

Landau Learner Curriculum Overview

Subject: Computer Science

Director of Learning: SDC Year: 7

Curriculum organisation				
Students are taught in mixed ability for the equivalent of four single lessons per fortnight.				
What topics will students be studying this year? Includes links to National Curriculum, Curriculum Intent and Prior Related Learning*				
Term 1:	Term 2:	Term 3:	Term 4:	Term 5:
<ul style="list-style-type: none"> Scratch Game development How computers work 	<ul style="list-style-type: none"> Interactive Presentation - Alton Towers Target Audience PPS narrative product development 	<ul style="list-style-type: none"> Small Basic Binary representation, Number, Image, text (ASCII Unicode) 	<ul style="list-style-type: none"> Spreadsheet Networks 	<ul style="list-style-type: none"> Flowol Computational thinking
<p>Prior learning: Design, write and debug programs that accomplish specific goals. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>National Curriculum: Use 2 or more programming languages, at least one of which is textual. Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems. Undertake creative projects</p> <p>Curriculum Intent: Holistic development of Computing based skills enabling them to access day to day computing related tasks. Development of knowledge, skills and understanding to allow students to progress. To have a relevant and informed education to enable their growth and development in digital literacy, equipping students to enable them to contribute to an increasingly digital society.</p>	<p>Prior learning: Select, use and combine a variety of software systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p> <p>National Curriculum: Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users. Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.</p> <p>Curriculum Intent: Holistic development of Computing based skills enabling them to access day to day computing related tasks. Development of knowledge, skills and understanding to allow students to progress. To have a relevant and informed education to enable their growth and development in digital literacy.</p>	<p>Prior learning: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>National Curriculum: Use 2 or more programming languages, Understand how instructions are stored and executed within a computer system; understand how data of various types can be represented and manipulated digitally, in the form of binary digits Understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers</p> <p>Curriculum Intent: Holistic development of Computing based skills enabling them to access day to day computing related tasks. Development of knowledge, skills and understanding to allow students to progress. To have a relevant and informed education to enable their growth and development in digital literacy.</p>	<p>Prior learning: Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration</p> <p>National Curriculum: design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns</p> <p>Curriculum Intent: Holistic development of Computing based skills enabling them to access day to day computing related tasks. Development of knowledge, skills and understanding to allow students to progress. To have a relevant and informed education to enable their growth and development in digital literacy.</p>	<p>Prior learning: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>National Curriculum: Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems. Understand several key algorithms that reflect computational thinking, use logical reasoning to compare the utility of alternative algorithms for the same problem</p> <p>Curriculum Intent: Holistic development of Computing based skills enabling them to access day to day computing related tasks. Development of knowledge, skills and understanding to allow students to progress. To have a relevant and informed education to enable their growth and development in digital literacy.</p>

<p>Equipment needed for sessions:</p> <ul style="list-style-type: none"> Cambridge Elevate Textbook (Provided by College) Computer Science Exercise book (IA/SDC) Computer and internet access (provided by College) Lesson resources (Digital and physical provided by the learning tutor) 	<p>What can you do to support your child?</p> <ul style="list-style-type: none"> Encourage your student to engage with their homework and complete it on time and to a high standard, asking them to show you the finished work. Take an interest in what your child is learning and talk to them about Computing in the real world Encourage them to watch television shows, documentaries and films that include computer science and developing technology.
<p>How will learning be assessed and progress measured?</p> <ul style="list-style-type: none"> End of Topic assessment Marking of written and practical work is carried out on a regular basis in line with the College policy End of year summative assessment. Regular peer and self-marking. 	<p>Extension and enrichment activities:</p> <ul style="list-style-type: none"> Robotics and Coding Club (Thursday with IA) The National Museum of Computing/Bletchley Park/ Manchester's Museum of Science & industry At-Bristol Science Centre / National Space Centre The Science Museum / National Media Museum/ Jodrell Bank Leicester Retro Computer Museum