St Joseph's (Wallasey) - Computing across the Curriculum Long Term Planning Map - Y6

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	A study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066 **World War 2**	Human exploration and Antarctica	Land use in the Lake District compared to land use locally			A study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066 **The Windrush Generation**

Key Skills *(used throughout all areas of Computing)*	KS6.1 When using a mouse or trackpad, be able to use left/right/double click and scroll. KS6.2 When typing, be able to hold two hands over different halves of the keyboard and use more than two fingers to enter text, with increasing speed and accuracy. KS6.3 Be able to save, name and retrieve work effectively to a suitable location. KS6.4 If appropriate, can change print properties to affect the appearance of a printed document. KS6.5 Be able to efficiently navigate a folder system to find and open a specific file e.g. Shared Drive, iPad camera roll or Dropbox. KS6.6 Be able to create suitably named folders to organise documents, using appropriate file paths. KS6.7 Can show knowledge of how to use more advanced keyboard function keys e.g. insert, delete, ctrl+c, ctrl+v, ctrl+z

Computer Science

Tutorial Link

Control and Programming	**Code Studio** Code Studio. Create or print off existing user accounts for class on the website. Y6 should be working around Course F 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** **CS6.1,CS6.2,CS6.3,CS.6.4,CS6.5**					
	Scratch Through Safari on iPads, make a simple maze game linked to WW2. Introduce conditionals such as 'when' and 'until'. See here for an example. **CS6.1, CS6.2, CS6.3, CS.6.4, CS6.53**	**Spritebox** In a gaming environment, children sequence and debug instructions to solve problems. Spritebox Online **CS6.1, CS6.2, CS6.**	**Lightbot app** Revise basic sequencing and problem solving skills and introduce procedures, loops and conditional language. Online version. **T** **CS6.1, CS6.5**	**CodeCombat** Use Codecombat online to develop basic sequencing and problem solving skills using a text based programming language (e.g. Python) and introduce procedures, loops and conditional language. (Free teacher accounts can be created and then children can generate their own login accounts). **CS6.1, CS6.3**	**Scratch Whack-a-Mole Game** Add a variety of sprites and program them to move in different ways using a forever loop. Program them to change and hide once clicked and then show again after a period of time. Add variables of score and time. **CS6.1, CS6.2, CS6.4**	**How do search engines work?** 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.
Key Skills	CS6.1 When debugging, can use abstraction to filter out extraneous detail and debug the program. CS6.2 Can use variables efficiently. Be able to create their own variable and use this within a computer program to manipulate data. CS6.3 Be able to use logical operations (not, or, and) to alter and control the outcome of a series of commands. CS6.4 Be able to use a wider range of events (such as broadcasts) and use them efficiently within programs to start and stop scripts. CS6.5 Can demonstrate an understanding of what subroutines (e.g. functions and procedures) are and be able to create them within a computer program to store and retrieve data.					

Digital Literacy

Tutorial Link

Research: Internet	**Accurate Web Searches** Discuss the ways students found out about different questions when researching. What keywords did they use? How useful was the information on the website. How did they use the hyperlinks to find more information? Comment on the media on the website to present the information. **DL6.1, DL6.2**	**Range of search engines** Find information about Antarctica. Compare the range of filters/tools they provide. Look at advanced image search tools for Google, Bing Ask and Yahoo. **T** **DL6.1, DL6.2, DL6.3** **Google Earth Voyager** Take a trip to the South Pole and explore different locations using Street View. **DL6.2**	**Look at information from different viewpoints** and validate information. *Possibly link to English or a class debate.* Criteria here: Evaluating Internet Resources Further resources here *(could be set as a homework task)* **DL6.2**	**Plausibility** Look at spoof websites and how they 'appear to be true'. Teacher resources here: and: Eduscapes and Victorian Robots **DL6.2, DL6.3**	**Citing Sources** Pupils reflect on the importance of citing all sources when they do research. They then learn how to write bibliographical citations for online sources. Teacher resources. **DL6.3**	**Advanced Google search** Undertake Boolean searches (AND/OR Same as searches) to find out about the Windrush generation. Continue to use these research skills throughout the year in other areas. Refine web search techniques Additional materials here **DL6.1**
	BBC Science Bitesize Watch videos and complete activities for the relevant subject on the website, either teacher or pupil lead throughout the year. **DL6.2**					
Online Communication and eSafety	**Common Sense Media lesson** Media balance In this lesson pupils will reflect on how balanced they are in their daily lives. Consider what "media balance" means, and how it applies to them. They will then create a personalised plan for healthy and balanced media use. **DL6.5**	**Common Sense Media lesson** You Wont Believe this! The internet is full of catchy headlines and outrageous images, all to make us curious and get our attention. Understand what "the curiosity gap"is; explain how clickbait uses the curiosity gap to get your attention and use strategies for avoiding clickbait **DL6.2**	**Common Sense Media lesson** Beyond Gender Stereotypes Understand and Define "gender stereotypes" and describe how they can be present online. Learn how gender stereotypes can lead to unfairness or bias. Create an avatar and a poem that shows how gender stereotypes impact who they are. **DL6.5**	**Common Sense Media lesson** Digital Friendship In this lesson pupils will Compare and contrast different kinds of online-only friendships and describe the benefits and risks of online-only friendships. They will learn how to respond to an online-only friend if the friend asks something that makes them uncomfortable **DL6.5**	**Common Sense Media lesson** Cyber bullying In this lesson pupils will learn about cyber bullying and what they can do to stop it **DL6.5**	**Common Sense Media lesson** Reading the News Learn about the purposes of different parts of an online news page. They will identify the parts and structure of an online news article and finally learn about things to watch out for when reading online news pages, such as sponsored content and advertisements. **DL6.2, DL6.3**

	Online Quizzes Sign up to one or both of Kahoot! Or Quizizz to take part in online quizzes (this is easily linked to any topic throughout the year). **DL6.4**				
Modelling and Simulations	**Sketch Nation app (WW2)** Create an up scrolling Battle of Britain game. Download a previously saved overhead image of a WW2 plane and fill transparency around the outside. Add fuel drums as power ups and include enemy planes. Obstacles can be mountains to navigate around. Focus on a game story, playability and appearance. Test and adjust regularly. **DL6.6**	**The Human Body** This website allows you to explore the different systems of the human body and view digital models of how they function. Human Body models **DL6.6**	**Google Earth** Locate the Lake District and investigate at different scales. Use Street View and 360° images to explore key locations further. **T** **DL6.6**		**Electricity simulation** Use the simulation link to explore the different parts of a circuit and how altering them affects the outcome of the circuit. Link here **DL6.6**
Key Skills	DL6.1 Be able to search the internet for specific information using tools such as Google Advanced Search, discerning how results are ranked. DL6.2 Be able to identify irrelevant, implausible and inappropriate information, checking for bias. DL6.3 Can show an awareness that some media is copyrighted and cannot be used without permission. DL6.4 Be able to initiate and take part in collaborative learning using a variety of digital platforms. DL6.5 Be able to develop and understand a suitable code of conduct for internet use, and explain what to do in cases of cyberbullying DL6.6 Can use modelling software to create detailed virtual environments or simulations.				

Information Technology

Tutorial Link

Word Processing and Desktop Publishing	**Microsoft Word or Google Docs** Create a formal document. Focus on layout and justification features e.g. a letter from an evacuee or a norse or soldier in WW2. **IT6.1, IT6.2**	**Microsoft PowerPoint or Google Slides** Create a "Choose Your Own Adventure" style non-linear narrative, by hyperlinking slides with choices inspired by Shackleton's journey. **IT6.1, IT6.2**	**Adobe Spark Page app or online** Simulate a website to compare land use in the lake district with Wallasey, combining images and text. Use the slideshow option to group similar ideas together. (A free school account will be required for Adobe). **T** **IT6.1, IT6.2**	**Typing practice** Play online typing games to improve typing speeds and skills. Children can choose their difficulty to differentiate the task. **KS6.2**		**Tiny Tap app** Create a multimedia set of games to share their knowledge about the windrush generation. Combine images and text along with short narrated segments to create multiple pages of mini-games, including Cut-a-Shape, Soundboard and Ask a Question. Part way through, play each other's games and evaluate for improvements. **IT6.1, IT6.2**
Multimedia	**Adobe Spark Video app** Combine images, text and narration to create videos of WW2 poems. Add images to represent lines from a pre-written poem. Add text and narration, with consideration to the nature of the topic. (A free school account will be required for Adobe). **T** **IT6.1, IT6.2**	**iMotion app** Create a stop motion animation of Shackelton's journey. Create cut outs of the Endurance and move the ship across a map background leaving a trail, adding labels for key locations. For further scenes use a model ship with small world characters and polystyrene as ice. An example. Move characters a tiny amount between photos. Edit finished films in iMovie app, adding titles and music. **IT6.3, IT6.4**	**Quik app** Add short films and images to the app and then create a multimedia film by including captions and music. Control order duration and the overall look of the film. This could relate to the Lake District. **IT6.1, IT6.3**	**Sketchpad online** Use the digital art website through the iPads on Safari to combine shapes and colours to draw artwork or create posters. *This could be done in art lessons.* **IT5.5**	**Garageband app** Use Garageband app to create musical compositions from around the world, using various instrumental loops. Children should be given a specific brief and audience to create for. **IT6.4**	**iMovie app** Create a movie trailer. This could be as an advert for a film about the Windrush generation. Adapt a trailer storyboard template in app. Possibly green screen some shots using the Doink app and add movies to iMovie. The scripts and shots could be planned and pre-written using the relevant storyboard template. These can be downloaded from here. **IT6.3, IT6.4**

Data Handling	**Cardiio app** Use data logging of heart rate, as part of a science lesson or investigation. **IT6.8**	**Galactica Luxmeter app** Take light readings from around the school. Find and record where in the school has the most light using the Skitch app. Use arrows and coloured spots on the map. **IT6.8**	**Microsoft Excel or Google Sheets** Linking to Maths or topic, devise the best way to organise and present information in a number of ways and enable the data to be interrogated or graphed in different ways. **IT6.5, IT6.6, IT6.7**	**Airtable** Use Airtable to create a collaborative database of Olympic countries. Decide on fields as a class and collect data Sort and filter the relevant information (hi-impact support available If required. Logins needed, 1 login per group of 4-6.). Children can research the chosen country, and add fields for Medals, Continent, Size etc and then input into the Airtable. **IT6.5, IT6.6**
Key Skills	IT6.1 Can independently plan and structure the layout of multimedia presentations, drawing on a range of different techniques and styles as appropriate for the task. IT6.2 Be able to make appropriate use of hyperlinks to produce a non-linear presentation or document. IT6.3 Can create, edit and refine media to ensure quality. IT6.4 Be able to import sounds into sound editing software, layering and editing to refine their work. IT6.5 Be able to organise data by independently designing fields and records in a database. IT6.6 Be able to query a large pre-prepared database using 'greater and less than', 'equal to' and 'contains'. IT6.7 Can add data validation to spreadsheets, including drop down lists and conditional formatting. IT6.8 Can export and analyse continuous data from data logging and present in graph form.			