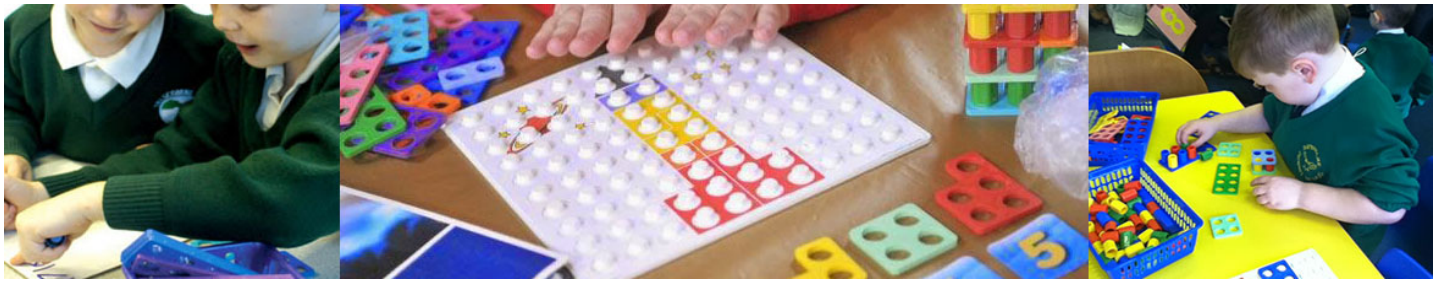

NM - Numicon

Transforming the teaching of mathematics.

Format: Online

Course duration: 20 hours

Download fact-sheet

Register your interest

To learning centre

Enrol €95.00

About the Course

Includes FREE shapes pack by post. All participants will receive a set of the 1-10 Numicon plastic shapes.

Do you need to know more about the Oxford University Press Numicon Mathematics Programme, its pedagogy, practices and suite of superbly structured materials and apparatus, with a view to transforming the way your children come to experience, to know and to understand key mathematical ideas and concepts?

If yes, then our Numicon online course is perfect for you!

Schools are realising now that Numicon should be part of their strategy for better achieving a broad range of the expected learning outcomes of the primary school mathematics curriculum.

Numicon as you will discover, focuses on 'doing' maths, working in pairs or groups of 3/4, working with structured materials, chatting mathematically, reasoning, problem solving and generalising. In essence, it is a highly evolved, finely structured, superbly sequenced and evidence based programme. It tackles the recurring problem of children simply listening and working quietly on individual tasks without apparatus. Mathematics needs to be active and social. Numicon is both. The Numicon approach is multi-sensory, uses objects and has a focus on action, imagery and conversation, in other words a focus on children physically doing maths.

The programme of 1,000+ activities, using Numicon shapes and materials, help children understand number relationships, spot patterns and make generalisations.

As the course reveals and details, there are 3 key aspects that permeate Number, Pattern, Calculating, Geometry, Measurements and Statistics.

The first is ACTION: giving the children the ability to ‘handle’ numbers using the Numicon shapes. This ‘action maths’ approach underpins good maths teaching, investigations leading to observations and better understanding.

The second is CONVERSATION: Numicon activities encourage children to use appropriate language and to communicate mathematically. The Numicon materials become ‘communication mediators’ i.e. the children chat and discuss as they use and apply the materials, overlaying the materials with mathematical language. The child’s thinking is revealed in this conversation, and you the teacher can listen in on the side and make your own inferences / deductions about the child and the mathematics at hand.

The third is IMAGERY: structured imagery becomes embedded in a child’s memory, making calculation without counting possible. The Numicon shapes and rods help teachers and children to communicate their ideas. Children are encouraged to work together on activities which emphasise applying understanding to solve problems. Numicon enables children to really ‘see’ how numbers and the number system work. The Numicon teaching approach helps children communicate their mathematical thinking to teachers. This in turn helps teachers to ‘see’ pupils' understanding. The concept of 'doing' maths is the key to the Numicon programme.

If these ideas are chiming with how you think mathematics should be taught, then enrol with us today and discover why schools and teachers are turning to and embracing Numicon as a key approach to their teaching of mathematics.

We look forward to your company, your contributions and your questions.

Please note: This course is run under agreement with Oxford University Press - the publisher

of the Numicon programme. The course contains official and authorised use of Numicon imagery, pedagogy and resources.

The online format of this course enables you to study at a time and place that best suits your own needs.

You can access your course anytime until March 31st 2026.

Within this highly interactive web based course, a dynamic learning experience awaits, where you can interact with your fellow course participants through the in-course chat forums and communication tools provided by the CPD College learning system.

Our friendly and knowledgeable tutors actively support each course, providing expert interaction, guidance and feedback for all participants on chat questions and assignments which call for critical reflection, self-analysis and a reasoned response.

On successful completion of your course, you can download and print off your CPD record and certificate of completion.

We look forward to welcoming you to your course.

Learning outcomes

This course aims to:

- Provide a comprehensive working knowledge of how the unique materials that comprise Numicon, can be used to explore and develop a broad range of key mathematical concepts with their children.
- Revise, refresh and utilise the key pedagogical approaches to the teaching of mathematics.
- Have teachers replicate the Numicon techniques and approaches as exemplified throughout the course in their own mathematics teaching.
- Detail the teaching points that govern good mathematics lessons & investigations and have teachers replicate same consistently in their own teaching.
- Outline the range of Numicon resources that can be acquired and assembled over time to better support mathematics teaching.
- Assist teachers to devise, resource and deliver mathematics lessons that are hands-on and full of potential & possibility for discussion and conversation.
- Highlight assessment techniques that regularly evaluate and benchmark progress in mathematics, and identify emerging gaps in knowledge/skill.
- Itemise some digital tools that can facilitate mathematics teaching and learning.
- Look at, review and score one's own ‘Teacher Practice in Mathematics’ as part of the SSE process.

Modules

01 - We introduce teachers to the pedagogy that underpins best practice mathematical teaching, with problem solving, reasoning, action, imagery and conversation at its heart, where the highly structured, yet versatile Numicon materials become strong ‘communication mediators’. We introduce the Numicon shapes, which have been designed for children to manipulate, to observe & notice, and to explore patterns when using them, all overlaid with lots of conversation.

We explore the activities of the ‘Firm Foundations Pack’ and outline & detail nine key mathematical ideas: pattern, order, comparison, counting numbers, moving beyond counting, place value, addition, subtraction and shape.

02 - Here we look at the two arithmetic operations of addition & subtraction, developing key mathematical ideas and techniques in relation to how best to teach children:

- Structures (i.e. the forms in which addition and subtraction occur)
- Methods (how to do the calculations), and
- Properties (characteristics and

relationships to each other) for each operation

We detail two specific approaches to assessment: prior and ongoing/summative assessment.

03 - In this module we present and itemise a suite of key mathematical ideas and detail activities that can be used to explore and develop each key idea with children.

The key ideas coalesce around three keys areas:

- Using pattern
- Numbers and the Number System
- Calculating

……to include compression, equivalence, properties of the four rules, partitioning, odd & even patterns etc.

04 - In this module we set out and detail 30 structured activity groups, which are all supported by clear illustrations, in order to progress and enhance teacher knowledge & skill, in so far that as each will be able to:

- Name the key mathematical idea being developed,
- Describe the educational context for the particular activity
- Itemise & detail the

learning opportunities presented by the activity
- Evaluate the assessment opportunities within the activity i.e. knowing what to look and listen for.

05 - In this module we outline a range of really useful strategies that can be deployed to assist pupils in overcoming barriers to mathematical learning and attainment e.g.

- Difficulties with numeracy
- Difficulties with the language of mathematics
- Difficulties with sequencing
- Difficulties with motoric aspects of counting etc.

We also set out and detail the Numicon approach to measures, statistics and geometry.

Teachers will engage with the processes and tools of school self evaluation with a view to putting in place a self improvement plan.

"This was a brilliant course. It has made me enthusiastic again about teaching mathematics. I was delighted to get the Numicon shapes in the post shortly after starting the course." Jennifer, 2024