

GCSE Computing (J276): Personal Progress Record NEA Component

3.1 Programming techniques	RED	AMBER	GREEN
1. How to identify and use variables, operators, inputs, outputs and assignments			
2. How to understand and use the three basic programming constructs used to control the flow of a program: sequence; selection; iteration			
3. How to understand and use suitable loops including count and condition controlled loops			
4. How to use different types of data, including Boolean, string, interger and real, appropriately in solutions to problems			
5. How to understand and use basic string manipulation			
6. How to understand and use basic file handling operations:			
<i>open</i>			
<i>read</i>			
<i>write</i>			
<i>close</i>			
7. How to define and use arrays (or equivalent) as appropriate when solving problems			
8. How to understand and use functions / sub programs to create structured code.			
3.2 Analysis			
1. How to analyse and identify the requirements for a solution to the problem			
2. How to set clear objectives that show an awareness of the need for real world utility			
3. How to use abstraction and decomposition to design the solution to a problem			
4. How to identify the data requirements for their system			
5. How to identify test procedures to be used during and after development to check their system against the success criteria			
6. How to use validation to ensure a robust solution to a problem			
3.3 Design			
1. How to design suitable algorithms to represent the solution to a problem			
2. How to design suitable input and output fomats and navigation methods for their systems			

3. How to identify suitable variables and structures with appropriate validation for their system			
4. How to use appropriate data types in their system			
5. How to use functions/sub programs to produce structured reusable code			
6. How to select suitable techniques for the development of the solution			
3.4 Development			
1. How to develop a solution to the identified problem using a suitable programming language(s)			
2. How to demonstrate testing and refinement of the code during development			
3. How to explain the solution using suitable annotation and evidence of development			
4. How to use suitable techniques to solve all aspects of the problem			
5. How to take a systematic approach to problem solving			
6. How to deploy practical techniques in an efficient and logical manner			
7. How to show an understanding of relevant information by presenting evidence of development of their solutions			
8. How to show understanding of technical terminology / concepts that arise from their investigation through analysis of the data collected			
9. How to use terminology / concepts surrounding their topic and contained in the information collected correctly when it comes to producing analysis in the supporting script.			
3.5 Testing and evaluation and conclusions			
1. How to produce a full report covering all aspects of the investigation			
2. How to present the information in a clear form which is understandable by a third party and which is easily navigatable			
3. How to critically appraise the evidence that they have presented			
4. How to test their solution			
5. How to present their evaluation in a relevant, clear, organised, structures and coherent format			
6. How to use specialist terms correctly and appropriately			
7. How to present a conclusion to the report			
8. How to justify their conclusions based on the evidence provided.			