

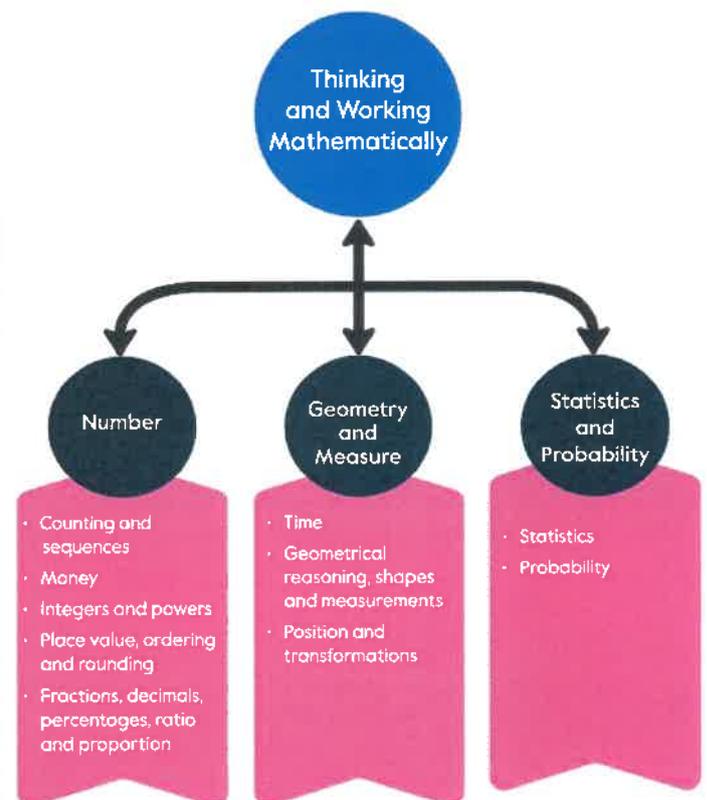
# Mathematics

Cambridge Primary Mathematics (0096) encourages lifelong enthusiasm for analytical and rational thinking. Learners develop a holistic understanding of the subject, focusing on principles, patterns, systems, functions and relationships. They will become mathematically competent and fluent in computation, which they can apply to everyday situations.

## What will students learn?

Learners will develop mathematical skills in Number, Geometry and Measure, and Statistics and Probability. They will recognise the interconnections of mathematical concepts as they:

- engage in creative mathematical thinking to generate elegant solutions
- improve numerical fluency and knowledge of key mathematical concepts to make sense of numbers, patterns, shapes, measurements and data
- develop mathematical skills, strategies and a way of thinking that will help them to describe the world around them and play an active role in modern society
- communicate solutions and ideas logically in spoken and written language using appropriate mathematical symbols, diagrams and representations
- understand that technology provides a powerful way of communicating mathematics, one which is particularly important in an increasingly technological and digital world.



## The curriculum and progression

This framework provides a balanced coverage of mathematics skills and knowledge. Although divided into strands, they are interrelated and should be taught in conjunction with each other. In particular, the Thinking and Working Mathematically characteristics should be integrated into the teaching of the other strands.



## Learning objective examples

Strand	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
<b>Number</b>	Understand and visualise that halves can be combined to make wholes.	Understand and visualise that wholes, halves and quarters can be combined to create new fractions.	Estimate, add and subtract fractions with the same denominator (within one whole).	Estimate, add and subtract fractions with the same denominator.	Estimate, add and subtract fractions with the same denominator and denominators that are multiples of each other.	Estimate, add and subtract fractions with different denominators.
<b>Geometry and Measure</b>	Differentiate between 2D and 3D shapes.	Identify 2D and 3D shapes in familiar objects.	Recognise pictures, drawings and diagrams of 3D shapes.	Match nets to their corresponding 3D shapes.	Identify and sketch different nets for a cube.	Identify and sketch different nets for cubes, cuboids, prisms and pyramids.
<b>Statistics and Probability</b>	Describe data, using familiar language including reference to more, less, most or least to answer non-statistical questions and discuss conclusions.	Describe data, identifying similarities and variations to answer non-statistical questions and discuss conclusions.	Interpret data, identifying similarities and variations, within data sets, to answer non-statistical and statistical questions and discuss conclusions.	Interpret data, identifying similarities and variations, within and between data sets, to answer statistical questions. Discuss conclusions, considering the sources of variation.	Interpret data, identifying patterns, within and between data sets, to answer statistical questions. Discuss conclusions, considering the sources of variation.	Interpret data, identifying patterns, within and between data sets, to answer statistical questions. Discuss conclusions, considering the sources of variation, and check predictions.

## How is this subject taught?

We advocate an active learning approach where teaching and learning are student centred so that they align with the experiences and needs of individuals.

Learners are encouraged to work both individually and collaboratively to find solutions to mathematical problems.

The three-step teaching approach – concrete, representational, abstract (CRA) – is developed in all primary stages of learning where learners:

- use objects to support them in understanding a new concept
- transform the concrete model to a pictorial representation of the same concept
- are shown how the pictorial representations relate to conventional mathematics symbols and notations.