Statement of Curriculum Intent Computing – KS 1,2,3 and 4

"The intent of our ICT curriculum is to empower students with the essential knowledge and skills required to navigate and thrive in our increasingly digital world. Through a dynamic and engaging learning experience, we aim to instill in students a deep understanding of information and communication technologies, fostering their creativity, critical thinking, and problem-solving abilities. Our goal is to not only equip students with the technical proficiency necessary for the 21st century but also to nurture their digital citizenship, ensuring they approach technology with responsibility and ethical awareness. By integrating real-world applications and hands-on projects, we strive to make ICT a transformative force in their education, preparing them for future academic success and providing a solid foundation for a variety of career pathways.
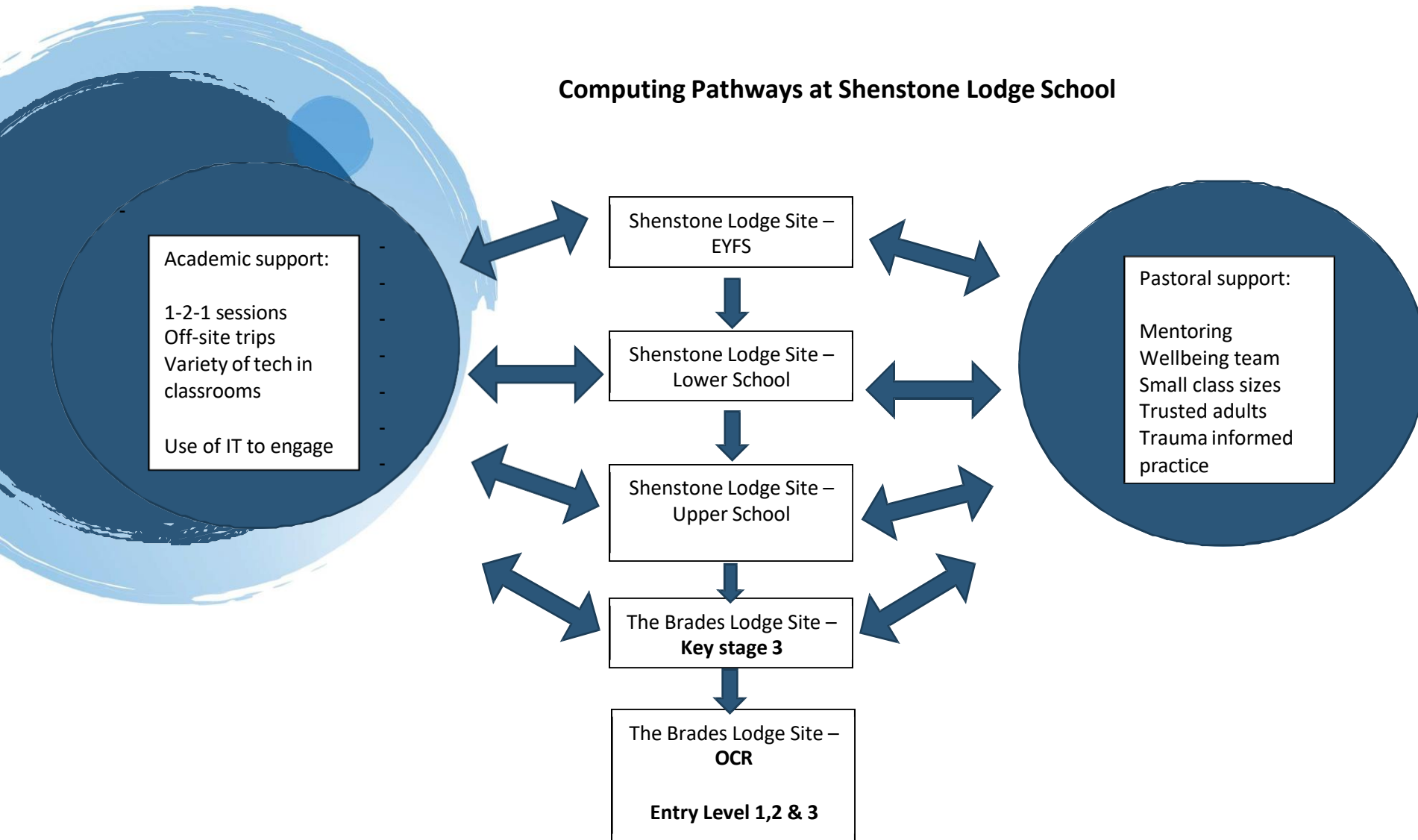
Within our computing curriculum, we focus on the progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding technology. These strands are revisited repeatedly to ensure the learning is embedded and skills are successfully developed and built upon. Our intention is that computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school.

The primary school phase of our ICT curriculum is designed to cultivate foundational skills and qualities that lay the groundwork for a lifelong relationship with technology. Students will develop proficiency in basic computer operations, keyboarding, and digital literacy. Through engaging activities and age-appropriate projects, they will explore the creative potential of software applications, enhancing their problem-solving

abilities and fostering a curiosity for technology. Our primary focus is on building a strong digital foundation, nurturing collaborative skills, and instilling a sense of responsible technology use. As they progress through these early years, students will gain confidence in their ability to navigate the digital landscape while developing a positive attitude towards learning and adapting to new technologies.

As students transition to the secondary school phase of our ICT curriculum, the focus expands to technical skills, critical thinking, and real-world applications. They will delve into programming using a range of physical devices, web development, and multimedia production, promoting their abilities to analyse complex problems and design innovative solutions. In addition, students will engage with ethical considerations surrounding technology, cultivating a strong sense of digital citizenship. By the end of their secondary school journey, our students will be well-equipped with the skills, qualities, and experiences necessary to thrive in higher education, enter the workforce, and contribute meaningfully to our ever-evolving digital society."

Computing Pathways at Shenstone Lodge School

Academic support:

1-2-1 sessions
Off-site trips
Variety of tech in classrooms

Use of IT to engage

Shenstone Lodge Site – EYFS

Shenstone Lodge Site – Lower School

Shenstone Lodge Site – Upper School

The Brades Lodge Site – **Key stage 3**

The Brades Lodge Site – **OCR**

Entry Level 1,2 & 3

Pastoral support:

Mentoring
Wellbeing team
Small class sizes
Trusted adults
Trauma informed practice

Shenstone Lodge School
Computing Long Term Plan 2023-24

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Trolls	Online safety 1.1	1.2 Grouping & Sorting 1.3 Pictograms	Coding 1.7	Lego Builders 1.4	Maze Explorers 1.5	Animated stories 1.6
Cyclops	Online safety 1.1	Making Music 2.7	Creating Pictures 2.6	Coding 2.1	Presenting ideas 2.8	Spreadsheets 2.3
Siren	Online safety 2.2	Online safety 2.2	Effective searching 2.5	Coding 2.1	Creating Pictures 2.6	Making Music 2.7
Dragons	Online safety 3.2	Email 3.5	Touch typing 3.4	Coding 3.1	Simulations 3.7	Presenting with PowerPoint 3.9
Unicorns	Online safety 3.2	Email 3.5	Touch typing 3.4	Coding 3.1	Simulations 3.7	Presenting with PowerPoint 3.9
Pegasus	Online safety 4.2	Effective searching 4.7	Coding 4.1	Logo 4.5	Animation 4.6	Sending emails
Griffin	Online safety 4.2	Effective searching 4.7	Coding 4.1	Logo 4.5	Animation 4.6	Sending emails
Centaur	Online safety 5.2	3D modelling 5.6	Coding 5.1	Game creator 5.5	Word processing 5.8	Databases 5.4
Minotaur	Online safety 5.2	3D modelling 5.6	Coding 5.1	Game creator 5.5	Word processing 5.8	Databases 5.4
YR 7	Online safety 6.2		Coding 6.1	Sending emails	Powerpoint	

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	**Clear Messaging In Digital Media** Provide basic skills for school life across all curriculums Series of individualised lessons/activities that will provide the basic framework for knowledge building e.g. adding folders to a network/ saving and printing documents By the end of this unit students should be able to demonstrate basic computing skills that can be used across the curriculum such as accessing files, using search engines to gather information and using appropriate application software	**Modelling Data Using Spreadsheets** Give students a basic introduction to the use of Microsoft Excel which is used widely across the school curriculum and leading into job prospects Through a series of projects students learn how to input, format and sort/filter data in a way that will give them the skills to access higher learning Students will have learnt skills that will be transferrable across the curriculum (e.g. Maths/Science) by constructing spreadsheets that represent data and provide an outcome	**Computing Systems – Communication & Collaboration** Learners will look at how data is transferred over the internet and how the internet facilitates online communication and collaboration A series of individualised lessons/activities that will focus on that will allow students to share projects online and evaluate different methods of communication Students will learn how to collaborate and communicate appropriately online by considering what should and what shouldn't be shared online. This will also	**Programming Essentials in Scratch – Part I** Introduce students to a form of coding and build their confidence and knowledge of the key programming constructs Using a series of lessons and activities, students will demonstrate their ability to produce simple code and apply problem solving skills to resolve scenarios Students will gain a basic understanding of programming which will include the ability to create variables, sequences and iterations which can then be used as a platform to build upon in subsequent	**Programming Essentials in Scratch – Part II** Build upon the basic framework of programming students learnt in the previous topic which introduced students to Scratch Using a series of lessons and activities, students will demonstrate their ability to produce simple code and apply problem solving skills to resolve scenarios Learners will be able to demonstrate the ability to create their own subroutines within scratch and build upon their problem solving skills by working through a larger project at the	**Developing For The Web (HTML)** Introduce students to another form of coding that they can use at a basic level to create simple webpages Using a series of individualised lessons/activities, students will demonstrate their understanding of the basic features of webpages and how they can create their own webpages that could potentially be hosted on the web This unit will provide students with a basic understanding of static webpages and CSS. It will also introduce them to their form of text based programming that will lay the
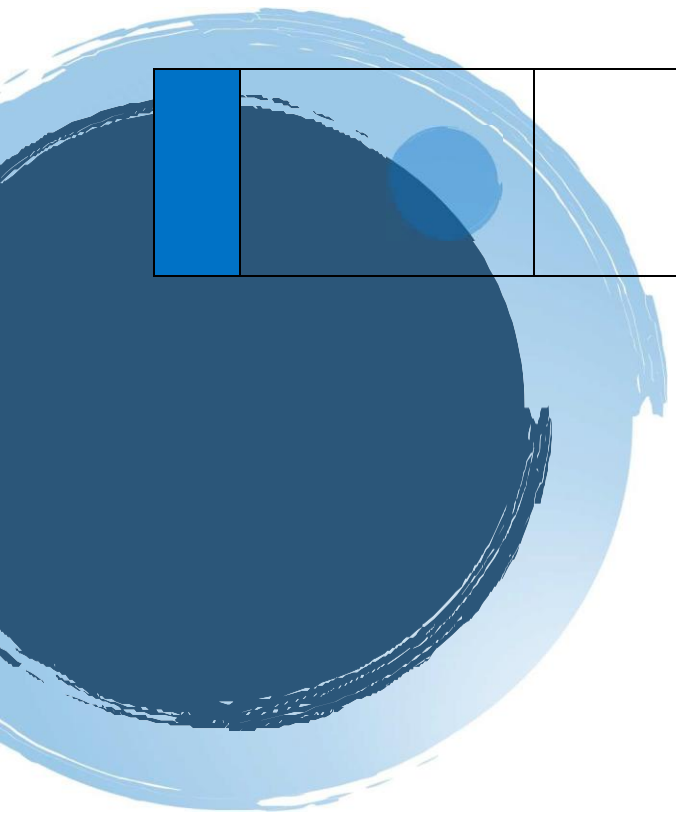
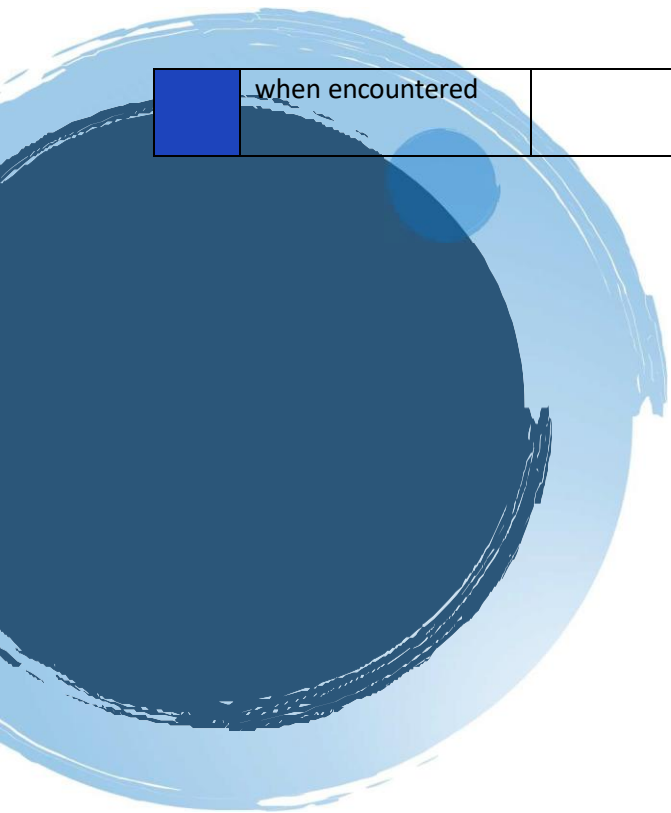|			provide them with the basic knowledge of networks which will be built upon in Year 8	units	end of the unit	foundations for future text based programming units

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 8	**Computing Systems** Introduce students to the inner workings of physical computers including the use of software, hardware and artificial intelligence Series of individualised lessons/activities that will provide the opportunity to delve into the inner workings of computers and identifying the difference between hardware and software Through the use of summative assessments students will be required to identify the common hardware components such as hard drive, RAM and CPU as well as	**Networks – From Semaphore to the Internet** Provide students with the knowledge of networks and how data is transmitted across a variety of platforms (e.g. internet, computers, networks) and the various different communication protocols that we must adhere to Series of individualised lessons/activities that allow students to explore the framework of networks and identify how data is transmitted across them Students will be able to explain how networks are used to allow communication and also access to the	**Physical Programming with MicroBit** To refresh and apply previous programming knowledge to practical scenarios using a micro:bit device A series of individualised lessons and activities that allow students to apply the theory of programming to practical scenarios using the micro:bit device Students will be able to apply their previous knowledge of programming to solve scenarios using the micro:bit. This will allow them to strengthen their knowledge of programming	**Swift: Learn To Code 1 & 2** Highlight key coding concepts while demonstrating how coding is a way of thinking that can be applied to other subjects and everyday life. In part 2, students will then build upon their knowledge of Swift by learning more ways to use code to interact with their characters and world Using a series of lessons, activities and reflection activities, students will be required to demonstrate their ability to code and complete a variety of tasks to meet lesson objectives	**Swift: Learn To Code 1 & 2** Highlight key coding concepts while demonstrating how coding is a way of thinking that can be applied to other subjects and everyday life. In part 2, students will then build upon their knowledge of Swift by learning more ways to use code to interact with their characters and world Using a series of lessons, activities and reflection activities, students will be required to demonstrate their ability to code and complete a variety of tasks to meet lesson objectives	**Binary Representation** Gradually introduce students to binary numbers and how they can be used to represent text and numbers Using a series of individualised lessons/activities, students will demonstrate their understanding of binary numbers by linking them to practical applications and problems that the students may be familiar with The purpose of this unit is to introduce students to binary numbers which we will cover more in depth when the students reach KS4 and start working towards their
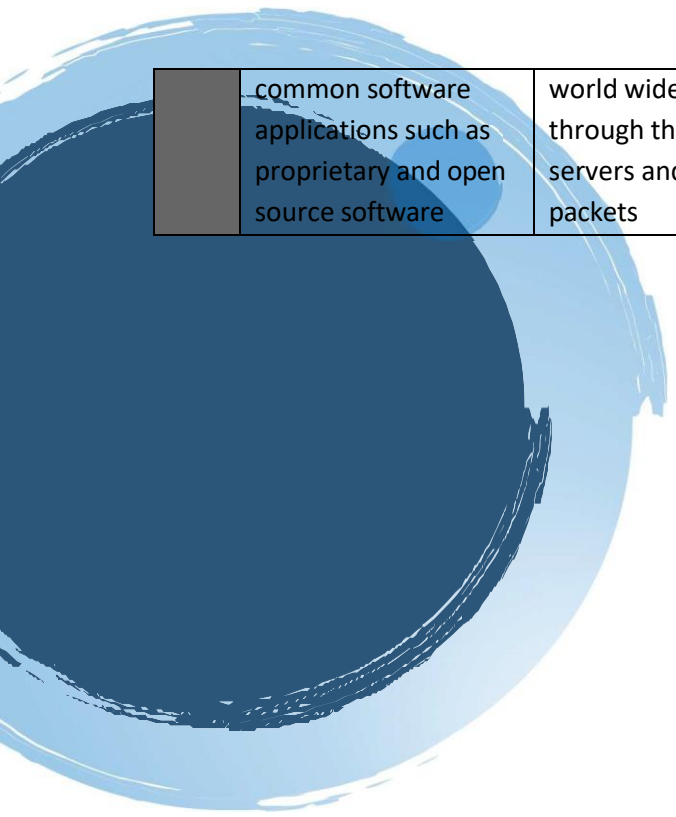
|	common software applications such as proprietary and open source software	world wide web through the use of servers and data packets	techniques such as variables, sequences and other techniques			qualification

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 9	**Cybersecurity** Give the students a basic introduction to keeping themselves online and identifying common threats they may encounter online Series of individualised lessons/activities and student led research into the different types of online threats such as malware, spyware and worms. We also cover real life effects of attacks and how these cyberattacks can be prevented Make students aware of the dangers online and how they can identify them. Also, to provide them with ways of preventing and reporting them	**Swift: Learn to code 3** Build on the knowledge students have learnt in the previous "Learn To Code" units and give students access to a wide variety of coding languages Through a series of individualised lessons, students will learn aspects of coding and apply them using practical activities Students will able to use problem solving skills to complete activities that they may face in real life coding scenarios	**Introduction to Python Programming** Introduce learners to text based programming using Python Using a range of lessons and activities, students will start with simple programs involving inputs/outputs before moving onto arithmetic operations, selection and iterations Students will be able to demonstrate the basics of using a text based form of coding with Python which will lead into the next unit of broadening their knowledge of text based programming and prepare them for KS4	**Python Programming with Sequences of Data** This unit will introduce students to how data can be represented and processed in sequences, such as lists and strings Using a series of lessons and activities, students will cover a spectrum of operations on sequences of data, that range from accessing an individual element to manipulating an entire sequence Students will be able to demonstrate their understanding of Python by experimenting with sequences of data	**Applying Programming Skills with Physical Computing** Apply and enhance the students programming skills using the micro:bit and write simple programs that use python code Using a series of lessons/activities, student will demonstrate their knowledge of python coding in combination with using the micro:bit to code, flash and test programs Students will be able to combine what they have learnt in the previous topics along with the current topic and create text based	**Data Science** Delve into Data Science and identify how we can visualise data to identify patterns and trends in order to gain insights Through the use of a series of individualised lessons/activities, students will build their knowledge of data science and how it can be used to identify trends in data Students will build the confidence to analyse data and conduct their own research topic that can be visualised in order to identify trends and gain insights

	when encountered				programs on physical devices	

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10 and 11	**Entry Level – Computer Hardware & Software** Provide students with the knowledge of computer hardware and software in order to achieve an entry level qualification in Computer Science A series of individualised lessons, activities and student research into the hardware components that make computers function will be delivered. We will also cover Software and the different types available to use, their purpose and also the advantages and disadvantages of using them Provide students with the knowledge	**Entry Level – Computer Memory & Storage and Moral, Legal, Cultural and Environmental Concerns** Provide students with the knowledge of computer memory & storage and moral, legal, cultural and environmental concerns in order to achieve an entry level qualification in Computer Science A series of individualised lessons, activities and research tasks will allow students to discover the main components of computer memory and how they work together to function along with the legislation that protects everyone	**Entry Level – Computational Logic & Algorithms** Provide students with the knowledge of computational logic and algorithms in order to achieve an entry level qualification in Computer Science A series of individualised lessons, activities and student led research will cover the topics of computational thinking and algorithms which includes Boolean logic, arithmetic operators and computational thinking Provide students with the knowledge required in order to achieve in their Entry	**Entry Level – Programming Techniques & Data Representation** Provide students with the knowledge of programming techniques and data representation in order to achieve an entry level qualification in Computer Science Using a series of individualised lessons, activities and student led research we will cover topics that include variables, selection, iterations, operators and units of memory Provide students with the knowledge required in order to achieve in their Entry Level Computer Science qualification	**Entry Level – Programming Project** Apply content covered in the Entry Level qualification and create a coding project that meets the qualification specification Students will use time in lesson to create their own coding project that meets the qualification specification. This will require them to plan, write, test and evaluate a simple coded program using a coding language of their choice. This can be a text based language such as Python or a drag and drop language such as scratch Provide students with the knowledge required in order to achieve in their Entry Level Computer Science qualification	
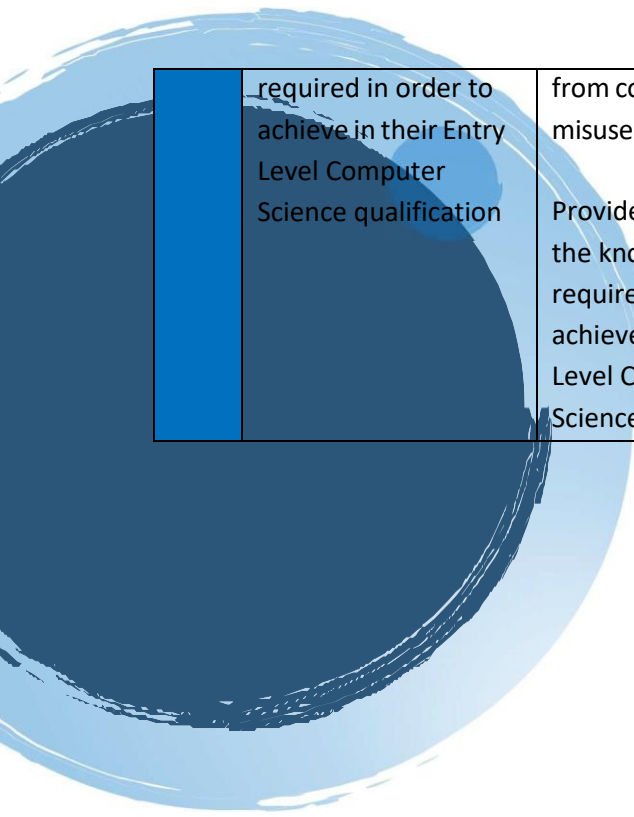
	required in order to achieve in their Entry Level Computer Science qualification	from computer misuse Provide students with the knowledge required in order to achieve in their Entry Level Computer Science qualification	Level Computer Science qualification		