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| Learner stage | What I should know, understand, be able to explain or do |
| Exceptional Mastery (E) | I know the function of the main internal parts of basic computer architecture. I know the concepts behind the fetch execute cycle.I know that there is a range of operating systems and application software for the same hardware.I can explain the terms “internet”, “world wide web” and “cloud computing”.I can break down a problem and find alternative solutions for small sections of the overall problem.I can transfer ideas and solutions from one problem to anotherI can create algorithms that give good solutionsI can create a flow chart which includes selection allowing for different routes to be takenI can write pseudocode that includes nested statements and iterationI can write multiple possible solutions to the same problemI can find solutions to problems within algorithms |
| Advancing mastery (A) | I know why and when computers are used.I know the main functions of the operating system.I know the difference between physical, wireless and mobile networks.I can break down a problem into manageable sectionsI can write instructions which reduce repetition unnecessarilyI can write instructions that, if followed in a given order, achieve a desired effectI can draw flow charts using the correct symbols for Start/Stop, Input/Output, Process and DecisionsI can write pseudocode which includes IF…THEN…ELSE and understand why some lines are indentedI can write pseudocode which includes FOR, REPEAT and WHILE correctlyI can assess whether a solution meets the specification |
| Secure mastery (S) | I know that computers collect data from various input devices, including sensors and application software. I know the difference between hardware and application software, and their roles within a computer system.I understand that breaking down a problem can become simpler to solve (Decomposition)I can spot where sections of a problem are repeated (pattern recognition)I can abstract data and understand why it is important to ignore irrelevant informationI can describe the logic of a simple flow chartI can write simple pseudocode including INPUT and OUTPUTI can step through algorithms step by step to work out what they do |
| Developing mastery (D) | I know that a range of digital devices can be considered a computer. I know and can use a range of input and output devices.I know how programs specify the function of a general purpose computer.I can explain what computational thinking is.I can explain what each symbol is on a flow chart.I can explain what an algorithm is. |
| Emerging mastery (F) | I know that computers have no intelligence and that computers can do nothing unless a program is run.I know that all software executed on digital devices is programmed.I know what computational thinking is.I know what a flow chart is.I know what an algorithm is. |