

KS3 Computing

Subject Teacher Mrs M Perrineau – Daley

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Subject Area: KS3 Computing

Year 7

	Topic and key aspects of study	Key Words	What to research at home/ recommended websites and reading list
Autumn Term 1	<p>Summarise the difference between the internet and internet service</p> <p>Understand the importance of communicating safely and respectfully online, and the need for keeping personal information private.</p> <p>Understand how to effectively use search engines.</p> <p>Understand why computers are connected in a network.</p> <p>Navigate the web and can carry out simple web searches to collect digital content.</p> <p>Explain the difference between a web browser and a search engine.</p>	<p>Internet, e-safety, network, digital content, web browser, search engine</p>	<p>http://www.bbc.co.uk/education/guides/z9p9kqt/test</p> <p>https://www.tes.com/teaching-resource/digital-citizenship-lesson-plan-6069499</p> <p>http://www.bbc.co.uk/cbbc/watch/p00nxznx</p> <p>https://www.youtube.com/watch?v=MV5v0m6pEMs</p> <p>https://www.esafety.gov.au/kids-quiz/</p>
Autumn Term 2	<p>Classify a range of software including operating systems, utility and application software.</p> <p>Explain the difference between hardware and software, and their roles within a computer system.</p> <p>Give examples of how data is stored on a computer. Explains the function of the main internal parts of basic computer architecture.</p> <p>Outline the concepts behind the input process output cycle.</p> <p>Recognise that a range of digital devices can be considered a computer.</p> <p>Recognise and can use a range of input and output devices.</p> <p>Recognise that all software executed on digital devices is programmed.</p>	<p>Operating systems, application software, hardware, software, data storage</p>	<p>http://www.bbc.co.uk/cbbc/quizzes/being-safe-online-quiz</p>

<p>Spring Term 1</p>	<p>Illustrate how digital computers use binary to represent all data. Summarise the relationship between data representation and data quality. Classify different types of data (text, number) and understands how these are used in different situations. Demonstrate how filters or single criteria searches can find information. Understand the difference between data and information. Knows why sorting data in a flat file can improve searching for information. Recognise that digital content can be represented in many forms. Distinguish between some of these forms and can explain the different ways that they communicate information. Recognise that data can be structured in tables to make it useful.</p>	<p>Binary, data representation data quality, text, digital content</p>	<p>http://www.bbc.co.uk/guides/z2nbgk7 http://www.bbc.co.uk/bitesize/ks3/ict/data_and_information/searching_information/activity/ http://www.bbc.co.uk/education/guides/z8nk87h/revision http://www.bbc.co.uk/bitesize/ks3/ict/data_and_information/searching_information/activity/</p>
<p>Spring Term 2</p>	<p>Use a variety of software to manipulate and present digital content: data and information. Create digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience Show an awareness for the quality of digital content collected. Demonstrate how to store and edit digital content using appropriate file and folder names. Demonstrate use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. Understand the legal frameworks governing the use of information.</p>	<p>Software packages, legal frameworks, firewalls</p>	<p>http://www.bbc.co.uk/bitesize/ks3/ict/data_and_information/searching_information/activity/ https://www.bcps.org/offices/lis/researchguide/5-8/documents/strategic_searching_common_sense_media.pdf http://www.gcflernfree.org/office2016/word2016</p>
<p>Summer Term 1</p>	<p>Construct solutions (algorithms) that use repetition and two way selection. Solve problems through decomposition. Demonstrate simple algorithms using loops, and selection. Detect and correct errors i.e. debugging, in algorithms. Understand that computers need precise instructions. Demonstrate care and precision to avoid errors. Define what an algorithm is. Reproduces/ Follows algorithms step by step.</p>	<p>Algorithms, decomposition, debugging,</p>	<p>https://www.pgfl.org.uk/schools/TF/Greenhill/Greenhill/ICT_Dept/ITResources/Internet_Research_Quiz.doc http://www.gcflernfree.org/office2016</p>

<p>Summer Term 2</p>	<p>Uses logical reasoning to predict the behaviour of programs. Build programs that implement algorithms to achieve given goals. Demonstrate how arithmetic operators, if statements, and loops, are used within programs. Know that users can develop their own programs and can demonstrate this by creating a simple program in an environment that does not rely on text. Detect and correct simple semantic errors i.e. debugging, in programs. Observe that programs execute by following precise instructions. Executes, checks and changes programs.</p>	<p>Programs, computational thinking, programming language, sequence</p>	<p>https://www.pgfl.org.uk/schools/tf/Greenhill/Greenhill/ICT_Dept/ITResources/Internet_Research_Quiz.doc http://www.gcflearnfree.org/office2016</p>
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Year 8

	Topic and key aspects of study	Key Words	What to research at home/recommended websites and reading list
Autumn Term 1	<p>Find where information can be filtered out in generalising problem solutions (abstraction).</p> <p>Use logical reasoning to predict outputs, showing an awareness of inputs.</p> <p>Select similarities and differences in situations and uses these to solve problems (pattern recognition).</p> <p>Construct solutions (algorithms) that use repetition and two way selection. Solve problems through decomposition.</p> <p>Demonstrate simple algorithms using loops, and selection.</p> <p>Detect and correct errors i.e. debugging, in algorithms.</p>	<p>Abstraction, logical reasoning, pattern recognition, decomposition”</p>	<p>https://drive.google.com/open?id=0ByKhoAJsjjZHM2MzVzE2anBXUEU</p> <p>https://www.youtube.com/watch?v=ZonvMhT5c_Q</p> <p>https://drive.google.com/open?id=0ByKhoAJsjjZHSmFVX20zN3VXVmc</p>
Autumn Term 2	<p>Examine the importance of network security including simple security techniques such as strong passwords</p> <p>Demonstrate data transmission between digital computers over networks, including the internet</p> <p>Summarise the difference between the internet and internet service</p> <p>Show an awareness of, and can use a range of internet services</p>	<p>Network security, passwords, data transmission, digital computers, IP addressing, HTML</p>	<p>https://drive.google.com/open?id=0ByKhoAJsjjZHRTBoTy12M3J4azg</p> <p>https://drive.google.com/open?id=0ByKhoAJsjjZHY3dEeWlxaUhyUW8</p> <p>http://ed.ted.com/lessons/what-is-the-world-wide-web-twila-camp</p>
Spring Term 1	<p>Examine how processors’ instruction sets relate to low level instructions carried out by a computer.</p>	<p>bitmap images, processor</p>	<p>https://drive.google.com/open?id=0ByKhoAJsjjZHbmVIOElxM1NUdE0</p> <p>https://www.youtube.com/watch?v=72snZctFFtA&feature=youtu.be</p>

		<p>https://drive.google.com/open?id=0ByKhoAJsJJZHT0hXN2JtT3piUDQ</p> <p>https://www.youtube.com/watch?v=C3sr7_0FyPA</p> <p>https://drive.google.com/open?id=0ByKhoAJsJJZHT0hXN2JtT3piUDQ</p> <p>https://www.youtube.com/watch?v=2ZUxoi7YNgs&feature=youtu.be</p> <p>https://drive.google.com/open?id=0ByKhoAJsJJZHTnIFaDhLNkdtDms</p> <p>https://www.youtube.com/watch?v=WwyJGzZmBe8</p>
<p>Spring Term 2</p> <p>Design, write and debug modular programs using functions.</p> <p>Select appropriate variables and relational operators within a loop to govern termination.</p> <p>Establish the difference between a while loop and a for loop.</p> <p>Identify the differences between, and appropriately uses if and if, then and else statements. Practical experience of a high level textual language, Use logical reasoning to predict the behaviour of programs.</p> <p>Build programs that implement algorithms to achieve given goals.</p> <p>Demonstrate how arithmetic operators, if statements, and loops, are used within programs.</p> <p>Declare and assign variables.</p>	<p>Modular programs, relational operators, while loop and a for loop</p>	<p>https://drive.google.com/open?id=0ByKhoAJsJJZHR0xlemF5RVRRa0k</p> <p>https://www.youtube.com/watch?v=JMOOG7rWTPg</p>
<p>Summer Term 1</p> <p>Investigate the differences between different Operating Systems, and the advantages and disadvantages of these.</p>	<p>Operating Systems, application</p>	<p>https://drive.google.com/open?id=0ByKhoAJsJJZHa0ZNzm0xakFRSW8</p> <p>https://drive.google.com/open?id=0ByKhoAJsJJZHbmgYTG5YQVFax0E</p>

<p>Use a range of application software to carry out designated tasks.</p> <p>Classify a range of software including operating systems, utility and application software.</p> <p>Explain the difference between hardware and software, and their roles within a computer system.</p> <p>Gives examples of how data is stored on a computer.</p>	<p>software, data storage</p>		
<p>Summer Term 2</p>	<p>Make judgements about digital content when evaluating and repurposing it for a given audience.</p> <p>Recognise the audience when designing and creating digital content.</p> <p>Undertake creative projects that collect, analyse, and evaluate data to meet the needs of a known user group.</p> <p>Effectively design and create digital artefacts for a wider or remote audience.</p> <p>Use a variety of software to manipulate and present digital content: data and information.</p> <p>Create digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience</p> <p>Show an awareness for the quality of digital content collected.</p> <p>Share their experiences of technology in school and beyond the classroom.</p>	<p>digital content, digital artefacts, digital content</p>	<p>https://drive.google.com/open?id=0ByKhoAJsijZHalNfQ0hCYjI0YXM</p> <p>https://www.youtube.com/watch?v=CqsOButT_PM</p> <p>https://drive.google.com/open?id=0ByKhoAJsijZHM0ZrVTQtWGJhdXc</p> <p>https://www.youtube.com/watch?v=gu4FYsFeWqg</p>