

# Computing Concepts

Underpinning the intent for Computing at Lanercost C of E Primary School are the key concepts that have been refined into Substantive and Disciplinary concepts. We have three substantive concepts and six disciplinary concepts.

## The Three Substantive Concepts

To our children, these concepts are known as computing strands, this helps children to define each area of their learning.

<i>Online Safety</i>	Safety and understanding – the understanding of rules and principles for keeping safe, recognising risks, critically considering online friendships, relationships, communication, etc. Understand how data and information can be shared, used, and manipulated online
<i>Digital Creativity</i>	The technical skills and knowledge – the design use and understanding of hardware, software, electronic systems, using data. The ability to use information and communication technologies to find, create, evaluate, and communicate information.
<i>Computer Science</i>	The technical design - design of new software, the solution to computing problems, and the development of different ways to use technology.

## The Six Disciplinary Concepts

These concepts have been created by using Barefoot Computing's Concepts and Approaches.

<i>Patterns</i>	spotting and using similarities – by noticing patterns we can make predictions about what will happen next, create rules and solve other problems.
<i>Evaluation</i>	making judgements – we use evaluation when we make judgements based on different factors, such as what we need something to do or what outcome we were trying to achieve.
<i>Logic &amp; Reasoning</i>	predicting and analysing – logic helps us to establish and check facts and make predictions
<i>Algorithms</i>	making steps and rules – an algorithm is an exact sequence of instructions, or set of rules for performing a task.

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<i>Abstraction</i>	removing unnecessary detail – abstraction is identifying what is important and leaving out the information we do not need.
<i>Decomposition</i>	breaking down into parts – decomposition is breaking a problem or system down into its different parts. When we're faced with a complex task we often break it down into smaller more manageable chunks.

## Concepts in the Curriculum

Due to the importance of Computing, KS1 & KS2 will aim to cover all 6 disciplinary concepts each term. There will be one or two focus concepts and a focus substantive concept for each half term. The EYFS concepts have been mapped for each term. The substantive concept of online safety, runs throughout all sessions, and the entirety of the curriculum.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 1 (EYFS)	decomposition, algorithms, logic & reasoning, pattern, abstraction, evaluation		decomposition, algorithms, logic & reasoning, pattern, abstraction, evaluation		decomposition, algorithms, logic & reasoning, pattern, abstraction, evaluation	
Class 2 (KS1)	pattern digital creativity	evaluation digital creativity	logic & reasoning, algorithms computer science	abstraction digital creativity	logic & reasoning digital creativity	decomposition computer science
Class 3 (LKS2)	patterns digital creativity	evaluation digital creativity	logic & reasoning, algorithms computer science	abstraction digital creativity	logic & reasoning digital creativity	decomposition computer science
Class 4 (UKS2)	patterns digital creativity	evaluation digital creativity	logic & reasoning, algorithms computer science	abstraction digital creativity	logic & reasoning digital creativity	decomposition computer science