Introducing Numicon 5
Building a secure future in mathematics for every child
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Numicon is a multi-sensory approach to teaching mathematics based on a proven pedagogy that raises achievement across all ability levels and sustains it over time.

It is supported by bespoke professional development that will support and inspire you to deliver the highest quality teaching.

With resources from nursery to Upper Key Stage 2, plus support for intervention and inclusion, Numicon provides all you need to teach and enrich mathematics in your school.

Supporting you with National Curriculum 2014 and beyond

Our teaching and learning resources:

- Develop fluency by using a visual, practical base to develop conceptual understanding and fluent recall.
- Help children to reason mathematically through the use of concrete objects and spoken language to explain and justify.
- Develop children into confident problem-solvers.
- Help you deliver the requirements of the new Programme of Study for each year group, and confidently assess children’s progress.
- Allow you to differentiate for every child in your class through the same Activity Group, with ‘low threshold, high ceiling’ activities.

Numicon 5

With resources for Number, Pattern and Calculating, and Geometry, Measurement and Statistics you can teach right across the new Year 5 maths curriculum, and face its increased demands and raised expectations with confidence.

Covering key topics such as fractions, percentages, factors, multiples and negative numbers, the Activity Groups have careful progression and adaptable, easy-to-follow steps built in. For assessment, the Explorer Progress Books allow you to gather evidence of each child’s understanding, and the regular Milestones enable you to track their progress throughout the year. The Explore More Copymasters provide fun activities for children to practise and discuss maths at home.

All you need for Numicon 5:

- Numicon Number, Pattern and Calculating 5 Easy Buy Pack
  Contains:
  - Number, Pattern and Calculating 5 Explorer Progress Books A, B and C (30 copies of each).
  - Number, Pattern and Calculating 5 Explore More Copymasters

- Numicon Geometry, Measurement and Statistics 5 Easy Buy Pack
  Contains:

- Starter Apparatus Pack C
  Contains a new selection of apparatus ready for every element of the Year 5 curriculum.
# Numicon overview chart

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### COMING SOON!

### ALSO AVAILABLE

#### Investigations with Numicon

- **All All All**
  - A supplementary teaching manual and apparatus pack to stretch able children in Key Stage 2!

#### Closing the Gap

- **NEW NEW NEW**
  - Designed specifically for pupils with SEN or those experiencing learning difficulties with maths.

### ALSO AVAILABLE

- **NEW NEW NEW**
  - Explorer Progress Books
  - (Three Explorer Progress Books for Number, Pattern and Calculating, one for Geometry, Measurement and Statistics)

- **NEW NEW NEW**
  - Explore More Copymasters

### ACTIVITIES FOR HOME

- **1ST STEPS WITH NUMICON AT HOME KIT**
Topics are introduced through real-life scenarios. In this activity group, children learn about fractions.

Exploring Progress Book pages help you assess children's understanding of the central ideas from the activity group.

Clear assessment opportunities for every activity group.

Activities are focused on the children doing maths. Through the use of concrete objects, children's mathematics lessons are active.

‘Look and listen for…’ points help you to assess how children are responding to activities.

Concrete materials help illustrate children's thinking and reasoning.
Geometry, Measurement and Statistics 5 Teaching Resource Handbook

Sample activity group

Key mathematical ideas provide a summary of important concepts children will meet in the activity group.

Estimating volume and capacity

Learning opportunities:
- To calculate the volume of cuboids in cubic centimetres.
- To calculate the volume of solids in cubic centimetres.
- To recognise and draw 3D representations of 3D cubes and cuboids.
- To develop understanding of square and cube numbers.

Words and terms for use in conversation:
- Mass, capacity, volume, capacity, length, area, measurements, length, width, height, depth, dimensions, further dimensions, 3D, 3D, oblate, cube, rectangle, oblong, square, prism, cylinder, volume, capacity, number, number, cuboid, volume.

Assessment opportunities:
- Look and listen for children who...
- Use the words and terms for use in conversation effectively.
- Connect between cubic centimetres and millimetres or millilitres.
- Estimate the volume of a solid object using cubic centimetres.
- Estimate the volume of liquid using cubic centimetres.
- Calculate the volume of a cuboid given the length, width, and height.
- Describe what a cubic number is.
- Calculate and recognise cubic number factors for 1-10.
- Recognise and draw 2D representations of 3D cubes and cuboids.

Practice and discussion:

Whole class:
- Show children how to use the scale.
- Quantity measures are needed in everyday life, such as cooking, building, or designing a garden.
- The classroom can be used to explore volume by filling the room with water or sand.
- Children can calculate the volume of a solid object using cubic metres or cubic centimetres.
- Children can estimate the volume of a solid object using cubic metres or cubic centimetres.
- Children can develop their understanding of square and cube numbers.
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Independent:
- Children can use the scale to measure the volume of a solid object using cubic metres or cubic centimetres.
- Children can estimate the volume of a solid object using cubic metres or cubic centimetres.
- Children can develop their understanding of square and cube numbers.

Using and applying is supported through use of real-life contexts.

A clear list of the apparatus used to support learning is provided at the start of every focus activity.

Opportunities for whole-class, paired and individual practice activities are included in every activity group to give children the opportunity to build on their knowledge, deepen their thinking and develop their mathematical conversations with others.

Careful progression is built into every activity group, and across the whole teaching programme, helping children to become fluent throughout understanding.

A clear outline of the content covered in the activity group and how it connects with other activity groups.

The learning opportunities come from real classroom experiences and are designed to help children develop their understanding of the key ideas in each activity group.
**Pattern and Algebra 6: Logic and reasoning**

**Stick Houses**

Emma is creating stick houses. Can you find a general rule for the number of sticks that she needs to create each pattern in the sequence?

Can you explain how you worked this out?

**Joining Cubes**

Join five interlocking cubes like these ones together on your table. The three cubes of one colour must all touch the table. The two cubes of another colour should not touch the table. One design is shown for you. How many different designs are there?

Can you explain why you think you have found them all?

Patterns and Algebra is Logic and reasoning

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**Charity Fundraising**

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How this will help your child:

- This activity will allow your child to practise telling, reading and using numbers in the millions.
- It will help them to understand that the value of a digit is shown by its position in a number.
- It will help them to compose and order large numbers.

Words and phrases to use:

- Number names (one to one million), place value, word, period, ending, digit, units, thousands, ten thousands, hundred thousands, millions, place, value.
- You can say...
- Answer: 90
- 2 pencils

During the activity, look at what your child can do:

- Add 7-digit numbers using their understanding of place value.
- Use the correct number names in the correct place value.
- Ask your child to read the amount raised, e.g. one million, two thousand, three, and then to write the amount in numerals, then in words, e.g. one million, two thousand, three.
- Ask them to correct their errors, such as writing out hundred and ten thousand, four hundred and ten four percent.
- Repack for each charity until the total has been completed or every child has raised all the amounts.
- Help your child to order the amounts for writing the names of the charities, from the lowest to the highest amount raised, in the column at the bottom of the sheet.

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Practical, real-life contexts help children think about how maths can be used and applied.

Open activities give you the opportunity to see how well children can use and apply their maths learning in new contexts.

Children have the freedom to record their answers in their own way, allowing you to see their thinking.

Activities for home offer further opportunities for children to explore maths in an engaging way.

Suggestons on how to extend the activity are included on every homework sheet.

Simple illustrations help to explain the purpose of activities.

Open activities give you the opportunity to see how well children can use and apply their maths learning in new contexts.

Each activity has space for you to offer support and encouragement to children.

Explorer Progress Books provide a record of achievement and offer an invaluable chance to see children’s thinking, monitor their progress and assess their understanding.
Your next steps . . .

Find out how Numicon can make a difference in your school, arrange an appointment with your local consultant:

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Discover Numicon’s potential through Professional Development:

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Visit www.oxfordprimary.co.uk/numicon to book your place on a free taster event, pre-order Numicon 5 or read what teachers say about Numicon in our case studies.