

SUBJECT		YEAR	TERM
Computer Science		9	2
UNIT			
Representing Data			
INTENT			
PRIOR LEARNING (TOPIC) No previous knowledge is required for this unit.			
Thus far, pupils’ exposure to computer science has all been through programming. This unit aims to introduce the more theory-based side to the subject by teaching a combination of systems architecture and binary number theory. Throughout this unit pupils will explore the fundamentals of how computers work and how binary numbers are at the heart of everything a computer does. This includes being able to work with simple binary numbers and having an understanding what they can be used to represent.			
FUTURE LEARNING (TOPIC): GCSE Computer Science			
IMPLEMENTATION		IMPACT	
Throughout the unit pupils will learn: • About the core components of computer systems, such as the CPU. • How binary numbers can be converted to and from denary. • How binary numbers are used to represent other types of data such as images.		Assessment: Each lesson will be consolidated with a short set of questions. The combination of which will give a total score for the unit. This mark will then be translated into a 9-1 style grading.	
HOW CAN PARENTS HELP AT HOME?			
This unit is quite mathematical, as such it can help to discuss the content (with help from Firefly resources if required) and go through some of the worked examples with your child.			
HELPFUL READING/FURTHER DISCUSSION			
READING/EXTRA-LEARNING During this unit we only scratch the surface of binary numbers and systems architecture. A great next step would be to explore the resources for this unit for GCSE or even A-Level.	CAREERS An understanding of computers at a core level is important for a wide range of STEM related careers, such as electrical engineering.	WIDER SKILLS Digital Literacy Problem Solving Resilience Numeracy	
VOCABULARY			
CPU, Transistors, Binary, Denary, Pixels, Colour Depth, Resolution			