MOOR PARK HIGH SCHOOL AND SIXTH FORM: CURRICULUM

Key Stage 3 Long Term Planning

Digital Literacy Computer Science ICT

Year 7 SYLLABUS: Computer Science

Curriculum Area: Art, Performance and Technologies Faculty

Year 7	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Syllabus	**Baseline / E-Safety (Transition Unit)**	**Artificial Intelligence**	**Spreadsheets**	**Block-Based Programming – Robotics**	**Impact of Technology**	**Photoshop**
Knowledge	Students will learn about the importance of staying safe online. This unit of work will include the impact of cyberbullying, the importance of setting passwords, how to protect yourself online and the consequences of inappropriate online use.	Students will be introduced into the world of Artificial Intelligence and Machine Learning. Additionally, students will have a look at some of the emerging technologies and discover the impact that these will have on our world.	Students will learn how to use spreadsheets using Microsoft Excel. They will be taught about the importance of using spreadsheets, how data can be stored and how to create formulas to manipulate data.	Students will use Edison Robotics, where they will learn how to program games and activities using block code. During this term, students will also be introduced to variables and the different data types that are used in programming.	Pupils will be able to understand the impact of technology on society. They will also be able to explain the legal impact when using technology.	Students will be introduced to Adobe Photoshop and learn how to use basic tools to manipulate graphics.
Skills	Students will learn many skills in this unit. As it will be the students first experience in a computing classroom at the school, they will learn how to use and navigate themselves around the computer and the internet.	Students will learn many skills whilst looking at artificial intelligence, these will include What AI Is, ethics behind AI and its real-world relevance.	Students will be able to use specialist spreadsheet software to create formulas and functions to calculate information.	Students will learn many skills whilst programming including sequencing, selection and iteration. Programming using blocked code will help students when it comes to high-level language programming.	Pupils will be able to recommend how to become more energy efficient when using a computer. They will also be able to explain the ethical, moral and legal issues on society	Students will be able to use Adobe Photoshop in order to create a digital calendar. Students will also develop the ability to edit images and create their own leaflets and brochures. Extension tasks will be available to support students who wish to complete intermediate Adobe Photoshop tasks.
Connections to previous learning	Students will build on any prior knowledge that they have already learnt at primary school on internet safety. Most primary schools teach students basic internet safety as It is a legal requirement and underpins the curriculum requirements in both primary and secondary school. This unit will also embed the qualities of learning that students should have learnt about over the 6-week holidays	Although students may not have learnt about Artificial Intelligence directly, they will be aware of the advancements of technology during their lifetime and have some understanding of what the future holds.	Students will have been using the Microsoft Office package throughout the year, which makes Excel very intuitive to use. Some primary schools teach basics of spreadsheets whether via purple mash or Microsoft excel so some students will be able to build on their knowledge.	This unit will build on any prior knowledge from primary school of design-based programming. Some schools use scratch and other software including purple mash to introduce students into the coding world.	Students will have some prior knowledge of the impact and issues of technology; this will be briefly covered in Y7 e-safety and Y9 computers. Students may also hear about the impact of technology in the news.	This topic will be new to many students, so students will be provided with guided worksheets to support their learning.

	when reading the 'Go Big' book.					
Assessment	*Point 1:* Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLC's. *Point 2:* Students will be given an online assessment to complete and check their understanding of this topic.	*Point 1:* Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLC's. *Point 2:* Students will be given an online assessment to complete and check their understanding of this topic.	*Point 1:* Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLC's. *Point 2:* Students will be assessed on an interactive presentation that they create which focuses on the topics they have learnt. This will also allow them to implement and combine sequencing, selection and iteration with their digital literacy skills.	*Point 1:* Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLC's. *Point 2:* Students will be marked against a rubric using sequencing, selection, iteration and variables.	*Point 1:* Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLC's. *Point 2:* Students will be given an online assessment to complete and check their understanding of this topic.	Point 1: Students will complete regular formative assessments at the end of each lesson. This will be in the form of interactive quizzes, exit tickets and quick questioning. In line with PLC's. Point 2: Students will also undertake their end of year 9 assessment during this term which will reflect everything taught during this academic year.
Homework	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation.	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation.	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation.	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation.	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation.	Homework will involve creative consolidation tasks and independent research tasks. Homework will be provided as per the homework rotation.
Culture Capital	Students will be invited to attend lunchtime/afterschool clubs along with CyberFirst Events and MEGA Events	Students will be invited to attend lunchtime/afterschool clubs along with CyberFirst Events and MEGA Events	Students will be invited to attend lunchtime/afterschool clubs along with CyberFirst Events and MEGA Events	Students will be invited to attend lunchtime/afterschool clubs along with CyberFirst Events and MEGA Events	Students will be invited to attend lunchtime/afterschool clubs along with CyberFirst Events and MEGA Events	Students will be invited to attend lunchtime/afterschool clubs along with CyberFirst Events and MEGA Events
Numeracy			Numeracy skills such as data types and formulas will be used during this unit of work.	Numeracy skills will be focused on when dealing with variables, operators and data types.		
Literacy	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers. Guided Reading activities will also take place during the topic as well during Do Now or the Activate section of the lesson.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers. Guided Reading activities will also take place during the topic as well during Do Now or the Activate section of the lesson.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers. Guided Reading activities will also take place during the topic as well during Do Now or the Activate section of the lesson.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers. Guided Reading activities will also take place during the topic as well during Do Now or the Activate section of the lesson.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers. Guided Reading activities will also take place during the topic as well during Do Now or the Activate section of the lesson.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation. Guided Reading activities will also take place during the topic as well during Do Now or the Activate section of the lesson.
CEIAG	A guest from the Lancashire National Cyber Security Unit will be invited in to discuss Cyber Crime and what their job entails.			Where can Computer Programming take you? Discussion on why programming is so important. Why are technology jobs the most in		Students will explore how small and medium sized tech and marketing businesses use Adobe Photoshop to support their clients.

				demand? Invite a Games designer in to talk to students.		

Year 8 SYLLABUS: Computer Science

Curriculum Area: Art, Performance and Technologies Faculty

Year 8	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Syllabus	**Binary, Denary and Hexadecimal**	**Cyber Security**	**Python Programming – Python Turtle**	**Animation (Blender**	**Sound and Image Representation**	**Networking**
Knowledge	Students will learn about how data is represented on computers. Students will learn how to read binary numbers and convert them to denary (and vice-versa). Students will also learn how to perform binary calculations including addition and subtraction.	Students will learn about what different cyber-attacks are (phishing, malware, trojan horse and ransomware) along with how to prevent these threats.	Students will be introduced to the high-level text-based programming language Python. Students will understand how to write syntax language and use data types, operators, variables, sequencing, selection and iteration to construct basic programs. Students will receive a work booklet and help sheets to support and scaffold their learning.	students will learn how pros use Blender, the industry-standard software program, to produce 3D animations. Learners will have a better knowledge of how this crucial creative field is used to produce the media goods we consume after completing this unit. Learners will be guided through the fundamentals of modelling, texturing, and animation during sessions; results will include short films and 3D models.	Students will focus on making digital media such as images and sounds and discover how media is stored as binary code. Students will draw on familiar examples of composing images out of individual elements, mix elementary colours to produce new ones, take samples of analogue signals to illustrate these ideas, and then bring all these things together to form one coherent narrative.	Students will be introduced to computer networking. They will understand what LAN, WAN and PAN networks are and will look at the different network topologies including star topology and bus topology.
Skills	Students will be able to convert Denary to Binary and vice versa. In addition to this, students will perform calculations with binary numbers.	Students will be able to explain how the threats work and how to prevent them. They will go on to learn skills such as transitions, animations and how to make a presentation interactive.	Students will acquire many skills in this unit. They will learn how to use and write programs in a high-level text-based programming language. Students will also learn key programming skills such as logic skills, algorithmic thinking skills and how to identify and rectify errors in code.	Students will acquire many skills in this unit; they will learn how to use the basic tools in blender (add/delete/move). They will also move onto the more advanced skills which will support them creating a 3-10 second animation as the product.	Calculate the representation size of a (bitmap) digital image. Students will calculate the representation size of a (PCM-coded) digital sound. They will go on to use software to perform basic image editing tasks and combine them to solve problems.	Students will learn how networks work and how we can connect devices to a network. Students will be able to define a network and address the benefits of networking, before covering how data is transmitted across networks using protocols.
Connections to previous learning	Students will know what binary is from learning how to program in Year 7	Students will have a basic understanding of e-safety and certain threats posted to individuals from the E-Safety/transitional unit completed in Year 7.	Students will use the programming skills they learnt in year 7 and transfer them to this unit.		This is an important part of the curriculum that students must have learnt in preparation for their GCSE Options choices.	This is an important part of the curriculum that students must have learnt in preparation for their GCSE Options choices.

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Numeracy			Students will be using variables, data types and performing mathematical calculations throughout this topic.	Students will be able to define 'bandwidth', using the appropriate units for measuring the rate at which data is transmitted.	Students will be able to calculate the representation size of a (bitmap) digital image. Students will calculate the representation size of a digital sound file	
Literacy	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation.	Key words will be displayed and used throughout the lessons. Students will focus on their literacy skills when completing written work on the computers These will be highlighted on the PLC and on the presentation.
CEIAG				Arrange for an animator to come in and talk about their job role, what skills are required and what their job looks like day to day.		Mr. Cooper/Mr. Leonard will be invited to discuss how the schools network works

MOOR PARK HIGH SCHOOL AND SIXTH FORM: CURRICULUM

Year 9 SYLLABUS: Computer Science

Curriculum Area: Art, Performance and Technologies Faculty

Year 9	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Syllabus	**Searching and Sorting Algorithms/Boolean Logic**	**Python Programming**	**Web Development**	**Layers of a Computer System**	**Impact of Technology**	**Transition Unit – Summer Project**
Knowledge	Students will understand the different types of Searching and Sorting Algorithms. They will understand the various types of Logic Gates, (AND, OR, NOT)	Be able to use an IDE to write and execute projects, locate and correct common syntax error, trace through algorithms, Create lists and iteration within a program.	Students will explore the technologies that make up the internet and World Wide Web. Starting with an exploration of the building blocks of the World Wide Web, HTML, and CSS, learners will investigate how websites are catalogued and organized for effective retrieval using search engines. By the end of the unit, learners will have a functioning website.	Students will learn how to improve system performance by learning about clock speed, cores and cache. The pupils will also understand the difference between primary and secondary storage and be able to explain what they are used for. We will also look at system software and in particular utility software that will help students understand how to maintain and optimize a computer.	Pupils will be able to understand the impact of technology on society. They will also be able to explain the legal impact when using technology.	Students will use fundamental skills in terms of digital literacy and bring this all together using a brief relating to a summer festival. Students will learn how to utilize how to use Microsoft Office Packages effectively (Word Processing, PowerPoint and Excel Spreadsheets).
Skills	Students will learn skills that will allow them to understand how to search and sort through data.	Students will look at Trace Tables, Create Lists and Iterate within programs.	Students will Use HTML to define the appearance of text on a web page, apply HTML tags to structure a web page and Use CSS to style web pages.	The students will learn key skills that will allow them to perform maintenance on their own devices and optimize the performance of their devices.	Pupils will be able to recommend how to become more energy efficient when using a computer. They will also be able to explain the ethical, moral and legal issues on society	Students will learn how to effectively use Word, PowerPoint, and Excel, as well as how to apply these skills in a project context. These skills will prepare them for future employment and further studies •
Connections to previous learning	This is an important part of the curriculum that students must have learnt in preparation for their GCSE Options choices.	Students are already able to write Python programs that display messages, receive keyboard input, use simple arithmetic expressions, and control the flow of program execution through selection and iteration structures.		This is an important part of the curriculum that students must have learnt in preparation for their GCSE Options choices.	Students will have some prior knowledge of the impact and issues of technology; this will be briefly covered in Y7 e-safety and Y9 computers. Students may also hear about the impact of technology in the news.	This is an important part of the national curriculum and provides students with skills that are needed for their future.

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CEIAG		Where can Computer Programming take you? Discussion on why programming is so important. Why are technology jobs the most in demand? Invite a Games designer in to talk to students.		Arrange for a web designer to come in and talk about their job role, what skills are required and what their job looks like day to day.		