

REMOTE LEARNING MODULE

Subject: CS

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Updated: N/A



Subject:	CS	Teacher (if applicable):	Lead: GMA
Year:	11	Ability/Class (if applicable):	All
Module title:	Problem Solving in Python		
Duration:	2 weeks <input type="checkbox"/>	4 weeks <input type="checkbox"/>	6 weeks <input checked="" type="checkbox"/>
	8 weeks <input type="checkbox"/>	Other:	

Intent

Intent Statement - at Landau Forte Amington, we believe learning powerful knowledge helps students achieve and creates a fairer society. How are you trying to accomplish this, with this module?

To support the learning of pupils a remote environment whilst keeping in line with the subject aims and Academy values.

Aims - what do you want pupils to be able to know and do by the time they finish this module?

Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
 Can analyse problems in computational terms, and apply systematic problem solving.

Academy values – at Landau Forte Amington, we want students to be ambitious, brave and kind. How are these values promoted in this module?

Brave: Empower pupils to become digitally literate in order to be able to use, and express themselves and develop their ideas through, information and communication technology. Encourages pupils independence by providing the opportunity to formulate solutions to the problems at hand, create a culture of error by encouraging pupils to create creative solutions to a complex problem and debug problems and modify for efficiency.

Ambitious: Delivery of challenging concepts and ideas. Utilisation of tiered BEBRAS DNA, stretch tasks provided to challenge HA. Resilience promoted through independent learning.

Kind to become digitally literate in order to become active participants in a digital society and workplace. . Alternative provision prepared in the eventuality of a local/national lockdown. Baseline testing and progressive knowledge auditing throughout to better plan lessons.

Content – what is being covered, ensuring breadth & depth?	National Curriculum/Exam Specification - how does the content link to the NC or Exam Spec?
<p>Programming (NEA)</p> <ul style="list-style-type: none"> • Designing the solution • Creating the solution • Testing the solution • Potential enhancements and refinements <p>Pupils will be offered the 20 hours of independent programming outlined in the specification. This will be logged by the member of staff to ensure all pupils receive the required amount of time. LKN to check that independent programming can be completed via online learning.</p>	<p>Programming skill project (non assessed component)</p> <p>Centre designed programming skills project that assess students ability to:</p> <ul style="list-style-type: none"> • Design • Write • Test • Refine
Powerful Knowledge - what powerful knowledge is included in this module? Consider what knowledge is it important for our students to know, so that when they leave school they can engage in and lead discussions, with people from the most advantaged backgrounds?	
<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>	
Implementation	
KEY CONCEPTS	
Key Concepts – what are the key concepts being taught?	Progression – how will studying these key concepts support progression to the next academic year, or key stage?
<p>Inputs: Text based programming.</p> <p>Variables and Operators: Types, uses and selection.</p> <p>Iteration: Loops and repetition.</p>	<p>These key concepts follow the traditional curriculum plan in the initial implementation document.</p> <p>Taken from the existing traditional curriculum and modified to suit the needs of an extended leave of absence.</p>

<p>Data Structure: Lists and arrays.</p> <p>Subroutines: Definition and creation. Of subroutines.</p>	<p>Plan to run controlled assessment upon return, if pupils are lacking technology at home, we will support these with the IT technicians, if this is still an issue, the SOW will have to revert to programming unit.</p>
LEARNING	
<p>Synchronous – what are the synchronous aspects of the module, including new material taught?</p>	<p>Asynchronous – what are the asynchronous aspects of the module, including deliberate practice?</p>
<p>In a group / live lesson there will be opportunity for discussion around the modelling of the tasks by the teacher and the key concepts of the topic I.E:</p> <ul style="list-style-type: none"> • Inputs • Variables and Operators • Iteration • Data Structure • Subroutines 	<p>Independently there will be opportunity each lesson to complete several tasks set by the teacher via MS Teams, e.g.</p> <ul style="list-style-type: none"> • Inputs: Text based programming. • Variables and Operators: Types, uses and selection. • Iteration: Loops and repetition. • Data Structure: Lists and arrays. • Subroutines: Definition and creation. Of subroutines.
ENGAGEMENT	
<p>Accessibility – how are you going to ensure students without ICT can engage with this module?</p>	<p>Disengagement – how are you going to ensure students who are not engaging with this module are identified and supported?</p>
<p>Engage with pupils over Print as a booklet and post home.</p>	<p>Contact pupil via Edulink. Contact home via Edulink. Contact home via phonecall. Contact home via CL. Contact home via SLT.</p>

FEEDBACK	
End of Module – what is the end of module assessment, which will be used to evaluate the knowledge and skills gained?	Review Points – what takes place at the review points, to monitor the progress of learners and provide feedback, or support?
A multiple choice assessment will be delivered via an online form to evaluate knowledge. Skills will be assessed through exit ticket / improvement templates.	2 Weeks Pupils answer exam style questions then upload to teams, this is then marked via a rubric and pupils given an opportunity to improve their work
	4 Weeks Pupils answer exam style questions then upload to teams, this is then marked via a rubric and pupils given an opportunity to improve their work
	6 Weeks End of unit test given on MS Forms
	8 Weeks
	Other

Delivery (please note - a two week remote learning module may only take one lesson cycle)										
1	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)	3) Learning Intentions (what, why & how)						
		Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>	BEBRAS Activity	What	Programming basics				
	Blended (live in classroom and remote as study)	<input type="checkbox"/>	Why		Understand the basic commands of programming					
			How		<table border="1"> <tr> <td style="background-color: yellow;">E</td> <td>Understand and demonstrate how to use variables</td> </tr> <tr> <td style="background-color: lightgreen;">4 - 5</td> <td>Understand and demonstrate how to manipulate data.</td> </tr> <tr> <td style="background-color: lightblue;">5 +</td> <td>Demonstrate how to use pseudocode.</td> </tr> </table>	E	Understand and demonstrate how to use variables	4 - 5	Understand and demonstrate how to manipulate data.	5 +
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4 - 5	Understand and demonstrate how to manipulate data.									
5 +	Demonstrate how to use pseudocode.									

	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)		Synchronous (live)	
		Data types, Variables, Constants, input/output, String handling operations, Arithmetic Operations, Sequence Live lesson supported by PPT and Worksheet.		The starter is used to gauge prior knowledge of problem solving Use of various questioning techniques throughout the lesson In live lesson using hand up or chat function		The teacher will, during the discussions, challenge any misconceptions and guide the discussions to keep them on topic Modelling in presentation mode of teams			
		7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)		Asynchronous (remote)	
		The task is a group discussion around the key terms, lead and guided by the teacher via MS Teams.		The teacher will ask for volunteers to provide their answers with the group, via the MS teams		N.A			
2	Number of lessons in cycle:	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)			
		Remote (live on MS Teams and remote as study)		<input checked="" type="checkbox"/>			What		
		Blended (live in classroom and remote as study)		<input type="checkbox"/>			Why		
	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)		6) Prepare for Practice (model/ scaffold)			Synchronous (live)	
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)		9) Review (daily/monthly)				
							Asynchronous (remote)		
3	Number of lessons in cycle:	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)			
		Remote (live on MS Teams and remote as study)		<input checked="" type="checkbox"/>			What		

	Blended (live in classroom and remote as study)	<input type="checkbox"/>	Why			
				How		
	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Synchronous (live)
	7) Deliberate Practice (guided/ independent)		8) Feedback (light/deep)	9) Review (daily/monthly)	Asynchronous (remote)	
4	1) Lesson Type (remote or blended)		2) DNA (Do Now Activity/Reading)		3) Learning Intentions (what, why & how)	
	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What		
		Blended (live in classroom and remote as study)			<input type="checkbox"/>	Why
					How	
	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)	Synchronous (live)
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	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What		
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why		
				How		
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)		Synchronous (live)
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	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What		
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why		
				How		
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	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What			
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why			
				How			
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)		Synchronous (live)	
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	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What			
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why			
				How			
	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)		Synchronous (live)
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	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What			
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why			
				How			
Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)		Synchronous (live)	
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	Remote (live on MS Teams and remote as study)	<input checked="" type="checkbox"/>		What			
	Blended (live in classroom and remote as study)	<input type="checkbox"/>		Why			
				How			
	Number of lessons in cycle:	4) New Material (previous learning/ new material)		5) Check for Understanding (questioning/checking)	6) Prepare for Practice (model/ scaffold)		Synchronous (live)
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