Coleman Primary School

Key Knowledge Organiser: ***Year 6- Spring 1***

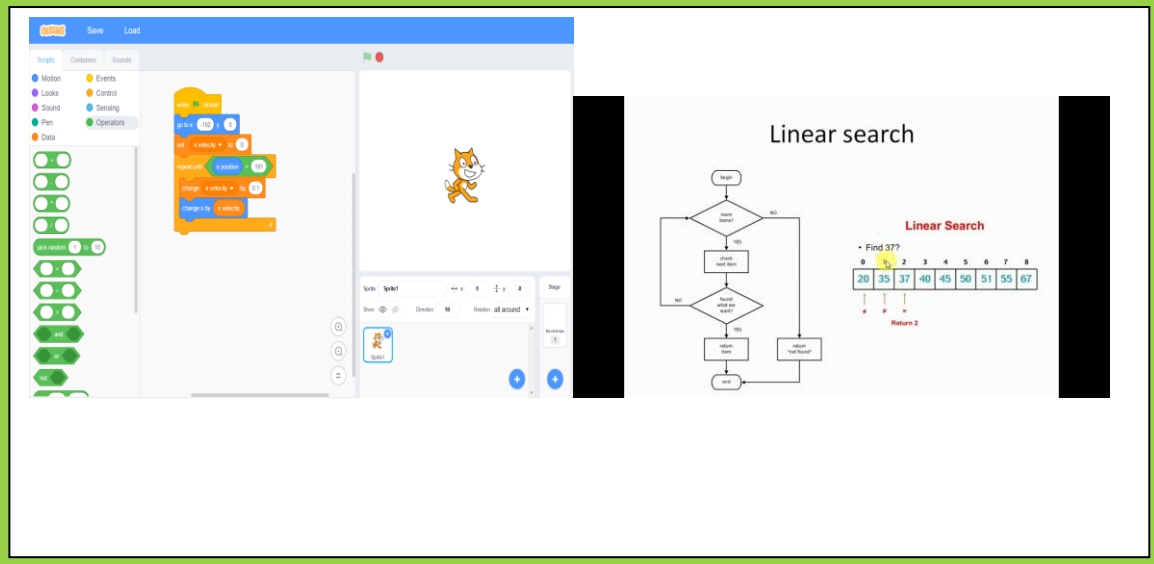
ICT: We are computational thinkers.

In this unit, pupils participate in some hands-on unplugged activities which hep them to develop an understanding of some important algorithms.

Key Vocabulary

abstraction	A way of making things easier by deciding what information can be ignored or hidden
algorithm	A sequence of precise instructions or steps needed to achieve an objective
Binary search	Search algorithm that identifies which half of the list of possible elements the target belongs to
decomposition	Breaking a problem down into smaller parts
graph	Data that shows the connections between elements
Greedy algorithm	Algorithms that work on a 'biggest first' basis
Linear search	Search algorithm that looks at each element in turn to see if it meets the criteria
search	To identify an element of a list that meets specified criteria
Search algorithm	The ways results for a search are selected and ranked
Selection sort	Sort algorithm which looks for the largest to smallest in order
sort	To put a list into order

Images:



Knowledge

- To know that algorithms are a set of instructions or steps.
- To know that key algorithms can be expressed as programs.
- To know that some algorithms are more efficient than others.
- To know that algorithms can be used for searching and sorting lists.

Skills learned prior to this unit:

- design, write and debug programs that accomplish specific goals
- use sequence and repetition in programs; work with inputs and outputs
- use reasoning to explain how some simple algorithms work and to detect and correct errors in programs

Skills learned this unit:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems
- use sequence, selection and repetition in programs, work with variables and various forms of input and output
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including analysing and evaluating data and information.