Key Stage 3 ICT   Year 7

Outline of scheme of work, including topics to be covered:

Unit title	Software
Introduction to ICT -	Outlook Express, Windows
Spreadsheet models	Excel
Information, the internet & online safety	Internet Explorer, ThinkUKnow
Web Design, Blogs, HTML (Presentation)	Wordpress
Processing images	Image manipulation software
Control – input, process, output	Scratch
Word processing	Microsoft Office Word

Resources for the units, if not referenced on the scheme, are on the Year 7 ICT Teaching blog: www.ictatnhs.wordpress.com

Autumn Term (12 weeks)

Year 7 ICT - KS3 - Unit 1 Introduction to ICT

Lesson	Objectives	Activities	Learning Outcomes
1-2	1. These lessons are designed to show students how to use the ICT systems at Nottingham High School. 2. We will discuss behaviour expectations in ICT rooms and health and safety issues. 3. Students will also set up folders for work they will do this year. 4. Students will use the email system and we'll discuss email etiquette.	1. Log on, use new password, change password, log off and on again with new password. 2. Acceptable Use discussion, including filtering and safe use. 3. Create subject folders for academic lessons. 4. Log onto external email account, use of various functions, including; clear subject line, CC, BC, forward, reply, attachments. Create folders for use, email friends and put into folders.	To understand security issues with a user login. To understand that the network consists of student areas with space sufficient to store school work. To understand the printing options and criteria within the school. To understand that digital work should be 'tidied away' in specific areas for easy retrieval. To understand that email is a useful facility, but that it is not a medium which can be abused.

Year 7 ICT - KS3 - Unit 2 Spreadsheet Modelling

Lesson	Objectives	Activities	Learning Outcomes
1	1. Introduce Excel Basics. 2. Students can vary the data within a pre-defined model to explore the effects of changing variables.	1. Introduce basics of Excel, e.g. terminology - cell, column, row, sheet tabs, etc. 2. Explain that Excel can be used for computer modelling. Make link between rules and formulae. 3. Explore the effects of changing input data.	To understand the basics of Excel in order to interact with pre-defined models. To be aware of how Excel can be used to model real-life situations. To use ICT based models and simulations to explore patterns and relationships and make predictions about the consequences of their decisions.
2	1. Introduce concept of variables. 2. Students can create models based on Harry Plotter tasks from teach-ict. 3. Students can add formulae to their model. 4. Students can make predictions about the consequences of their decisions.	1. Discuss variables that might appear in the Harry Plotter Project from teach-ict. 2. Students list the Harry Plotter variables in Excel. 3. Students add formulae to work out various totals in the tasks. 4. Demonstrate how to change the 'look and feel' of their spreadsheet model, e.g. colour, column width. Students adapt their models accordingly.	To be able to work with a model based on given scenario. At the end of the project, students will be required to create their own. To be able to add formulae to their spreadsheet so calculations are handled automatically. To understand how to use the format options to change the 'look and feel' of their spreadsheet.
3	1. Introduce MIN, MAX and AVG functions in Excel. 2. Students use above functions to investigate the Test Scores model.	1. Demonstrate how to use MIN, MAX and AVG functions in Excel. 2. Students answer 'Test Score' questions from Harry Plotter Project, using the above functions to work out the answers.	To be aware of MIN, MAX and AVG functions within Excel. To be able to write a formula using the above functions.

4	1. Show how graphs/charts can be created in Excel. 2. Students create charts and alter chart data and presentation. (Including formatting & adding titles, axis etc.)	1. Demonstrate how to use ChartWizard feature in Excel (including formatting, adding titles, axis, etc) 2. Students create a pie chart and bar graph based on the Test Scores model.	To be able to create charts in Excel from inputted data. To be able to use chart option features to format and alter the appearance of a chart/graph. To be aware of how a graph can be used to investigate the findings of a model.
5	1. Pick up a value from another sheet using a cell reference. 2. Understand why modelling is a useful activity. 3. Use a spreadsheet to model different scenarios.	1. Demonstrate how to pick a value from another sheet using a cell reference, for use in different formulae. 2. Demonstrate a modelling scenario by creating their own spreadsheet.	To be able to pick up a value from another sheet using a cell reference. To understand the concept of modelling and where and how it can be useful. To demonstrate the above with the creation of their own modelling scenario.

Year 7 ICT - KS3 - Unit 3 Information, the Internet and Online Safety

Lesson	Objectives	Activities/Resources	Learning Outcomes
1	1. Students complete a self assessment quiz of their online use.(Formal results are sent to CEOP for national monitoring.) 2. Students identify the risks and benefits of a range of online communication tools. e.g. forums, polls, instant messaging, social networking sites and e-mail to exchange and develop ideas with other learners and	Various resources and Internet Sites are suggested for student and staff use in this section, including: CEOP Thinkuknow resourceswww.thinkuknow.co.uk/ Netty's World: Australian e-safety activity site www.nettysworld.com.au	To understand how to use range of online communication tools, such as emails, forums, instant messaging, and social networks. To explore the benefits and risks of communication tools. To know how to respond to unpleasant communications via mobile phone, text, IM or email, chat rooms. (Save the message and show to trusted adult.) To know how to respond when asked for personal details (DO NOT give 1. Full Name, 2. Address

	experts in a range of contexts. 3. Students know that not everything on the internet is true and know what to do if they access something inappropriate. 4. Students are aware of phishing scams, copyright compromises, plagiarism, data protection, viruses, key loggers, skimming and other dangers of the internet. 5. Students identify a range of online communication tools to exchange information and collaborate with others within and without school e.g. VLE (once in place) Edmodo, email, instant messaging, social networking, online gaming, and mobile phones. 6. Students recognise the need to keep some information private in order to protect themselves when communicating online. 7. Students begin to recognise how electronic communications may be used for manipulation or persuasion.		(Home or School), 3. Telephone/Mobile number, 4. Photographs, 5. E mail address) To know the importance of not deleting upsetting emails – saving them for evidence purposes. To understand the need to keep personal information and passwords private. To begin to identify emails that may be malicious or inappropriate to open & begin to recognise when an attachment may be unsafe to open. To use sensitive and appropriate language when using email, stickies (VLE) and Instant messaging. To develop an alias for online use and understand issues of appropriateness and sharing.(Including Avatars). To become aware that file sharing is usually illegal due to copyright laws and can also spread viruses.
2	1. Students understand the potential risks of providing personal information in an increasing range on online technologies both within and outside school. 2. Students recognise their own right to be protected from the inappropriate use of technology by others and the need to respect the rights of other users. (Cyber bullying, grooming,	Further Useful Websites referenced in class: • Bullying UK • Chat Danger • Childnet International • Cyber Mentors • Cyber bullying • Digital Reputation	To become aware of the benefits of a discussion forum / poll, and of making purposeful contributions e.g. responding to another pupil's question. To become aware of the potential benefits for communication and what the risks might be of sharing personal details online from mobile devices and consoles via Bluetooth and internet (e.g. PSP, DS Lite , Xbox, iPhone etc.) To be able to explain how they would respond to

	flaming and false identities.) 3. Students evaluate their own use of web-publishing tools and how they present themselves online.	• [Digizen](#) • [E-Victims](#) • [Privacy Settings](#) • [ThinkUKnow](#)	an online request for their personal details. To understand the importance of appropriate online behaviour and that online (cyber-) bullying is unacceptable and will be sanctioned. To know the importance of not deleting inappropriate electronic communications – saving them for evidence purposes. Full Mantra: Block it, Save it, Report it. To be able to select appropriate images and information for their personal on a social networking site. To be aware that people may not create honest profiles of themselves. To demonstrate safe practice in selecting and uploading appropriate images, text, sound and video to any online publishing medium including the use of Podcasting sound and video, creating forums and polls and selecting and setting up RSS feeds. To understand the severity of the impact on an individual of sending or uploading unkind or inappropriate content particularly when a wider audience views the content. To understand and discuss the need to use privacy settings on SNS. To understand that you should not publish other peoples' pictures or tag them on the Internet without their permission. To understand that malicious adults use the internet to make contact and groom" young children" and how to report any suspicions (Think You Know REPORT ABUSE page)
3	1. Students present a poster indicating the 'laws' of defence against cyber bullying.	• Students design an e-safety poster.	To have a complete understanding of their rights online. To enable confidence when presented with information they deem makes them uncomfortable.

Spring Term (11 weeks)

Year 7 ICT - KS3 - Unit 4 Web Design, Blogging, & HTML (including methods of selecting and presenting information)

Lesson	Objectives	Activities	Learning Outcomes
1	1. Students use the Internet to undertake independent purposeful research, gathering appropriate text and image, and attempt to distinguish between fact and fiction. 2. Students understand how they can use the internet for research by following lines of enquiry. 3. Students understand the function of a search engine and the importance of using the correct search criteria. 4. Students recognise the need to ask appropriate questions to find answers 5. Students use web pages efficiently to find information. 6. Students use the internet as a resource to support their work, and begin to understand plagiarism. 7. Students understand that good online research involves processing the information (rather than copying) and interpreting it for others.	1. Students collate a list of the 10 things they'd like to receive as an Xmas gift. (This could be a Hanukah or other religious celebration.) 2. Each item should have an image, price and description. 3. The price should be sourced to reflect the least expensive. 4. Description should be in their own words and not copied and pasted from a web site. 5. Any image should be preferably sourced from Creative Commons and should be credited to an author. 6. Students use a variety of search engines including Google, Yahoo and MSN to find information. 7. Students use websites of their own choosing from which to garner the required information.	To know how to use an internet search to answer questions on a specific topic, and to gather resources for their own work To know that there are different search engines available and that each has advantages and disadvantages. To be able to discuss the different search engines and their features, e.g. search engine tools for different types of media e.g. Google Image Search, video, sound, understanding that the results are not always what you expect To translate questions into search criteria and key words to search for text. To choose the most appropriate search engine for the task, e.g. image search, search within a specific site, open web search. To use summaries displayed within search results to choose which sites to explore further To be aware that web sites are not always accurate and that information should be evaluated and checked before it is used. To ask questions carrying out complex searches which they refine using combinations of key words. To evaluate search results efficiently to choose a selection of relevant websites to investigate further. To refine search criteria as necessary achieve more relevant results.

			To use skim reading initially to check relevance of information before reading more carefully to ensure understanding. To evaluate information found online, considering plausibility and develop strategies to make judgements on the sources being used e.g. cross-referencing a number of websites. To use the internet - when appropriate as a tool for independent research, gathering text, images, videos and sound as resources to use in their own work. To understand more about plagiarism. To be aware that taking lots of text from websites is stealing other people's work.
2	1. Students set up a Wordpress Blog in order to present selective information to a wider audience. 2. Students select various design features to create a colourful and appealing web site.	1. Students sign up to Wordpress with username and password and select blog name (URL). Wordpress confirms details and students receive blog address via email. 2. Students login with username and password. 3. Students access the dashboard and work with features in APPEARANCE, design theme. 4. Students add widgets: Calendar, Archive, Links, and Gravatar.	To understand that information can be presented in a number of different formats. To create a web page in a WYSIWYG environment. To publish presentation material on the world wide web. To understand the nature of a blog. i.e. that past posts can be found and read via an archive option. To understand that a calendar on a blog displays current date but also the date on which posts were created. To be able to create links to additional interesting web sites via links. To understand that an avatar is a better image on a public site than a personal photo.

3 & 4	1. Students learn the difference between simple text input and the html equivalent on their blog. 2. Students learn what html is (Hypertext Mark Up Language) and why it is the language of the internet. 2. Students practice basic html within the blog html frame and via text widgets in the sidebars. 3. Students identify images within html.	1. Students work with basic html coding E.g. <html> <body> <p>This is
a para
graph with line breaks</p> </body> </html>	To understand the relevance of an internet language. To demonstrate the basics of internet programming. To assess that programming scripts and languages have a specific structure which is different from normal text based languages.
5	1. Students learn to insert weblinks in html. 2. Students learn clear html formatting techniques with table layouts.	1. Students work with <href> tags. 2. Students create tables for effective layout and design on a web page.	To enable students to experience the more advanced features of html.

Year 7 ICT - KS3 - Unit 5   Processing Images

Lesson	Objectives	Activities	Learning Outcomes
1	1. Students will learn the concept of layering. 2. Students will create wallpaper with effects.*(Twist, Curve, Blur.)* 3. Students will work with gradients,	1. Students create a layered image in Photoshop. 2. Students create wallpaper with a special effect. 3. Students create a realistic looking fire.	This entire unit is designed so that students will be able to manipulate images in order to create a number of different outcomes or results. The specifics of these are referenced in each lesson objective.

	clouds and curves.		
2	1. Students work with selective colour *(Desaturate & Masks)* 2. Students work with the clone tool. 3. Students tweak images.	1. Students brighten and darken images, as well as use sepia tones. 2. Students remove objects from images. 3. Students create a 'chav' penguin.	
3 & 4	1. Students will work with Out Of Bounds option. *(Masks, Rectangles, Shadows, Gradient)* 2. Students will work with silhouette effect. 3. Students will work with Lichtenstein effect.	1. Students will create an image seemingly jumping out of a photo frame. 2. Students will create a silhouette image. 3. Students will create an Andy Warhol pop art image.	
5 & 6	1. Students will experience animation techniques with images.	1. Students will create an animated 'speaking' head with Crazy Talk 5 software.	

Summer Term (12 weeks)

Year 7 ICT - KS3 - Unit 6   Game Control – Scratch Programming

Lesson	Objectives	Activities	Learning Outcomes
1	1. Students will learn how to recognise different flowchart symbols and how to put them together. 2. Students will learn how to use Motion and Looks instructions in Scratch. 3. Students will learn how to control sprites and create a loop in Scratch.	1. Explanation of the importance of putting instructions into order (sequencing) and introduction to the various flowchart symbols. 2. Task 1 – Copy & paste the flowchart instructions in the correct order to make a robot work correctly. 3. Task 2 – Students draw a flowchart to represent the instructions for making a cup of coffee. 4. Introduction to the Scratch interface. Task 1 – Create a script that changes the colour effect of the cat. 5. Task 2 – Add motion to the script to make the cat walk. 6. Task 3 – Create an animation with two sprites. 7. Introduction on how to control motion using keyboard inputs. 8. Students then make the cat move left and right using the ← and → keys on the keyboard. 9. Explanation of different types of loop, students then create a project to make the cat always follow the mouse cursor. 10. Students experiment by altering the speed of the sprite, adding more sprites and one that is controlled by the keyboard at the same time.	To be able to identify the different flowchart symbols. To recognise that the use of sequences of instructions will control devices to enable something specific to happen. To enable the recognition that planned instructions make things happen and so that they can describe the effects thereof. To show that they can use ICT to explore real and imaginary situations. To enable students to use ICT to control things in a pre-determined way and explore patterns and relationships.
2	1. Students will learn how to sense events and keep score.	1. Introduction and explanation of what is meant by sensing and variables. 2. Students follow the instructions from the workbooks on how to make a Shark Attack game.	To enable students to use ICT-based models to make predictions about what will happen if they do something. I.e. collate various instructions into a sequence to present various outcomes.

| 3 | (These last three lessons will take place in the Summer Term, but will be written up here as part of the Unit.)

1. Students will learn how to, independently, make a virtual pet in Scratch. | 1. Introduction and explanation of what is meant by sensing and variables. Students follow more instructions from the workbooks on how to make a Shark Attack game. | To enable students to use sequences of instructions to control events and understand the need to be precise when writing instructions. |
| 4&5 | 1. Students will learn how to, independently, make a virtual pet in Scratch.

2. Students will learn how to add features to a game in Scratch to improve on it.

3. Students explore the techniques learnt in Scratch using other programming/control software e.g. Alice and Greenfoot. | 1. Introduction and discussion on the different types of virtual pets which are available.

2. Students to use the help in the workbooks to get started – making a virtual pet.

3. Then independently add additional features.

4. Students to continue building their virtual pet, started last lesson. Adding the following features (variables):

 - Health, - Happiness, - Appearance, - Intelligence

5. Peer Assessment: Students play each others' games. | To allow students to explore the effects of changing variables in models. |

Year 7 ICT - KS3 - Unit 7   Word Processing – Advanced Features

Lesson	Objectives	Activity	Learning OUtcomes
1	1. Students will correctly use bullet points and/or outline numbering. 2. Students will correctly create columns.	1. Music List exercise. 2. Exercise on Mountains.	To be able to use the outline numbering feature as opposed to the automatic numbering system. To be able to create column without using tab stops.

2	1. Students will correctly space, indent and justify paragraphs. 2. Students will correctly set and use different tab stops.	1. Train timetable exercise. 2. Train timetable exercise.	To ensure uniformity in paragraphs. To predefine tab stops so that the space bar is not used.
3.	1. Students will correctly insert a table. 2. Students will correctly set width and height of table cells. 3. Students will correctly align and format text in a table.	1. Month of April calendar exercise.	To enable insertion, formatting, layout and editing of a table to present data.
4.	1. Students will correctly merge table cells together 2. Students will correctly place borders around table cells	1. Month of May calendar exercise.	To use advanced table features.
5.	1. Students will correctly import graphics. 2. Students will correctly position pictures. 3. Students will correctly wrap text around pictures. 4. Students will correctly resize and crop pictures.	1. Vimy Ridge Exercise.	To enable the correct application of graphics within a document. To ensure that there is no pixilation of image. To ensure the correct placement of text and image within a document.
6.	1. Students will create a	2. End of term meeting mail merge.	To enable students to produce multiple documents

	spreadsheet of data for use in a mail merge document.		– only having typed out a single letter.
	2. Students will create a letter for merge insert fields.		To enable students to insert merge fields into a letter for mass mailing.
7.	1. Students will complete a merged letter for multiple mailing.		To edit individual letters in a mail merge before completing a merge. To save multiple letters as a single document.