KS3-KS4	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9
Computer Science programming Algorithms  Programming  Computational thinking	I need help to break problems down I have made an algorithm with an input and output I have written a program with an input I can state what a variable is I can add, subtract, divide and multiply simple numbers	I can write a set of instructions with some processing and a decision (selection) I have made an algorithm with a decision I can write a program (using a block/object orientated programming language) with a decision (selection) I can use a variable I can add, subtract, divide and multiply 2 digit numbers	I have practised writing sequences and don't need much help to make my own I can work out the outcome of an algorithm using different data I have made an algorithm with a loop (iteration) I can write a program with a loop (iteration) I can explain where I need variables I can give an example of a data type I can solve a simple Boolean logic problem I know what the system life cycle is I can explain why I need to test my program	I can analyse and decompose a simple problem, create an algorithm with some help The algorithm is nearly perfect, includes variables, decisions and a loop I can use the algorithm to create a program in a text based language I can explain what variables/ data types I would need I can write a program using casting/ file handling I can explain what functions/procedures are I can solve Boolean logic problems (2 levels) I explain MOD/DIV I can create and store data in a 1d array I always test my program	I can analyse and decompose a more complex problem, create an algorithm with some help The algorithm will be mostly accurate I am confident in using at least one text based language I can use a procedure in my code I can research and find new ways to program problems (functions) I can create a 2 dimensional array I can solve Boolean logic problems of more than 2 levels I solve a MOD/DIV problem I can use records to store data I use a range of tests for my program systematically	I can analyse and decompose a complex problem, create an algorithm without any help The algorithm will be accurate I can use more than one text based programming language I can use a range of casting and file handling skills I always write my programs using procedure/ suitable functions I can write nested statements I can explain what exponential means I can access/ modify 1d and 2d arrays I can use a query language/search for data Tests are through	I can analyse and decompose a more complex problem and create an algorithm without any help. I can write an algorithm using a flow chart and pseudo code The algorithm will be accurate I can use a range of programming techniques in two text based languages I can write efficient code using a range of techniques I can apply MOD/DIV and exponential to solve problems I systematically resolve errors and build robust programs	I can analyse and decompose a range of complex problems and create an algorithm without any help I can use a range of programming techniques in two text based languages confidently I can write efficient code using a wide range of techniques, data structures and recursion I systematically resolve errors and build robust programs

KS3 – Year 7	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
Computer Science programming Algorithms  Programming  Computational thinking	I need help to break problems down I have made an algorithm with an input and output I have written a program with an input I can state what a variable is I can add, subtract, divide and multiply simple numbers	I can write a set of instructions with some processing and a decision (selection) I have made an algorithm with a decision I can write a program (using a block/object orientated programming language) with a decision (selection) I can use a variable I can add, subtract, divide and multiply 2 digit numbers	I have practised writing sequences and don't need much help to make my own I can work out the outcome of an algorithm using different data I have made an algorithm with a loop (iteration) I can write a program with a loop (iteration) I can explain where I need variables I can give an example of a data type I can solve a simple Boolean logic problem I know what the system life cycle is I can explain why I need to test my program	I can analyse and decompose a simple problem, create an algorithm with some help The algorithm is nearly perfect, includes variables, decisions and a loop I can use the algorithm to create a program in a text based language I can explain what variables/ data types I would need I can write a program using casting/ file handling I can explain what functions/procedures are I can solve Boolean logic problems (2 levels) I explain MOD/DIV I can create and store data in a 1d array I always test my program

KS3 – Year 8	Grade 3	Grade 4	Grade 5	Grade 6
Computer Science programming Algorithms  Programming  Computational thinking	I can write a set of instructions with some processing and a decision (selection) I have made an algorithm with a decision I can write a program (using a block/object orientated programming language) with a decision (selection) I can use a variable I can add, subtract, divide and multiply 2 digit numbers	I have practised writing sequences and don't need much help to make my own I can work out the outcome of an algorithm using different data I have made an algorithm with a loop (iteration) I can write a program with a loop (iteration) I can explain where I need variables I can give an example of a data type I can solve a simple Boolean logic problem I know what the system life cycle is I can explain why I need to test my program	I can analyse and decompose a simple problem, create an algorithm with some help The algorithm is nearly perfect, includes variables, decisions and a loop I can use the algorithm to create a program in a text based language I can explain what variables/ data types I would need I can write a program using casting/ file handling I can explain what functions/procedures are I can solve Boolean logic problems (2 levels) I explain MOD/DIV I can create and store data in a 1d array I always test my program	I can analyse and decompose a more complex problem, create an algorithm with some help The algorithm will be mostly accurate I am confident in using at least one text based language I can use a procedure in my code I can research and find new ways to program problems (functions) I can create a 2 dimensional array I can solve Boolean logic problems of more than 2 levels I solve a MOD/DIV problem I can use records to store data I use a range of tests for my program systematically

KS4	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9
Computer Science programming Algorithms  Programming  Computational thinking	I can write a set of instructions with some processing and a decision (selection) I have made an algorithm with a decision I can write a program (using a block/object orientated programming language) with a decision (selection) I can use a variable I can add, subtract, divide and multiply 2 digit numbers	I have practised writing sequences and don't need much help to make my own I can work out the outcome of an algorithm using different data I have made an algorithm with a loop (iteration) I can write a program with a loop (iteration) I can explain where I need variables I can give an example of a data type I can solve a simple Boolean logic problem I know what the system life cycle is I can explain why I need to test my program	I can analyse and decompose a simple problem, create an algorithm with some help The algorithm is nearly perfect, includes variables, decisions and a loop I can use the algorithm to create a program in a text based language I can explain what variables/ data types I would need I can write a program using casting/ file handling I can explain what functions/procedures are I can solve Boolean logic problems (2 levels) I explain MOD/DIV I can create and store data in a 1d array I always test my program	I can analyse and decompose a more complex problem, create an algorithm with some help The algorithm will be mostly accurate I am confident in using at least one text based language I can use a procedure in my code I can research and find new ways to program problems (functions) I can create a 2 dimensional array I can solve Boolean logic problems of more than 2 levels I solve a MOD/DIV problem I can use records to store data I use a range of tests for my program systematically	I can analyse and decompose a complex problem, create an algorithm without any help The algorithm will be accurate I can use more than one text based programming language I can use a range of casting and file handling skills I always write my programs using procedure/ suitable functions I can write nested statements I can explain what exponential means I can access/ modify 1d and 2d arrays I can use a query language/search for data Tests are through	I can analyse and decompose a more complex problem and create an algorithm without any help. I can write an algorithm using a flow chart and pseudo code The algorithm will be accurate I can use a range of programming techniques in two text based languages I can write efficient code using a range of techniques I can apply MOD/DIV and exponential to solve problems I systematically resolve errors and build robust programs	I can analyse and decompose a range of complex problems and create an algorithm without any help I can use a range of programming techniques in two text based languages confidently I can write efficient code using a wide range of techniques, data structures and recursion I systematically resolve errors and build robust programs