



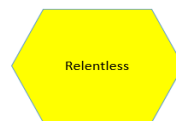
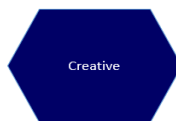
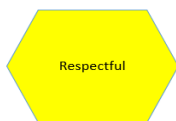
Our Vision:

To develop aspirational learners who strive for excellence academically, creatively and culturally, benefitting from a wide range of opportunities led by inspirational educators.

SHIRLEY HIGH SCHOOL PERFORMING ARTS COLLEGE

KEY STAGE 3 – WORKING AT - COMPUTER SCIENCE

Subject	Working Towards	Working At	Working Beyond
Computer Science Y7	Students achieve many but not all aspects of the Working At criteria	<p><u>Data Representation</u></p> <ul style="list-style-type: none"> • Students understand how computers store data and instructions. • Students understand that computers only know binary (two states: 0 and 1 or OFF and ON). • Students can explain the term pixel and describe how they are important when representing images. <p><u>Visual Programming</u></p> <ul style="list-style-type: none"> • Students can create a simple program using blocks and can run and test the program. 	Students consistently achieve criteria for working at and provide examples that show considerable depth and understanding.
Computer Science Y8	Students achieve many but not all aspects of the Working At criteria	<p><u>Data Representation</u></p> <ul style="list-style-type: none"> • Students understand how computers store data and instructions and how instructions are executed within a computer system. • Students understand the difference between binary and decimal numbers and can convert binary numbers to denary/decimal numbers and vice versa. <p><u>Computational Thinking</u></p> <ul style="list-style-type: none"> • Students know the four elements of Computational Thinking (decompose, abstraction, pattern recognition and algorithms) and their functions. • Students can produce an algorithm that solves a simple problem using computational thinking. <p><u>Programming</u></p> <ul style="list-style-type: none"> • Students can create a program that solves a simple problem using a visual or a textual programming language and can run and test the program. • Students can create a program that uses sequences, selection, iteration, and variables, and can look for and correct syntax errors in the program. 	Students consistently achieve criteria for working at and provide examples that show considerable depth and understanding.





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Computer Science Y9	Students achieve many but not all aspects of the Working At criteria	<p><u>Data Representation</u></p> <ul style="list-style-type: none">• Students understand how computer store data and instructions and how instructions are executed within a computer system based on the fetch-decode-execute cycle.• Students understand the difference between binary, decimal and hexadecimal numbers and can convert binary numbers to denary/decimal and hexadecimal numbers and vice versa, and I am able to add 8-bit binary numbers and can identify an overflow and explain why it happens.• Students know that characters are represented in ASCII or Unicode. <p><u>Computational Thinking</u></p> <ul style="list-style-type: none">• Students can apply the four elements of Computational Thinking (decompose, abstraction, pattern recognition and algorithms) in different scenarios.• Students can produce an algorithm that solves a complex problem using computational thinking. <p><u>Programming</u></p> <ul style="list-style-type: none">• Students can create a program that solves a complex problem using a textual programming language and can run and test the program using a test plan to detect and correct errors.• Students can create a modular program that solves a complex problem using procedures, functions or data structures e.g. lists, tables or arrays, and can run and test the program using a test plan to detect and correct	Students consistently achieve criteria for working at and provide examples that show considerable depth and understanding.
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