Share Multi Academy Trust

Curriculum Plan

Subject:	OCR GCSE Computer Science	Year	11	Ability	All

Term / Date(s)	Topic 5 (2-3 weeks)	Topic 6 (3-4 weeks)	Topic 6
Topic	Testing	Translators and facilities of languages	Recap
Topic overview **Pupils will learn…**	In this topic, students will learn the reasons why we test and its importance and the differences between different types. They will also look at how to complete test tables to ensure systems work as they are intended.	In this topic, students will look at the differences between high and low-level programming languages and also the facilities and features available within IDE software.	Reteach and revise topics covered in Year 10 and 11
Components	Students must learn and understand about: • The importance and purpose of testing, including iterative (testing on the go) and final/terminal (testing at the end) in order to discuss the differences between them and suitability of each. The differences between syntax and logic errors and how to select and use suitable test data for a given scenario in order to refine algorithms for a given scenario.	Students must learn and understand about: • The characteristics and purpose of different levels of programming language, including low level languages in order to identify and discuss these features for a given scenario. The purpose and characteristics of an assembler, a compiler and interpreter/translator and the common tools and facilities available in an integrated development environment (IDE) in order to identify and explain these and their benefits for a given scenario.	
What pupils should already know (prior learning components)	In KS3 students have completed testing for products they have created and continually performed testing on the go as part of Programming fundamentals.	Students will have learnt about many of the features within IDEs whilst working on programming fundamentals, so should be able to reflect on their experiences of the tools and facilities available.	
Transferrable knowledge (skills)	Students must be able to explain the differences between iterative and final testing and discuss the most suitable testing method for a given scenario. They must also be able to complete a testing table to identify normal, boundary, invalid and erroneous tests in order to refine an algorithm within the exam.	Students must be able to identify and discuss the differences between high- and low-level programming languages, the need for translators and the differences, benefits and drawbacks of using a compiler or an Interpreter within the exam. They must also be able to identify and discuss tools that an IDE provides and how each of the tools and facilities listed can be used to help a programmer develop a program (within programming fundamentals students will have had practical experience of using a range of these tools within an IDE).	
Key vocabulary pupil will know and learn	Testing, iterative, final, terminal, syntax error, logic error, normal, boundary, invalid, erroneous, refine.	High level, low level, machine code, IDE, run-time environment, error checking, translator/interpreter, assembly code, compiler, editor.	
Assessment activities	Starter and plenary mini assessments End of unit tests (40mins at the end of each unit) Use of online assessments (forms, Kahoot, quizizz) Content covered is used within the PPG assessments in the form of an exam style paper using past exam questions from the exam board.	Starter and plenary mini assessments End of unit tests (40mins at the end of each unit) Use of online assessments (forms, Kahoot, quizizz) Content covered is used within the PPG assessments in the form of an exam style paper using past exam questions from the exam board.	

Resources available	• Lesson Resources: I:\Maths and Computing\ICT\OCR Computer Science
	• SOW: I:\Maths and Computing\ICT\Curriculum
	• CGP Revision Guide - 178908556X
	• Online:
	  ○ BBC Bitesize
	  ▪ Producing robust programs
	  ○ Teach-ICT.com
		• Lesson Resources: I:\Maths and Computing\ICT\OCR Computer Science
		• SOW: I:\Maths and Computing\ICT\Curriculum
		• CGP Revision Guide - 178908556X
		• Online:
		  ○ BBC Bitesize
		  ▪ Translator and Facilities of language
		  ○ Teach-ICT.com	

	▪ Spotting errors ▪ Testing •	▪ Languages	
Notes **Why this topic is important…**	Testing is essential because we all make mistakes. Some of those mistakes are not important, but some can be expensive. We have to test everything that we produce because things can go wrong; humans can make mistakes at any time. Testing is important since it discovers defects/bugs before the delivery to the client, which guarantees the quality of the program, it makes the program more reliable and easy to use and thoroughly tested program ensures reliable and high-performance software operation.	An IDE can improve the productivity of software developers thanks to fast setup and standardization across tools. Without an IDE, developers spend time deciding what tools to use for various tasks, configuring the tools and learning how to use them. Understanding their features is fundamental to using them effectively.	