




The Grange School KS3 Progress Step Descriptors – IT and Computer Science

IT and Computing 	Descriptors
Progress Step T5	<ul style="list-style-type: none"> ● Will understand what a password is but will not be able to give any suggestions on how to make a more secure password even with prompts. ● Will have a basic understanding of some aspects of Cybersecurity, will recognise some key words and can use some of them correctly, but not all of the time. ● Will be able to give a couple of examples of how to keep yourself safe online with significant prompts. ● Can spot basic health and safety but struggles to explain how to correct them without prompting. ● Extended written answers will need a lot of planning with support and can only write basic sentences which are not linked together at all. ● Not able to justify any points raised. Can construct a very simple linear algorithm with help. ● Can read a simple sequence of instructions with help. Can simply describe the goal of a problem with support. ● Can start to design or plan a simple product and can write about a few basic design points with help. ● Will struggle understanding the concepts of Binary but may understand simple denary to binary conversion with support. ● Will not understand any of the binary addition concepts.
Progress Step T6	<ul style="list-style-type: none"> ● Will understand what a password is and can give some basic suggestions on how to make a more secure password without any prompts. ● Will have a basic understanding of some aspects of Cybersecurity, will recognise some key words and can use some of them correctly. ● Will be able to explain how to keep yourself safe online with some prompts. ● Can spot basic health and safety but struggles to explain how to correct them without some prompting. ● Extended written answers will need a lot of planning with support and can only write basic sentences which are not linked together at all. ● Not able to justify any points raised without any prompts. ● Be able to read a sequence of simple instructions and predict what the result will be with some guidance. ● Can construct a simple linear algorithm. Can briefly describe the goal of a problem with some support. ● Can start to design or plan a simple product and in writing give a few design descriptions but these are short. ● May struggle understanding the concepts of Binary but will understand simple denary to binary conversion with support for basic denary numbers up to 10. ● Will struggle with binary addition and its concepts.
Progress Step 1	<ul style="list-style-type: none"> ● Will have an understanding of most aspects of Cybersecurity, will recognise key words and can use of them correctly. ● Will be able to explain how to keep yourself safe online. ● Can spot basic health and safety hazards and can explain how to correct them without prompting. ● Extended written answers will be planned without support and can write sentences which are starting to justify some points raised without any prompts. ● Can read a sequence of simple instructions and predict what the result will be. ● Can construct a simple linear algorithm and spot some of the simpler errors in it with some guidance at the start – will then be able to work on these independently. ● Can describe the goal of a problem. ● Can design or plan a product, following the task instructions, and in writing will justify some of their design choices, although these will be briefly covered. ● Will understanding the concepts of Binary to denary conversion and will understand simple denary to binary conversion. ● Will be able to understand some of binary addition rules and may be able to add 4 bit Binary numbers with but may need some support.
Progress Step 2	<ul style="list-style-type: none"> ● Will have a secure understanding of all important aspects of Cybersecurity, will recognise all key words and can use of them correctly. ● Will be able to explain how to keep yourself safe online with reasons. ● Extended written answers will justify points raised without any prompts. ● Will be able to read a sequence of instructions and predict what the result will be. ● Starts to construct a more complex linear algorithm. ● Can spot some of the simpler errors in a more complex algorithm. ● Can describe the goal of a problem in detail.



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	<ul style="list-style-type: none">● Can design or plan a more sophisticated product and in writing will justify their design choices in detail, although some of them may not be covered.● Will understand the concepts of Binary to Denary conversion and will confidently understand denary to binary conversion up to 8 bits.● Will be able to use binary addition accurately for 4 bit numbers and may be able to add some 8 bit numbers.● Will be able to summarise key aspects of each topic.● Will be able to spot syntax errors in basic Python programming.
Progress Step 3	<ul style="list-style-type: none">● Will have a very secure understanding of all aspects of Cybersecurity, will recognise all key words and can use of them all correctly.● Will be able to explain how to keep yourself safe in a wide range of areas with correct reasons.● Extended written answers will justify all points raised without any prompts.● Written answers will follow a logical train of thought.● Will be able to create a sequence of complex instructions and improve it if necessary.● Be able to read a complex sequence of instructions and accurately predict what the result will be.● Can spot errors in an algorithm.● Be able to describe the goals of a given problem in more detail.● Can design or plan a more sophisticated product and in writing justify their design choices in detail.● Products will be appropriately planned for the target audience.● Will confidently understand Binary to Denary conversion and will accurately understand Binary addition using 8 bit numbers and may grasp understanding of overflow.● Will be able to recognise and correct basic Logic and Syntax errors in Python.
Progress Step 4	<ul style="list-style-type: none">● Will have a very thorough understanding of all aspects of Cybersecurity, will recognise all key words and can use of them consistently and correctly.● Will be able to explain how to keep yourself safe in all areas with well-justified reasons.● Extended written answers will justify points raised and will follow a logical train of thought and will use a wide range of complex and correct language.● Be able to create a complex sequence of instructions and improve it if necessary.● Be able to read a more complex sequence of instructions and predict what the result will be each time.● Be able to create a more complex sequence of instructions and involving several loops and improve it if necessary.● Be able to describe the goals of a given problem in significant detail.● Can design or plan a more sophisticated product and in writing justify all their design choices in detail paying special attention to the target audience each time.● Will confidently understand Binary to Denary conversion and will accurately understand Binary addition using 8 bit numbers and understand concept of overflow.● Will be able to implement basic programming constructs in Python – Sequence, Selection and Iteration.