



Key Learning Constructs to be developed over the academic year. – Core Knowledge	Scheme of Learning Autumn Term	Scheme of Learning Spring Term	Scheme of Learning Summer Term
<p>The aim of the ICT department at Carlton Holy Family is to equip students with the knowledge, understanding and skills to be able to make the most of new technologies across all aspects of their learning.</p> <p>We have identified three key areas and have designed a curriculum which offers our students the opportunity to experience each;</p> <p>* ICT - Equipping students with skills in using software productively.</p> <p>* Digital literacy - Application of skills in a range of real-world contexts.</p> <p>* Computing - The ability to design algorithms and computing code to provide solutions.</p>	<p>Part 1</p> <p>How Computers Work</p> <p>Distinguish between hardware and software. Identify input, output and storage devices. Name at least five pieces of software. Understand what happens at the "Process" stage. Suggest appropriate input and output devices for a given scenario. Explain what main memory is used for. Distinguish between main memory and permanent storage devices. State why all data is represented in binary in a computer. Define a Bit, Byte, Kb, Mb and Gb. State the typical capacities, strengths and weaknesses of different storage devices.</p> <p>Part 2</p> <p>Websites</p> <p>Understand that the WWW is a huge collection of websites all over the world. Learn what HTML is and what it is used for. Write CSS code to set styles, e.g. background colour of sections of the page; size, font, colour and alignment of text. Learn the main principles of good website design. Complete website designs and gather content. Learn how to create a consistent look and feel throughout a website. Add well-formatted content, including text and images, to each page.</p>	<p>Part 3</p> <p>Python</p> <p>Introduction to Python Learn what Python is and some of the applications it is used for. Run a simple Python program in Interactive mode using the input and print functions. Write, save and run a program in Script mode Understand what a syntax error is and how to interpret an error message. Know the rules for variable names and use variables in a program. Understand the use and value of comments in a program.</p> <p>Part 4</p> <p>Stop-Motion Animation</p> <p>Introduce Stop-Motion Animation Watch Wallace & Gromit – How it's made Create story board Design a set Collect assets (images, props) Collect images using webcam or mobile phone Use video editor or iMovie to create video sequences Add sound, alter frame speed, add titles Export</p>	<p>Part 5</p> <p>Access - Database</p> <p>To discuss some of the many computer systems which may hold data about you or your family on a database. Create a super hero database Describe a database Understand the terms: table, record, field, data type Be able to design a dataset for a scenario Be able to create a database from a design Be able to populate a database with data Be able to test the database and make improvements on the design Be able to create a database report</p> <p>Part 6</p> <p>Mythbusters</p> <p>Understand that information on the internet could be inaccurate, biased, or untrustworthy Be able to check and comment on the accuracy of the information found on the internet To understand that searching the internet efficiently leads to better results To be able to use efficient web searching methods To be able to use the advanced search facilities of search engines To be able to make judgements regarding the suitability of the information found</p>
<p>Hinterland Knowledge</p>	<p>Who has built their own computer? How much do computers cost? What is the internet?</p>	<p>Knowledge of programming languages Who sticks by the rules? Patience when designing – Wallace & Gromitt</p>	<p>How do we store our 'things'? What is data? Do you believe everything you read?</p>

Assessment: -Formative Techniques -Summative Pieces	Student progress will be assessed with the marking of produced pieces of work and testing knowledge through the taking of quizzes and tests based on topic content.		
Key Vocabulary	Hardware Software Networks HTML CSS Host	Algorithm Programming Language Syntax Error Animation Frame Rate Exposure	Column Field Record Query Research Reliability
Key Skills	Students use software under the control of the teacher to create, store and edit digital content using appropriate file and folder names. Understands that people interact with Shares their experiences of technology in school and beyond the classroom. Talks about their work and makes improvements to solutions based on feedback received	Obtains content from the World Wide Web using a web browser. Understands the importance of communicating safely and respectfully online, and the need for keeping personal information private. Knows what to do when concerned about content or being contacted.	Shares their use of technology in school. Knows common uses of information technology beyond the classroom. Talks about their work and makes changes to improve it. Uses technology with increasing independence to purposefully organise digital content. Uses a variety of software to manipulate and present digital content: data and information.
Opportunities Outside the taught Curriculum.	Advent of Code Hour of Code	Cipher Challenge Technovation Challenge	Alan Turing Cryptography competition Matrix Challenge