> <p>CS4.1, CS4.2, CS4.4</p>	<p>What is the world wide web?</p> <p>Use BBC Bitesize for a video, information and glossary. Use this as a basis to create a digital presentation to show learning, and undertake any additional research to follow lines of enquiry.</p>
Key Skills	<p>CS 4.1 Design, test and amend programs to achieve an intended objective, including controlling an external output.</p> <p>CS 4.2 Be able to find errors in a program of their own design and successfully debug to achieve a specific goal.</p> <p>CS 4.3 Can use and change a pre-written function.</p> <p>CS 4.4 Understands a wider range of 'events' such as sprite interactions and button presses, and can use them within programs.</p> <p>CS 4.5 Be able to use nested loops to increase the efficiency of a program.</p>					

Digital Literacy

Tutorial Link

<p>Research: Internet</p>	<p>Image search tools^T Explore the advanced search tools on Google or Bing to find suitable images related to the Egyptians. Discuss how choosing different criteria would affect the returns e.g. Search for clipart, black and white images, size etc. Save and store images on iPad or network for use in Word activity. Save to a shared area or Google Drive / Dropbox folder. DL4.1, DL4.2, DL4.3</p>	<p>Google Earth: Modern Immigration In Voyager follow the tour around the globe to highlight different locations in recent times where migration has been important. Set pupils specific questions to answer as they explore. DL4.3</p>	<p>Develop key search questions ^T Find information about the Roman Empire. Introduce/recap keyword searches using the Common sense Materials. Teacher resources can be found here: link here DL4.1, DL4.2, DL4.3</p>	<p>Science resources Watch videos and explore activities linked to electricity BBC Bitesize DL4.3</p>	<p>Compare websites Investigate 3 different websites about Anglo Saxons or Scots and compare and contrast their usefulness. Generate success criteria in advance e.g. appearance, information, links, images and develop a scoring system. The teacher could suggest 3 or 4 websites and share them with the class via web shortcuts of the shared area. DL4.1, DL4.2, DL4.3</p>	<p>Add a web page/site Select a web page linked to the Lake District and Occitanie to Favourites list/ bookmark for use at another time e.g. Word document or shared folder as a link. DL3.1, DL3.2, DL3.3, DL3.4</p>
<p>Online Communication and eSafety</p>	<p>Password powerup Common Sense media lesson Explore reasons why people use passwords, learn the benefits of using passwords and discover strategies for creating and keeping strong, secure passwords. DL4.4</p>	<p>Rings of Responsibility Commonsense Media lesson. How does the Internet connect you to others? Students explore the concept that people can connect with one another through the Internet. They understand how the ability for people to communicate online can unite a community. Create a set of Class Rules for working online. DL4.4, DL4.5</p>	<p>This is me - Online - Common Sense media lesson Pupils explore online identities. From selfies to social media, many students and adults create unique online identities for ourselves, and our students are no different. This activity will help pupils think critically about online identities they are creating. DL4.4</p>	<p>Our Digital Citizenship Pledge Common Sense media lesson Belonging to various communities is important for kids' development. But some online communities can be healthier than others. Show your students how they can strengthen both online and in-person communities by creating norms that everyone pledges to uphold. DL4.4, DL4.5, DL4.6</p>	<p>The Power of Words Common Sense media lesson Discuss that they may get online messages from other people that can make them feel angry, hurt, sad or fearful. Pupils identify actions that will make them strong in the face of cyberbullying. DL4.4</p>	<p>Seeing is believing Common Sense media lesson The web is full of photos, and even videos, that are digitally altered. It's often hard to tell the difference between what's real and what's fake. In this lesson pupils will learn to ask critical questions about why someone might alter a photo or video in the first place. DL4.3, DL4.4</p>

Modelling and Simulations	States of Matter PhET Simulation Use the relevant simulations to demonstrate the chemical bonds affecting states of matter. DL4.8	Google Earth Look at the geography of immigration on Google Earth . T DL4.8	Sketch Nation app Make a Roman themed up-jumping game where the power ups are helpful artefacts e.g. swords or shields and the enemies are appropriate to the player e.g. Celts, both of which affect the character in relevant ways. T DL4.8	Electricity resources Use the link to find several different simulations and activities based around the topic of Electricity. Particular activities, within the link, that may be relevant are: <i>Changing Circuits</i> <i>Circuits and Conductors</i> <i>The Blobz Guide</i> <i>Switched on Kids</i> DL4.8	Health Simulations Explore the digestive system with the following simulation: Link here Please note, the simulation may take some additional explaining from the teacher. DL4.8	Google Earth Explore Occitanie and the Lake District Google Earth. Compare human and physical features. Locate global mountains ranges and identify correlation with continental plate boundaries, trace rivers from their source to mouth. Hunt for coastal features. T Link here DL4.8
Key Skills	DL4.1 Can identify and use keywords for effective Internet searches. DL4.2 Can select relevant information (pictures and text) to use in other software. DL4.3 Can use information found online to answer specific questions, and evaluate how appropriate a site is. DL4.4 Be able to explain how to keep yourself safe online DL4.5 Demonstrates respect towards others on the internet. DL4.6 Can independently share suitable pictures and work to an online digital platform. DL4.7 Able to take part in digital surveys and quizzes. Analyse data with support. DL4.8 Can predict the effect(s) of changing the variables in digital simulations and observe the results.					

Information Technology

Tutorial Link

Word Processing and Desktop Publishing	Microsoft Word/Google Docs Develop basic word processing skills. Write up a non-fiction report on Ancient Egypt focusing on layout, adding borders, changing fonts and inserting pictures while also teaching skills of saving and opening work correctly. T IT4.1, IT4.2	Typing Skills Use BBC dancemat typing activities to improve keyboard skills. Children can choose their difficulty to differentiate the task. KS4.2	Adobe Spark Page app Use the app or website (a login will be required) to create a webpage to present writing alongside based on the Romans in Britain. IT4.1, IT4.2	Microsoft Word/Google Docs Develop basic word processing skills. Write up a persuasive letter linked to plastic pollution, focusing on layout, adding borders, changing fonts and inserting pictures while also teaching skills of saving and opening work correctly. T IT4.1, IT4.2	Tiny Tap app Make an interactive presentation linked to the Anglo-Saxons or Scots. Students can use a variety of different activities to enhance their work e.g. Sound Board, Ask a Question, Shape Puzzle, Say Something. T IT4.1, IT4.2	Microsoft PowerPoint/Google Slides Present a non-chronological report to compare teh Lake District with Occitanie. Add sounds as well as images and text. Experiment with animations and slide transitions. T IT4.1, IT4.2
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Multimedia	<p>iMotion app (Ancient Egypt) Create a stop motion animation film to show how pyramids were built. Use the iPads resting over the edge of tables/chairs pointing at the floor. Animate cut outs of Egyptians and use speech bubbles (leave on screen for enough images to allow the viewer to read!). Ideas. Use the onion skin and show how to delete unwanted images. IT4.3, IT4.4</p>	<p>Shadow Puppet Edu app Add images to represent the different stages of an immigration story into the app, add captions and then narrate a scientific explanation. Watch back and evaluate to ascertain what improvements can be made relating to clarity, expression, interest levels and engagement of their audience. IT4.1, IT4.3, IT4.4</p>	<p>Online Roman mosaics Pupils can create their own Roman mosaic designs online using this website. IT4.5</p>	<p>Garageband app Create music by exploring different instruments and loops building up layers of sound to create a musical piece. T IT4.6</p>	<p>Chrome Music Lab Use Chrome Music Lab online to explore how sounds can be manipulated digitally in a variety of ways. IT4.6</p>	<p>Adobe Video Spark app/website Use the Adobe Video Spark app (a school or class account login will be required) to create a video tourist advert for Occitanie with the narration planned during English. IT4.1, IT4.2</p>
	<p>Lit Film Fest Use the Lit Film Fest website to access free English projects. Each project has a set of structured lessons based around writing genres and show how technology can be incorporated to produce a performance video by the end of the project. (Users will have to create a free account to access the free resources, while other projects are under a paid subscription). IT4.1, IT4.2, IT4.3</p>					
Data Handling	<p>Spreadsheets A variety of resources and lesson plans here or complete the Shopping list Spreadsheet. Edit the items in the list and revise the prices. Pupils can copy the formula to work out the number of items times the prices by dragging down the cell into the cells below. Pupils can be given a budget to complete based on a family for a week, a group of friends etc. T IT4.9</p>		<p>Branching database Classify different animals by asking questions and sorting by the answer on the J2e website. <i>This could be done in science lessons.</i> IT4.8</p>		<p>Decibel X app Record the volume of sound either as part of a science investigation. Alternatively visit different locations within school or the grounds and take pictures at each place in the app to record the sound levels. These results can be plotted on a digital graph maker or in Pic Collage on a plan of the school to spot trends. IT4.7</p>	

Key Skills

- IT4.1 When word processing, can use font sizes and effects appropriately to fit a purpose and audience of text.
- IT4.2 Can use a range of features of layout and design such as text boxes, columns and borders, to control the layout and presentation of a document.
- IT4.3 Be able to edit video footage and still images to create a video presentation or animation for an audience.
- IT4.4 Able to add text, sound effects and other graphic effects to a video presentation.
- IT4.5 Can make use of a range of visual effects such as filters, hues and combining images to give different effects.
- IT4.6 Able to layer sounds using music composition software.
- IT4.7 Be able to collect snapshot data from data loggers, selecting the appropriate tool.
- IT4.8 Be able to enter data into a graphing package and use it to create a range of graphs, and to interpret data.
- IT4.9 Understand that spreadsheets perform calculations. Explore the effect of changing the cell values in spreadsheets and use them to make and test predictions.