

THE LEARNING JOURNEY FOR COMPUTING

Unit / Block of work	Key Episodes / Questions	Additional details	Colour code	Length of time.	Learner Attribute(s)
Abstract Data Structures	Can you trace a recursive algorithm to express a solution to a problem? Can you identify recursive thinking in a specified problem solution? Can you construct algorithms using two-dimensional arrays? Can you construct algorithms using the access methods of a stack? Can you construct algorithms using the access methods of a queue? Can you sketch linked lists (single, double and circular)? Can you describe how trees operate logically (both binary and non-binary)? Can you compare the use of static and dynamic data structures?	Thinking recursively Abstract data structures Linked lists Trees Applications		23 hours	Thinker
Resource management	Can you identify the resources that need to be managed within a computer system? Can you describe the possible problems resulting from the limitations in the resources in a computer system? Can you evaluate the resources available in a variety of computer systems? Can you outline OS resource management techniques: scheduling, policies, multitasking, virtual memory, paging, interrupt, polling?	System resources Role of the operating system		8 hours	Knowledgable Open Minded
Control	Can you discuss a range of control systems? Can you outline the uses of microprocessors and sensor input in control systems? Can you explain the relationship between a sensor, the processor, and an output transducer? Can you compare a centrally controlled system with a distributed system?	Centralized control systems Distributed systems		14 hours	Knowledgable