

SUBJECT		YEAR	TERM
Computer Science (OCR)		10	1
UNIT			
Representing Data			
INTENT			
PRIOR LEARNING (TOPIC) Pupils will have some basic knowledge from Year 9 lessons, however, this is not a requirement for the topic.			
At a base level, everything in computer science comes back to binary numbers. In this unit pupils will learn to understand what these strings of 0s and 1s actually mean! This includes interpreting binary values as numbers, images, sound and text.			Specification Points: This unit covers points 1.2.3 through to 1.2.5.
FUTURE LEARNING (TOPIC): Boolean Algebra			
IMPLEMENTATION		IMPACT	
Throughout the unit pupils will cover: <ul style="list-style-type: none">• Common units of storage used in binary.• How to convert numbers between binary, denary and hexadecimal.• How to perform binary addition.• How to perform simple bitwise operations.• How binary is used to represent images, text and sound.• Types of compression.		Assessment: Pupils will sit a 40 mark in-lesson assessment at the end of the unit, the score from which will be translated into a 9-1 style grading. In addition to this, pupils will complete regular exam style questions both during lesson and as part of homework tasks.	
HOW CAN PARENTS HELP AT HOME?			
All course materials are available via Firefly. In the build-up to the assessment, parents can help by supporting their child’s revision. This can include testing them using flash cards or simply getting them to explain topics to you.			
HELPFUL READING/FURTHER DISCUSSION			
READING/EXTRA-LEARNING There are an enormous number of online courses and tutorials to help pupils develop their computer science skills further. Visit the Next Steps section of the Computing department’s Firefly page for more details.		CAREERS This unit could lead into a wide range of careers including electrical engineering and cryptography.	WIDER SKILLS Digital Literacy Numeracy Resilience
VOCABULARY			
Binary, Denary, Hexadecimal, bit, nibble, byte, KB, MB, GB, TB, overflow, shifts, ASCII, Unicode, resolution, colour depth, pixel, sample rate, bit depth, compression, lossy, lossless.			