



Year 8	Unit 3 Python	8 Lessons
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Aims: This unit of work is designed to follow on from the skills students learnt in year 7 and introduce them to more advanced techniques of programming using python. They will be taken through various skills through project based work with a final outcome of being able to plan, design and create their own programme. Testing will also be carried out during and post completion of the project.

Links to KS4:
 Collection of Information (Computer programming)
 Planning (Maths)
 Problem solving

Key Skills	Literacy Links:	Numeracy Links:
<ul style="list-style-type: none"> ⊕ To develop skills in logical thinking and the processes and planning involved. ⊕ To learn how to problem solve and resolve issues that arise ⊕ To learn to use features within python to make successful programs ⊕ To develop skills in testing and evaluate a project finding errors and suggesting improvements 	<p>Key Words: Programming, Algorithms, Flow Charts, Variable, Procedure, Conditional Statement, Pseudocode, Loops, IDLE Shell</p> <p>Be able to understand how to plan and create a program using a text based language.</p>	<p>Opportunity to problem solve and logical think.</p>

Assessment	Cross-Curricular Links
<p>Students will be assessed on their understanding of programming through planning and creating a practical task using python.</p> <p>Knowledge</p> <ul style="list-style-type: none"> ⊕ Students will gain an understanding of how to begin creating a program in a text based coding language. ⊕ Students will be assessed on their understanding of the keywords throughout the unit <p>Research</p> <ul style="list-style-type: none"> ⊕ Students will consider how programming is used in the real world <p>Planning</p> <ul style="list-style-type: none"> ⊕ Students will be required to create a flowchart and pseudocode for their program <p>Skills</p> <ul style="list-style-type: none"> ⊕ Students should be able to demonstrate a range of skills in Python <p>Evaluation</p> <ul style="list-style-type: none"> ⊕ Students should be able to assess the success of the program they have produced and respond to any issues they may encounter making the appropriate corrections 	<ul style="list-style-type: none"> ⊕ Maths – Problem solving and logical thinking ⊕ English – speaking and listening. <hr/> <p>SMSC opportunities and British values</p> <ul style="list-style-type: none"> ⊕ enable students to develop their self-knowledge, self-esteem and self-confidence ⊕ Online security features to be aware of when creating programs ⊕ The laws of Copyright and hacking

Opportunities for further learning

Homework will be given out twice during the unit to widen students understanding of programming and to consolidate knowledge gained.

- Programming homework will be to research how programming is used in the real world, considering apps and websites the students use.
- Create a programming hint sheet using the key words and skills they have learnt throughout the python programming unit.