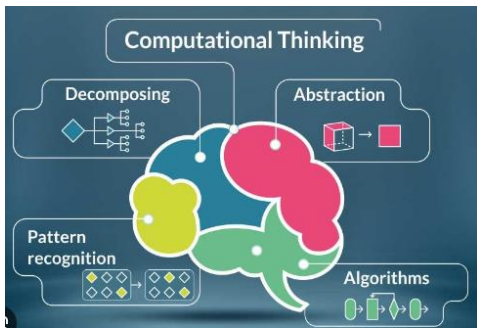


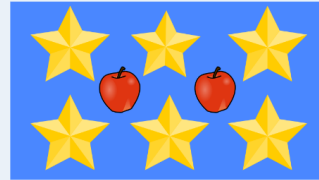
Knowledge organiser – Y4 Programming 2



My Key Learning



Computational thinking skills can help you to solve a problem.



Computational thinking

There are four skills or aspects to computational thinking, which we will look at throughout this unit:

- ✓ Decomposition.
- ✓ Pattern recognition.
- ✓ Abstraction.
- ✓ Algorithm design.

What do I already know?

I understand how to use loops to improve programming.

I know how decomposition is used in programming

Pattern recognition is identifying patterns to help you work out how the code works.

Decomposition

Break up the problem into smaller pieces.

Pattern recognition

Spot patterns to make sense of the problem.

Abstraction

Pick out only the important bits of information.

Algorithm design

Create a formula or set of instructions to solve the problem.

Decomposition is breaking things down into smaller parts.

Full picture:	Decomposition:		
	Shape:	How many?	Body part
		One	Eye
		One	Head
		One	Beak
		One	Wing
		One	Body
		Two	Legs
	Two	Feet	

Algorithms can be used for a number of purposes e.g. animation, games design.

Key Vocabulary	Definition
Computational thinking	A method of tackling a complex problem, to devise a solution which both humans and computers can understand.
Abstraction	Identify the important details.
Pattern recognition	Identifying similarities and recurrences in data.
Input	Putting data into a computer.
output	Something produced.
Sequence	A set order or pattern for something to follow.
Variable	This could be a number or text that changes each time the program is run.
Logical reasoning	To think through problems and apply strategies for solving them.

