Welcome to Numicon

A trusted Oxford programme

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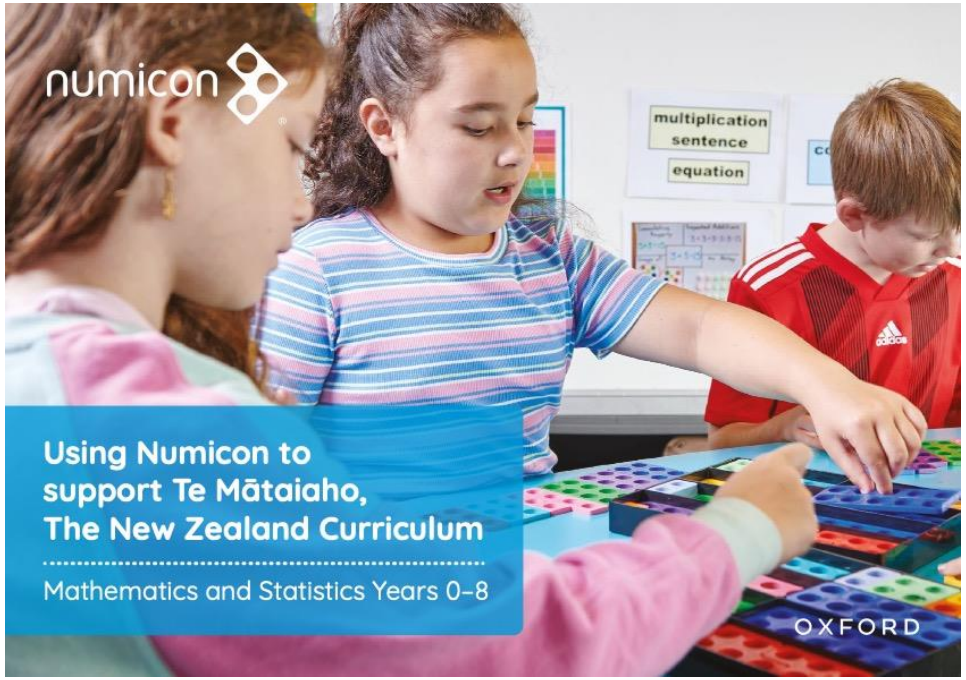
Numicon & the New Zealand Curriculum

Years	0/1	2	3	4	5	6	7	8	9/10
Phases	1			2			3		4
Numicon Books	FF	1	2	3	4	5	5/6	6	
Intervention T 3	Breaking Barriers								
Intervention T 2		Intervention Programme							
Catch-up						Big Ideas			



Numicon & the New Zealand Curriculum

Phase 3

Number

	During year 7 Informed by prior learning, teach students to:	During year 8 Informed by prior learning, teach students to:	Teaching considerations
Number structure	identify, read, write, compare, and order whole numbers using powers of 10 (e.g., 10,000 = 10^4) **NPC5** NNS 1.5, 1.6 **NPC5** P&A 1.3 **NPC5** Calc 10.4, 10.5	identify, read, write, compare, and order whole numbers and decimals using powers of 10 (e.g., 0.01 = $\frac{1}{100}$ = 10^{-2}) **NPC6** NNS 1, 2 **NPC6** Calc 5.1	**Represent** and order numbers using place-value (PV) expanders or charts and number lines.
	find the highest common factor (HCF) of two numbers under 100, and find the least common multiple (LCM) of two numbers under 10 **NPC5** P&A 3	use prime factorisation to represent a number and to find the HCF of two numbers **NPC6** P&A 1	**Represent** factors using factor trees, or systematic lists. **Connect** HCFs to simplifying fractions, and LCMs when renaming fractions. **Generalise** conjectures about prime or composite numbers by investigating factors.
	use exponents to represent repeated multiplication, and identify square roots of square numbers up to at least 100 **NPC5** P&A 4.4, 4.5, 4.6, 4.7, 5.7 **NPC6** Inv 1	identify and describe the properties of prime and composite numbers up to at least 100 and cube numbers up to at least 125 **NPC5** P&A 3.4, 3.6, 3.7, 4.7 **NPC6** P&A 1.2, 4.5	**Investigate** and **generalise** divisibility tests for composite and prime numbers, and **connect** the results to square and cube numbers and square roots. **Investigate** and **explain** patterns in repeated multiplication and **represent** them using exponent notation. **Connect** prime and composite numbers with factors, and **represent** a number as a product of its prime factors (prime factorisation).
Operations	use rounding and estimation to predict results and to check the reasonableness of calculations **NPC5** NNS 4.8 **NPC5** Calc 3.2, 3.3, 5.1, 5.3, 5.4	use rounding, estimation, and benchmarks to predict results and to check the reasonableness of calculations **NPC6** NNS 1.3 **NPC6** Calc 3	**Explain** efficient methods for supporting estimation (e.g., when adding a long list of numbers, look for numbers that can be grouped and summed to roughly 10, 100, 1,000). **Connect** operations to benchmarks to make estimates (e.g., 73% is roughly $\frac{3}{4}$). **Explain** and **justify** findings, by **connecting** to estimates and other checking methods such as using the inverse operation.
	round whole numbers to any specified power of 10, and round decimals to the nearest tenth, hundredth, or whole number **NPC5** NNS 4 **NPC6** Calc 3	round whole numbers to any specified power of 10, and round decimals to the nearest tenth, hundredth, thousandth, or whole number **NPC5** NNS 4 **NPC6** Calc 3	
	recall multiplication facts to at least 10 × 10 and identify and describe the divisibility rules for 2, 3, 5, 9, and 10 **NPC4** Calc 5, 6 **NPC5** Calc 4.1 **NPC5** P&A 4.1, 6.2 **NPC6** P&A 4.5	identify and describe the divisibility rules for 2–11 **NPC6** P&A 4.5 **(covers divisibility by 2, 3, 5, 9, 10)** **Activity to follow**	**Investigate** patterns in multiples in 100s boards and multiplication charts to **generalise** divisibility rules.

The Numicon Approach

Quality, whole school, structured maths programme

Phase 1

Years 0 & 1

Online teaching files
(Firm Foundations)

Years 2 & 3 Online teaching files
Apparatus as shown per class
Student access to digital representations online

Phase 2

Years 4, 5 & 6

Online teaching files

Numicon – All

Student Investigations books

Apparatus as shown per class

Student access to digital representations online

Phase 3

Years 7 & 8

Online teaching files Numicon – All

Student Investigations books

Apparatus as shown per class

Student access to digital representations online

Extra Numicon shapes, pegs, baseboard and Cuisenaire rods

A structured approach

Spiralling the learning

Numbers and the Number System	1	Finding how many by grouping in 10s and 100s	February/March
Calculating	2	Developing fluency with adding and subtracting facts to 2	
Numbers and the Number System	2	Exploring hundreds, tens and units with base-ten apparatus	
Numbers and the Number System	5	Ordering and structuring numbers to 1000	May/June
Calculating	8	Adding and subtracting multiples of 10 and 100	
Calculating	9	Patterns of similar adding and subtracting calculations	August
Pattern and Algebra	3	Reading and creating scales with different intervals	
Numbers and the Number System	6	Finding half way, rounding to the nearest 10 or 100	
Measurement	3	Measuring accurately and calculating with metres, centimetres and millimetres	October
Measurement	4	Calculating with dollars and cents, and handling money	
Measurement	5	Measuring and calculating with grams and kilograms	December
Measurement	6	Measuring and calculating with litres and millilitres	

Sequenced & Explicit Teaching

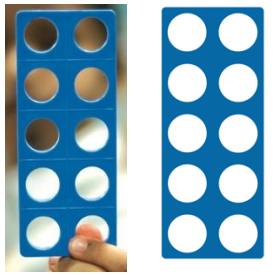
6: Expressing remainders as decimals when sharing or grouping

Intro | Links | 1 | 2 | 3 | 4 | 5 | 6 | 7

Step 1

Recall with children how to carry out a sharing dividing calculation and express the remainder as a fraction, e.g. in Activity 5 they worked out that 3268 ÷ 16 = 204 r4, then continued to divide the remainder by 16 and express this as a simplified fraction, giving $204\frac{4}{16} = 204\frac{1}{4}$.

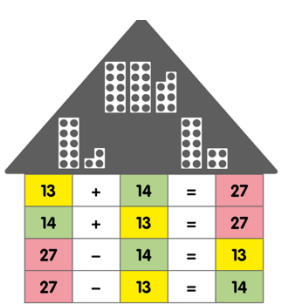
Concrete, Pictorial Abstract & Language

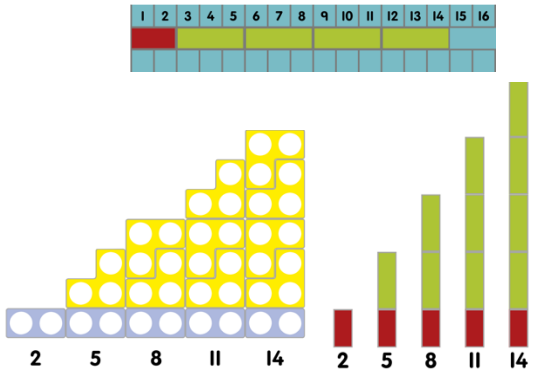


10

ten

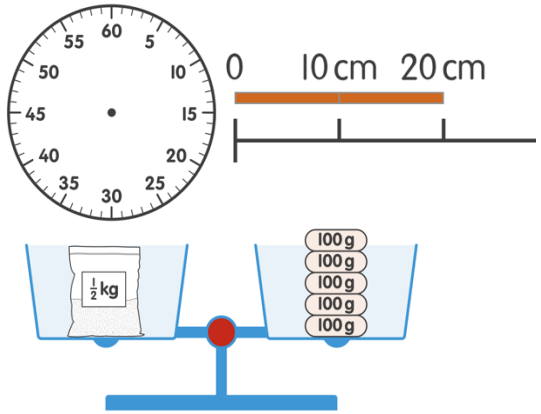
Working systematically & Mathematical thinking





Making connections

2 x 5
2 x 10
5 x 100
5 x 1000
5 x 1.000



Real world connections

Planning

Each day…

Plan

Following the Teaching Progressions, plan your lessons for the week from the **Overview**

- Educational context
- Learning Opportunities
- Language & terms
- Assessment opportunities with links to the Milestones
- Assessment tools
- Going Deeper – Student Books and Explore More
- Focus teaching activities

Refer to the Assessment Tracker for adaptive teaching

Getting Started

Refer to past learning when introducing the learning for the day.

'Set the scene' for the context of the learning

or

Explicit teaching & modelling - learning altogether to explore and discuss

Look and listen for the students who are using the language and demonstrating understanding

Working

Guide and challenge the students to work systematically in pairs, small groups or independently.

These follow-up activities lead to *recording* the discoveries and learning in their exercise books.

Older students explore the Practice and Going Deeper activities in the Student Books with problem-solving challenges

Take note of those who are using the language and demonstrating understanding

Connecting & Reflecting

Whole class discussions and games to:

- Reinforce the learning
- Discuss how the maths they have learned can be applied in other situations
- Reflecting on their learning to build confidence and eagerness for tomorrow!

Plan for tomorrow reflecting on the observations and learning from today
Record learning on Tracker

Learning Resources for every week

Front of class

- Full Activity Group Overview with links to the New Zealand Curriculum
- Planning Template as Google sheets or xl format
- Starter image to use in conversations for context, problem-solving and literacy links
- Whole class practice and discussion
- Photocopy masters
- Implementation Guide
- Games
- Games for extension that are designed to share at home
- Language & terms
- Practice & Going Deeper – Student Books and Explore More
- Focus teaching activities

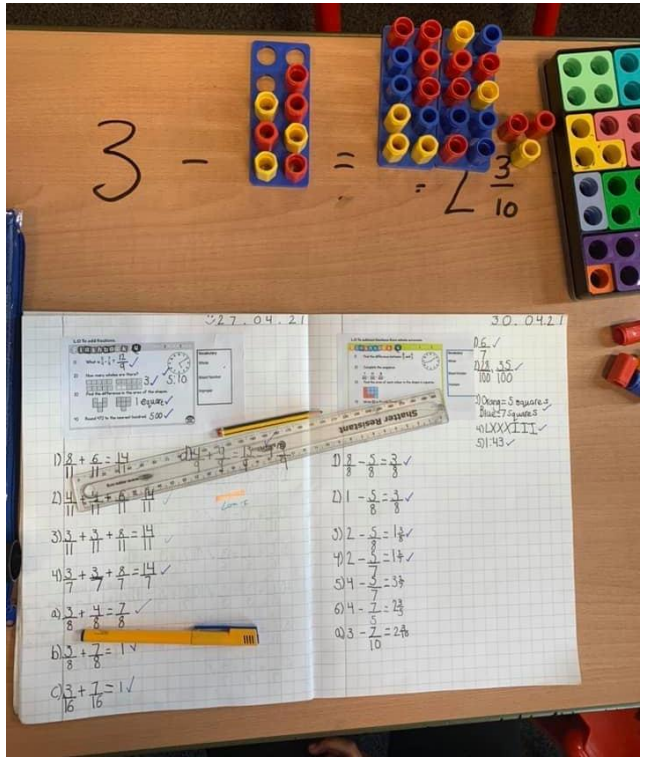
Assessment

- Assessment opportunities with links to the Milestones
- Assessment Cards
- Explorer Progress – end of week to show learning and the generalising of concepts
- Assessment Tracker with links to the New Zealand Curriculum

Student workbooks are not required

Maths is not about learning to fill in a worksheet…

- Maths is the **language** of patterns and relationships. Children *love* to communicate
- Experience has shown that students and teachers disengage when provided with workbooks/worksheets to complete. (Reference: Education Endowment Foundation, UK)
- Focus on learning - students truly understand mathematical concepts using manipulatives and investigation.
- *A huge saving in the school budget!*



Active Learning

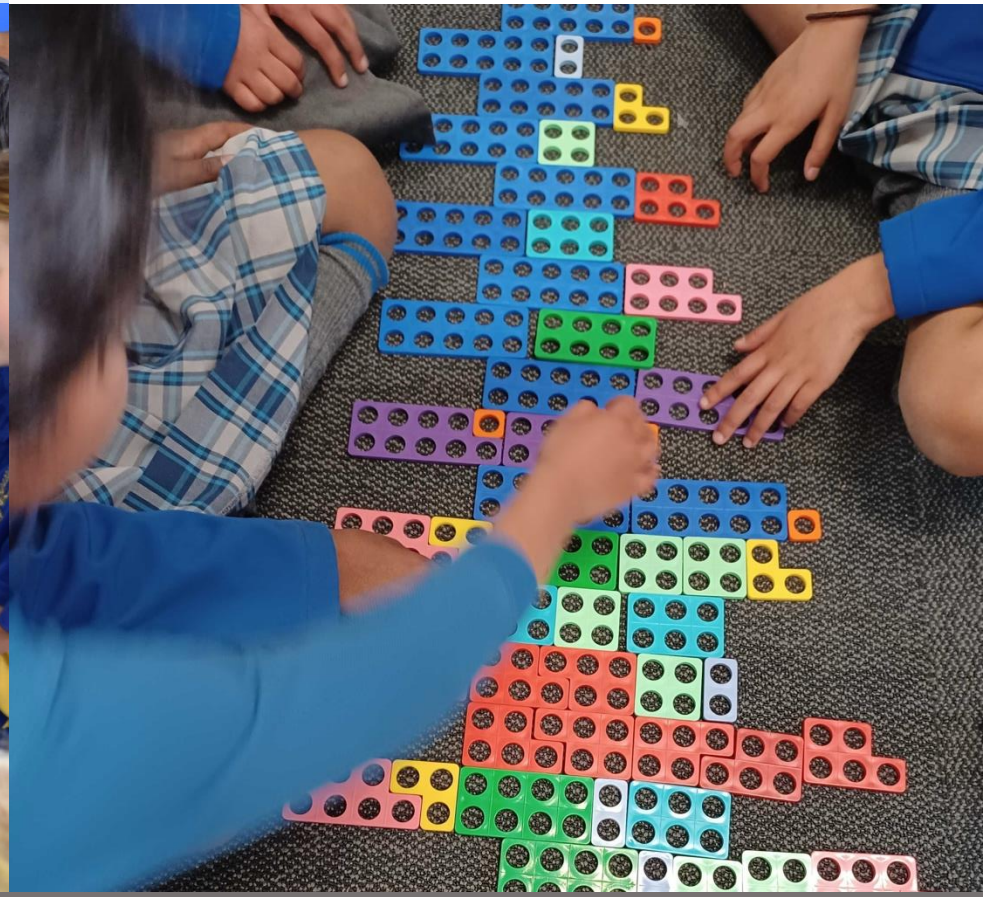
Manipulatives are key

Scaffolds learning including at secondary level

Enables deep understanding of maths concepts

Successful implementation - ‘Make it Count’ plan

- Teen numbers
- Odds & evens
- Partitioning exploration
- Year 6

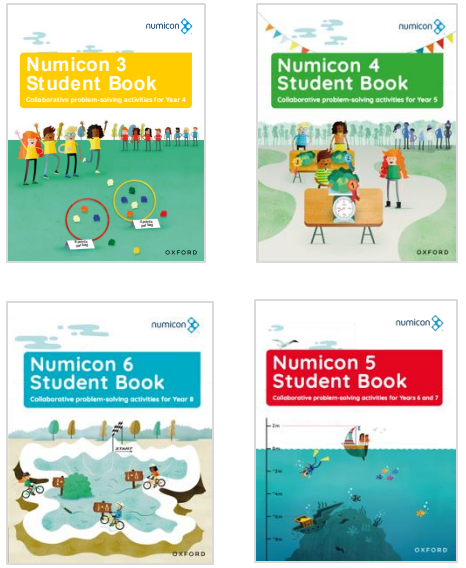


Well-resourced, complete school programme

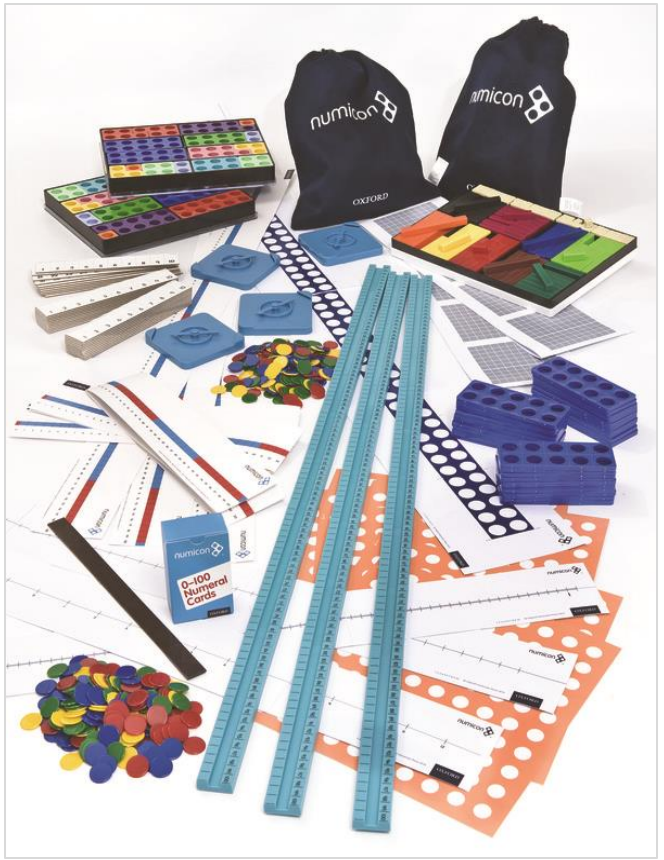
Online
Teaching Handbooks
& Assessment Resources
Years 0 - 8

Hardcopies are available at cost.

Printed
Student Problem-solving books
Years 4 - 8

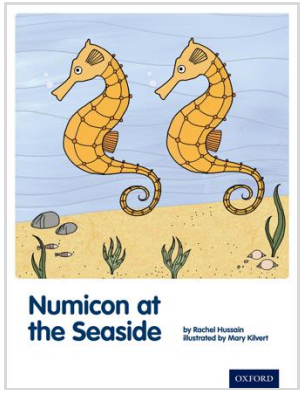


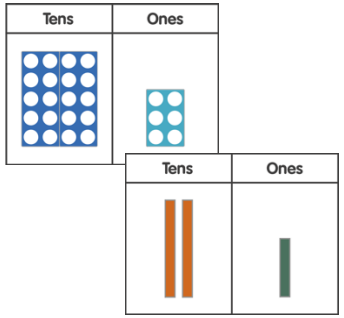
Manipulatives & Digital Representations

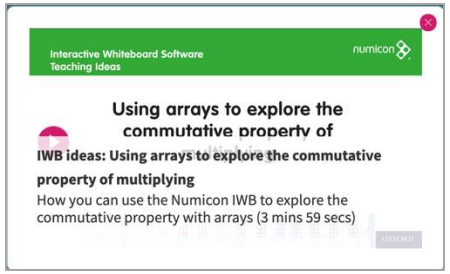


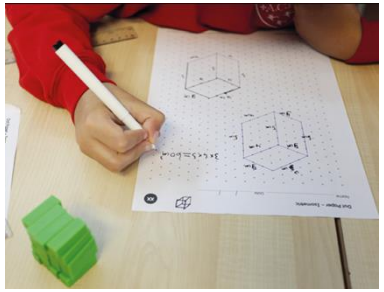
Online Teaching Handbooks

Resources for in-class teaching, games, software for teaching, assessment, teacher support videos

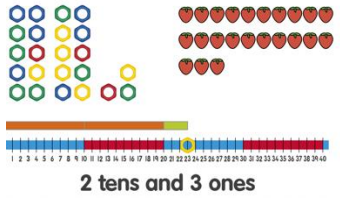


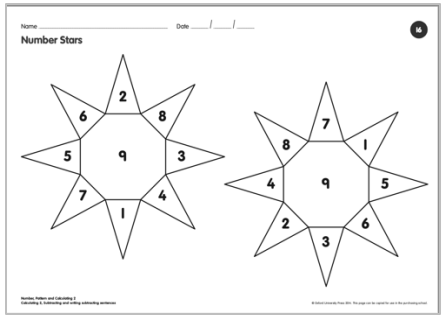




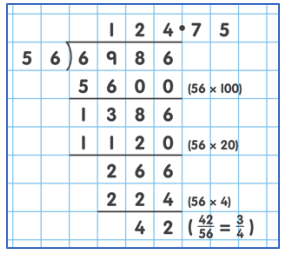


Set the scene again: a theatre cafe has 6986 ml of juice concentrate and every 56 ml makes 1 ℓ of a juice drink. Ask children to work out how many litres of the drink can be made.



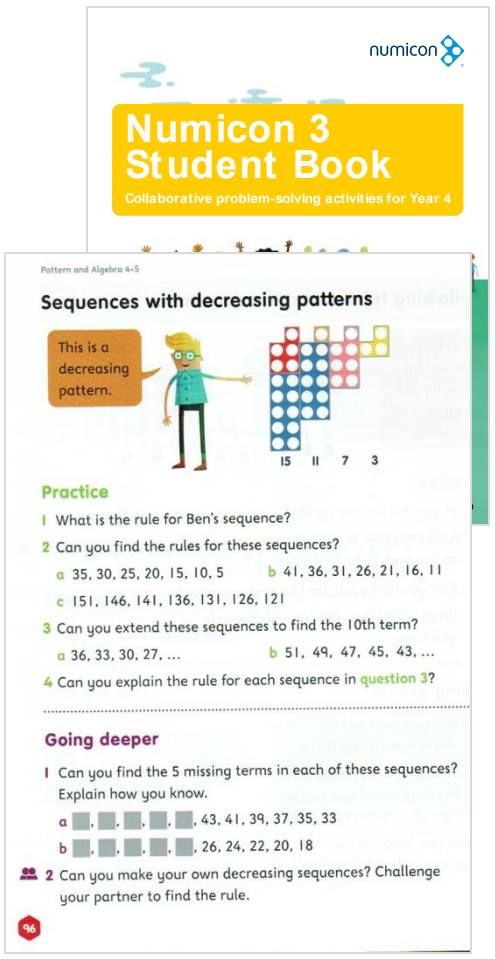


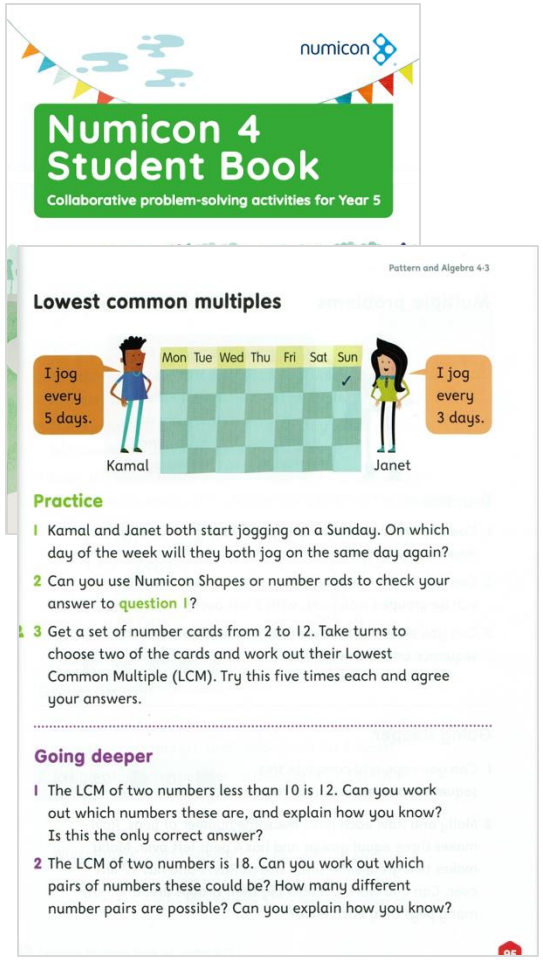
Play

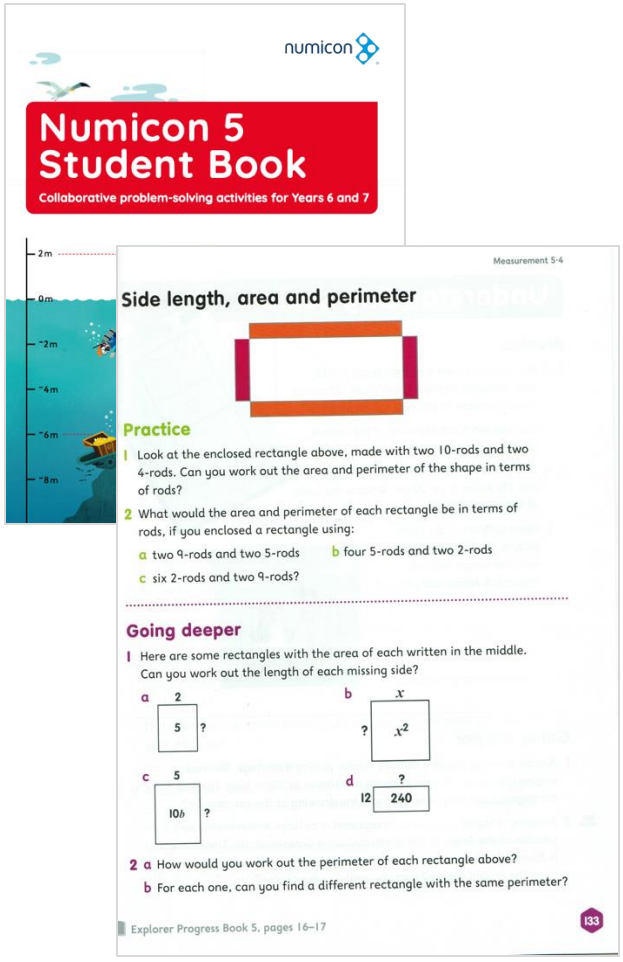


Years 4 – 8 Student Textbooks

Investigation, Critical thinking with Going Deeper







Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

NZC	During year 7 Informed by prior learning, teach students to:
Rational numbers	identify, read, write, and represent fractions, decimals (to three places), and percentages **NPC5** NNS 3.2, 3.3, 3.4, 3.5, 3.6, 7.1 **NPC5** Calc 11.1, 11.2 **NPC6** NNS 1.4, 2 **NPC6** Calc 5.1
	compare, order, and convert between fractions, decimals (to three places), and percentages **NPC5** NNS 3.7, 3.8, 6.1, 6.2, 6.3, 7.4 **NPC5** Calc 11.5, 11.6

Numbers and the Number System 6: Comparing and ordering fractions

…l ideas Fractions, Equivalence, Ordering, Mathematical thinking and reasoning

…ontext

… develops work from Numbers and the … and from the *Number, Pattern and …hing Resource Handbook*. Essentially, the …t using fractions to describe proportions, … variety of equivalent fractions can be used to … proportion, and that proportions expressed …e ordered. Children are thus using fractions to …municating about proportions, both within …nd more generally. Later, in Calculating 10, …re similar activities to help them make connections between proportion and ratio.

At the heart of this work, children are developing ways of recognizing and finding equivalent fractions. They then use these to compare fractions and order them by size. These ideas are both important and challenging. Give children plenty of time and encourage discussion and illustration to help them develop their communicating about fractions and proportions.

Learning opportunities

- To compare and order fractions whose denominators are all multiples of the same number.
- To use < and > signs to record the ordering of fractions.
- To simplify fractions to their lowest terms by finding common factors.
- To use equivalent fractions to scale up or down in context.

Terms for children to use

part-whole relationship, comparing, equivalence, equivalent fractions, denominator, numerator, proportion, 'in every', 'for every', unit fraction, proper fraction, improper fraction, mixed number, factor, common factor, divisible by, multiple, times, divide, scale down, scale up, simplest form, common denominator

Assessment opportunities

Look and listen for children who can:

- Use the terms for children to use effectively.
- Compare fractions whose denominators are multiples of the same number.
- Use knowledge of multiples to find equivalent fractions and illustrate this with structured apparatus.
- Compare fractions and order them using < and > symbols.
- Make connections between scaling up and multiplying, and scaling down and dividing, as inverses.
- Use knowledge of multiples and factors to simplify fractions to their lowest terms.

NPC Milestone 3

- Use knowledge of factors and multiples to find equivalent fractions and to simplify fractions to their lowest terms (NPC 5:3a)
- Compare and order fractions with denominators which are multiples of the same number (NPC 5:3b)

Explorer Progress Book 5b, pp. 4–5

After completing work on this activity group, give small focus groups of children their Explorer Progress Books and ask them to work through the challenges on the pages. As children complete the pages, assess what progress they are making with the central ideas from the activity group. Refer to the assessment opportunities for assistance.

Explore More Copymaster 13: Who Gets More?

After completing work on Activity 3, give children Explore More Copymaster 13: Who Gets More?

Student Book 5, pp. 50-53

These pages in the Pupil Book provide further practice and challenging questions. You can use them to follow up the activities and deepen the learning.

Focus activities

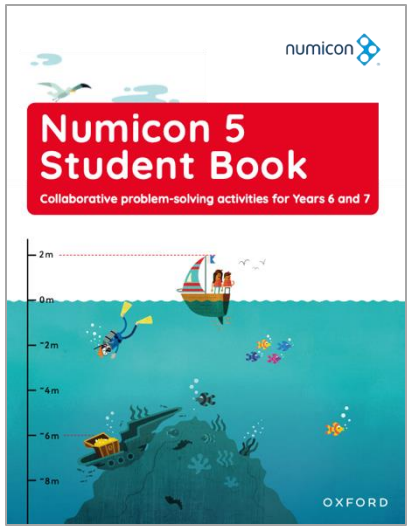
1. Comparing and ordering proper fractions whose denominators are multiples of the same number
2. Comparing and ordering proper fractions by finding a common denominator
3. Using greater than and less than signs to record comparisons of fractions
4. Simplifying fractions by finding common factors
5. Simplifying fractions to their lowest terms

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number
2. Comparing and ordering proper fractions by finding a common denominator
3. Using greater than and less than signs to record comparisons of fractions
4. Simplifying fractions by finding common factors
5. Simplifying fractions to their lowest terms



I: Comparing and ordering proper fractions whose ... - part I

Quit activity

Intro | Links | 1 | 2 | 3 | 4 | 5

Learning opportunities:

- See all learning opportunities

Terms for children to use:

part-whole relationship, comparing, equivalence, equivalent fractions, denominator, numerator, proportion, 'in every', 'for every', unit fraction, proper fraction, improper fraction, mixed number, factor, common factor, divisible by, multiple, times, divide, scale down, scale up, simplest form, common denominator

Have ready:

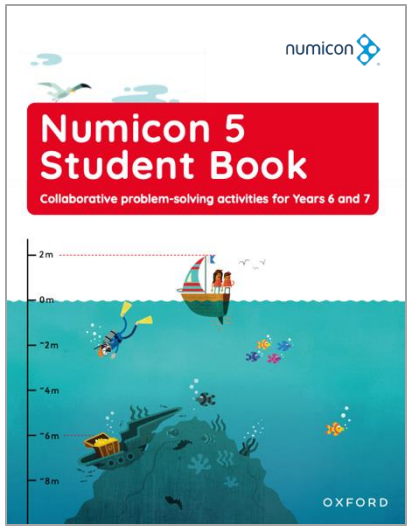
- Numicon Shapes
- Numicon Coloured Counters
- Numicon Fraction Number Line Laminates
- dry-wipe pens
- number rods

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number
2. Comparing and ordering proper fractions by finding a common denominator
3. Using greater than and less than signs to record comparisons of fractions
4. Simplifying fractions by finding common factors
5. Simplifying fractions to their lowest terms



I: Comparing and ordering proper fractions whose ... - part I

Quit activity

Intro | Links | 1 | 2 | 3 | 4 | 5

Links:

Full activity group overview
Starter image
Whole-class practice and discussion
Photocopy masters
Implementation guide
Pupil Book 5 opening questions p. 50
Pupil Book 5 Answer Book
IWB Software

Next steps:

Explorer Progress Book 5b, pp. 4–5
Explore More Copymaster I3: Who Gets More?
Numicon 5 Milestone Assessment cards (NPC 5:3a, 5:3b)
Numicon 5 Milestone Tracking chart

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number

I: Comparing and ordering proper fractions whose ... - part I

Quit activity

Intro | Links | I | 2 | 3 | 4 | 5

Step I

Remind children about the lemonade from Numbers and the Number System 2, Activity 6. Ask them if one lemonade recipe used 2 cups of lemon juice in every 5 cups and another 3 cups of lemon juice in every 5 cups, which would taste stronger.

Look and listen for children who can reason that having more lemon juice in the lemonade would give a stronger lemony taste. Help children to compare the recipes with fractions. Agree that we could write that one recipe is $\frac{2}{5}$ lemon juice and the other $\frac{3}{5}$.

Formative Assessment cues

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number

I: Comparing and ordering proper fractions whose ... - part I

Quit activity

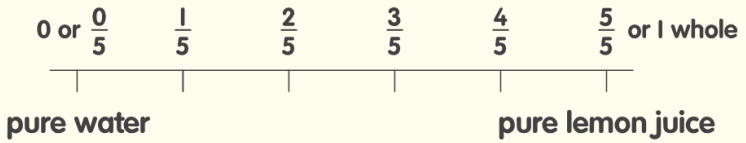
Intro | Links | 1 | 2 | 3 | 4 | 5

Step 2

Encourage children to illustrate these relationships on a number line (see image).

Help them to understand that 5 cups of lemon juice in every 5 cups is purely lemon juice; locate this on the number line as $\frac{5}{5}$ or 1 whole. Similarly, locate pure water on the same line as $\frac{0}{5}$ or 0. Agree that, the stronger the lemon juice, the closer the fraction will be to $\frac{5}{5}$.

Agree that $\frac{3}{5}$ is closer than $\frac{2}{5}$ so the recipe made with 3 cups of lemon juice in every 5 cups is stronger.



Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number

Step 3

Next, ask children to compare recipes using 4 cups of lemon juice in every 5 cups and 6 cups of lemon juice in every 10 cups. Help children to recognize that we could write $\frac{4}{5}$ and $\frac{6}{10}$ to represent the amount of lemonade. Look and listen for children who can explain that these fractions are both more than $\frac{1}{2}$.

Agree that it is not so easy to compare these fractions directly because they have different denominators.

Step 4

Ask children to use, draw or write anything that might help them to compare these fractions.

Look and listen for children trying out their own ideas, before asking them if finding equivalent fractions or using apparatus and number lines might be useful.

Formative Assessment cues

Years 6 & 7 Rational Numbers

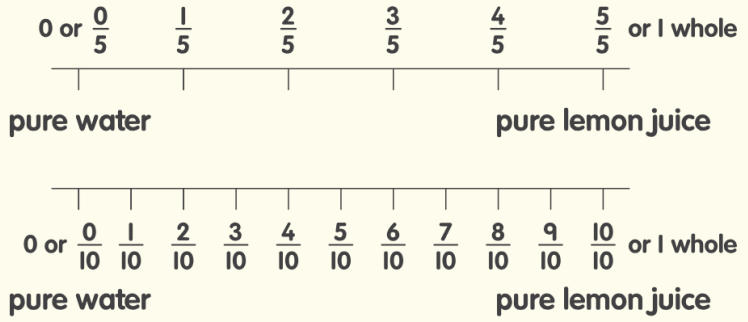
Investigation, Critical thinking with Going Deeper

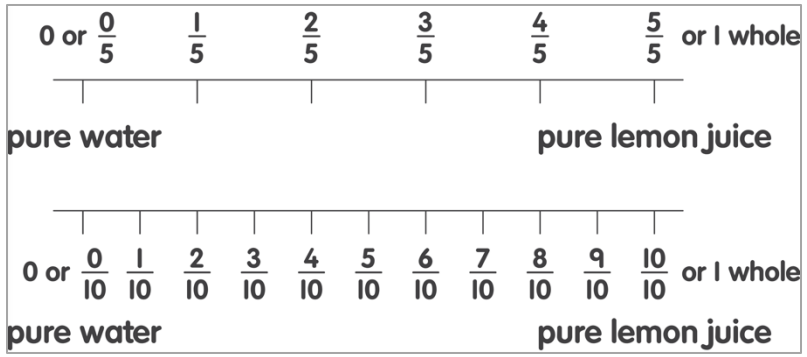
Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number

Step 5

Encourage children to explore how they could represent $\frac{4}{5}$ and $\frac{6}{10}$ on number lines or with apparatus (see image).





Step 6

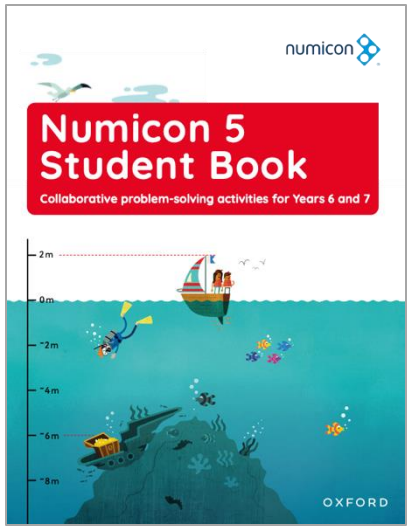
Show children how a double number line can be useful here, using a Fraction Number Line Laminate. Agree that $\frac{4}{5}$ is equivalent to $\frac{8}{10}$ and closer to I than $\frac{6}{10}$ (see image).

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

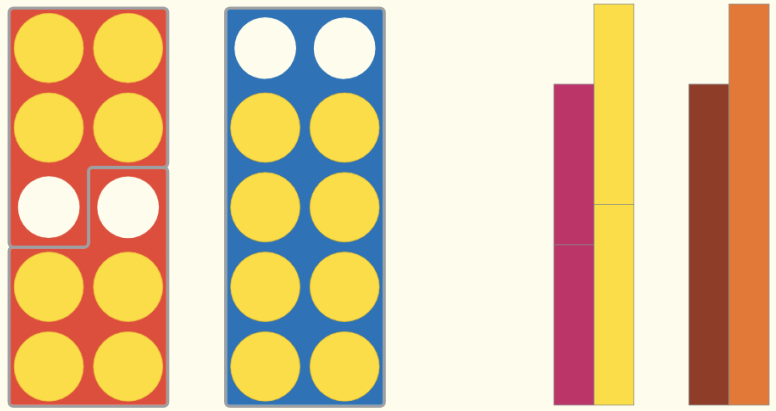
1. Comparing and ordering proper fractions whose denominators are multiples of the same number



Step 7

Help children also to use Shapes and Counters or rods to illustrate that $\frac{4}{5}$ is equivalent to $\frac{8}{10}$ (see image).

Look and listen for children who can now explain that if two recipes are $\frac{6}{10}$ and $\frac{8}{10}$ of lemon juice, the one with $\frac{8}{10}$, or 8 cups on every 10 cups, will be stronger.



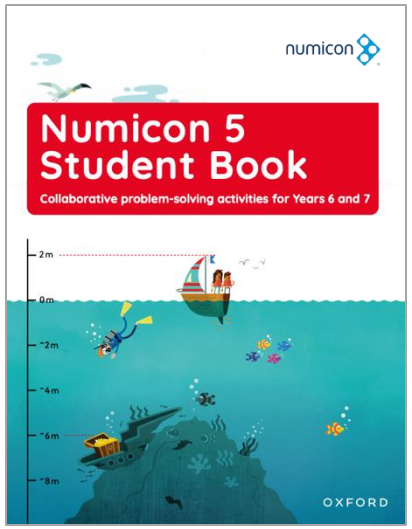
Formative Assessment cue

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number



Step 8

Repeat the activity with other pairs of fractions, e.g. $\frac{2}{3}$ and $\frac{5}{6}$.

Look and listen for children who realize that they can compare the fractions as the denominators are multiples of the same number.

Paired or individual work

Have ready: Numicon Fraction Number Line Laminates, pairs of fractions with denominators that are multiples of the same number, e.g. $\frac{4}{6}$ and $\frac{9}{18}$, dry-wipe pens

Ask children to select a pair of fractions and compare them by illustrating on a double number line.

Step 9

Provide an example like $\frac{4}{6}$ and $\frac{4}{12}$. Encourage children to explain that these can be compared in two ways: as sixths ($\frac{4}{6}$ and $\frac{2}{6}$) and as twelfths ($\frac{8}{12}$ and $\frac{4}{12}$).

Agree that this is not, the case for, e.g. $\frac{4}{6}$ and $\frac{5}{12}$.

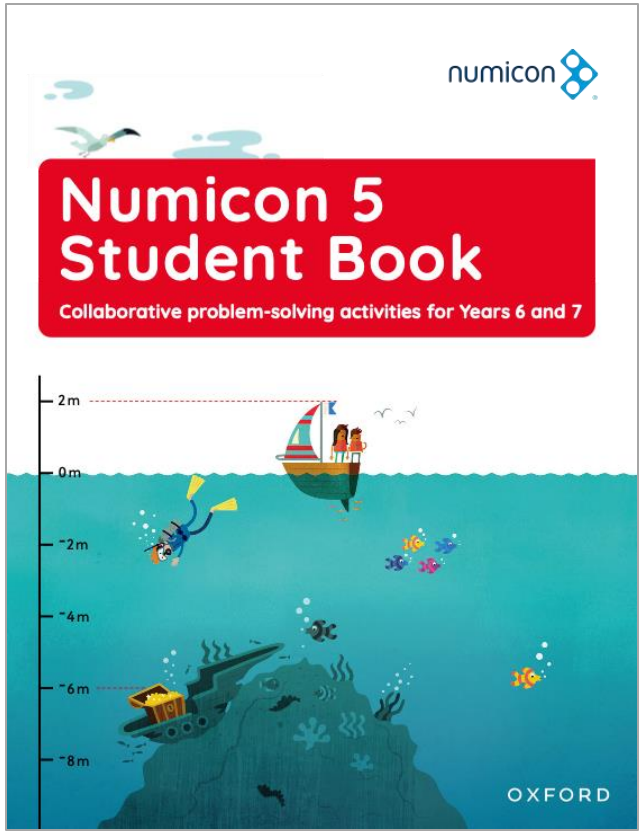
Help children explain why not, with reference to the numerators.

Years 6 & 7 Rational Numbers

Investigation, Critical thinking with Going Deeper

Focus activities

1. Comparing and ordering proper fractions whose denominators are multiples of the same number



Today…

Numbers and the Number System 6·1

Using proper fractions

Practice

1 One jug of lemonade was made using $\frac{1}{3}$ lemon juice, and the rest was water. Another jug was made using $\frac{1}{2}$ lemon juice, and the rest was water.

a Which do you think tasted stronger and why?

b How much of the weaker lemonade was water?

2 Which fraction is bigger, $\frac{3}{8}$ or $\frac{1}{2}$? Can you use number rods, a number line, or Numicon Shapes to show why?

3 Which fraction is bigger, $\frac{2}{3}$ or $\frac{5}{6}$? Can you show why?

4 Which fraction is bigger, $\frac{6}{10}$ or $\frac{12}{20}$? Can you explain, or show, why?

Going deeper

1 Amy played three pieces of music in a competition, and she scored: 4 out of 5, 7 out of 10, and 17 out of 20. Which was her best score? Can you explain why?

2 Would you rather be right 56 times out of 64, 27 times out of 32, or 3 times out of 4? Can you explain why?

3 Can you put the fractions below in order of size, starting with the smallest?

$\frac{2}{3}$ $\frac{73}{108}$ $\frac{49}{72}$ $\frac{7}{12}$ $\frac{25}{36}$

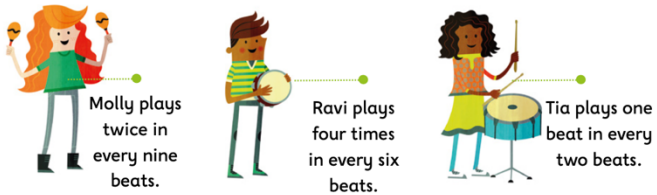
4 Can you write three fractions where the three denominators have a common factor? Can you now put them in order of size?

50

Tomorrow…

Numbers and the Number System 6·2

Common denominators



Practice

1 If the piece of music is 36 beats long, who will have played their instrument the most times? Who will have played the fewest times? Can you explain the quickest way to work out these answers?

2 Choose three of the fractions below and put them in order of their size, beginning with the smallest.

$\frac{2}{3}$ $\frac{3}{8}$ $\frac{3}{4}$ $\frac{5}{9}$ $\frac{7}{12}$ $\frac{8}{15}$

3 Choose a different set of three fractions from the same list and put them in order of size, beginning with the largest. Can you show these in position on a number line?

Going deeper

1 Which of the fractions in the list above is closest to 1?

2 Look at the list of fractions above.

a How many different sets of three fractions can you make from the list? How do you know you have found all the possible sets?

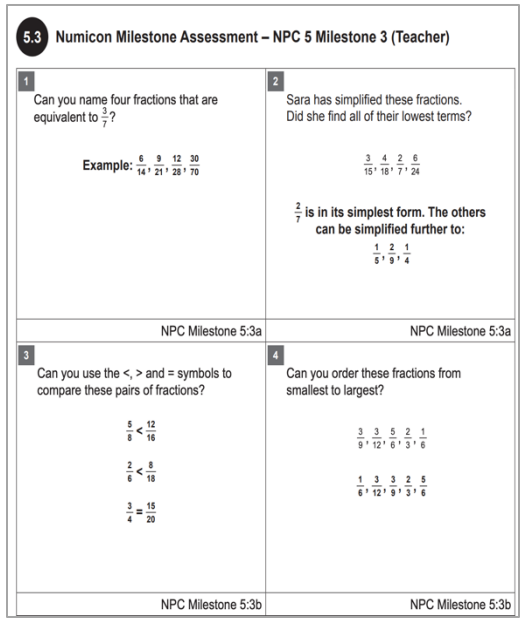
b Which set of three fractions gives the highest total when you add them together?

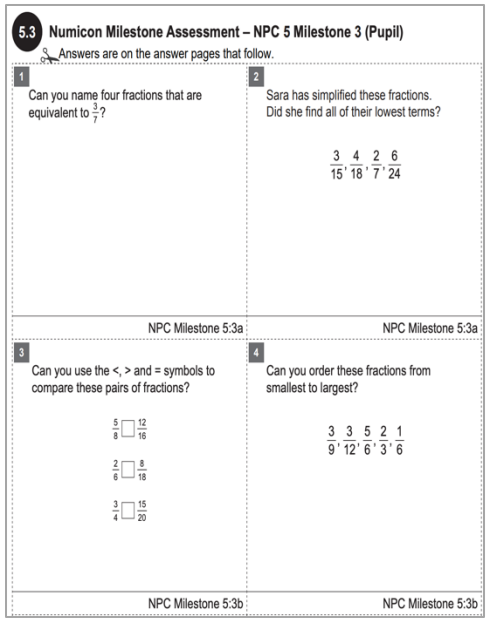
3 Dev has dug $\frac{1}{4}$ of a vegetable patch, Aroha has dug $\frac{1}{3}$ and Nina has dug $\frac{3}{8}$ of the patch. Who has dug the most? Who has dug the least? How much of the vegetable patch still has to be dug?

51

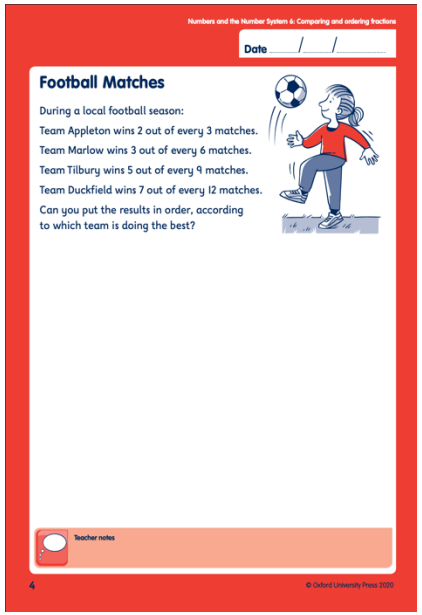
Years 6 & 7 Rational Numbers

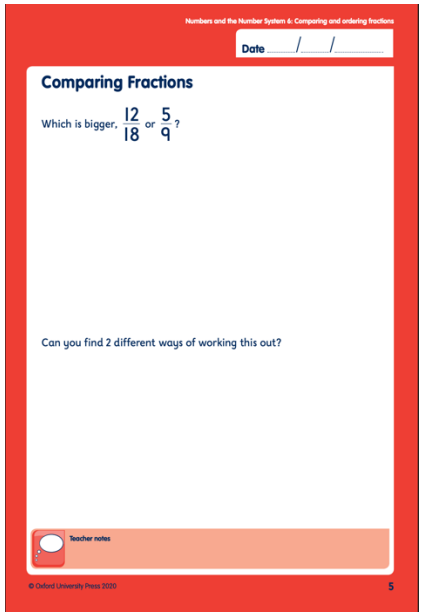
Assessment cards to use in conversation





Explorer Progress Books to demonstrate understanding, generalising and application





NZC	During year 7 Informed by prior learning, teach students to:
Rational numbers	identify, read, write, and represent fractions, decimals (to three places), and percentages NPC5 NNS 3.2, 3.3, 3.4, 3.5, 3.6, 7.1 NPC5 Calc 11.1, 11.2 NPC6 NNS 1.4, 2 NPC6 Calc 5.1
	compare, order, and convert between fractions, decimals (to three places), and percentages NPC5 NNS 3.7, 3.8, 6.1, 6.2, 6.3, 7.4 NPC5 Calc 11.5, 11.6

Rational Number: *compare and order fractions, decimals (to two places), and percentages, and convert decimals and percentages to fractions*

• Use knowledge of factors and multiples to find equivalent fractions and to simplify fractions to their lowest terms	• Compare and order fractions with denominators which are multiples of the same number

	Number, Patt
NPC5:3a	NPC5:3b
NPC	NPC
NNS	NNS
NNS6	NNS6
Fractions	Fractions

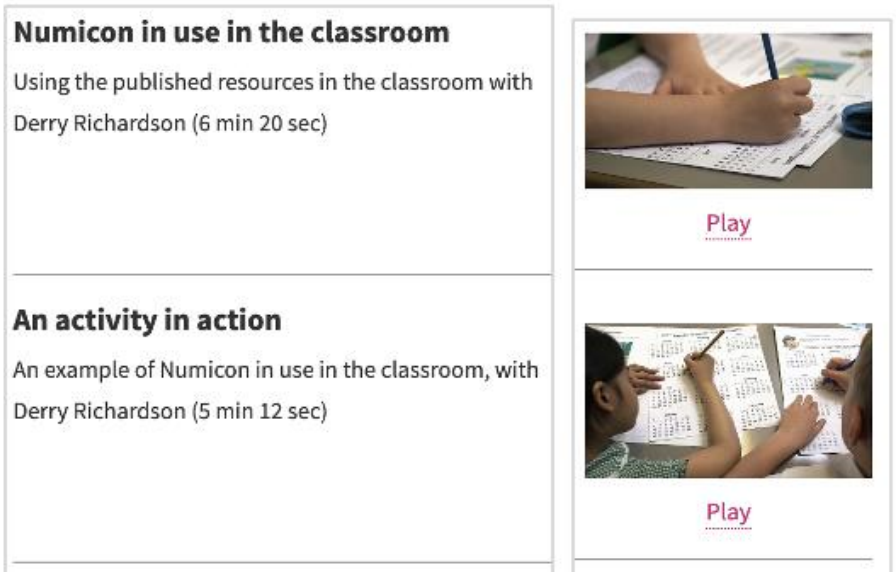
NPC Milestone 3		
	Use knowledge of factors and multiples to find equivalent fractions and to simplify fractions to their lowest terms	NPC5:3a
	Compare and order fractions with denominators which are multiples of the same number	NPC5:3b
	Use the inverse relationships between adding and subtracting, and multiplying and dividing, to complete calculations with missing numbers	NPC5:3c
	Use efficient written column methods for adding and subtracting whole numbers up to 10 000 and decimals with up to 3 decimal places	NPC5:3d
	Use known multiplying facts to multiply and divide whole numbers and decimals by 10, 100, and 1000	NPC5:3e

Numicon Milestones of learning markers - Milestones

Numicon Tracking Tool

Teacher Support

Oxford Owl



Numicon NZ Website

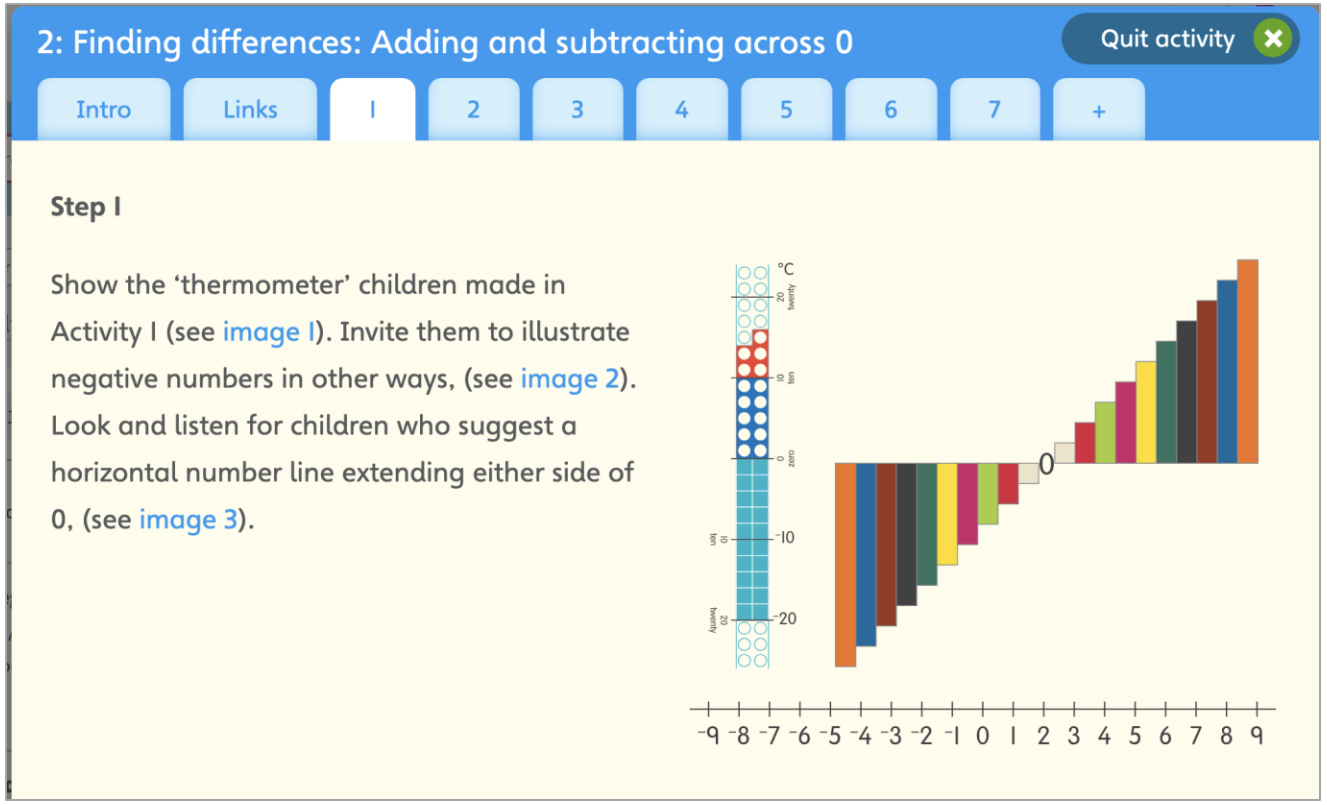
Edushop webinars

Online PLD – Free webinars:

- Using the online resources
- Using the manipulatives
- Getting Started

Supporting Teachers

1. Building teacher knowledge
2. Explicit teaching
3. Step-by-step
4. CPA approach
5. Manipulatives and apparatus
6. Students and teachers - engaging
7. An inclusive approach



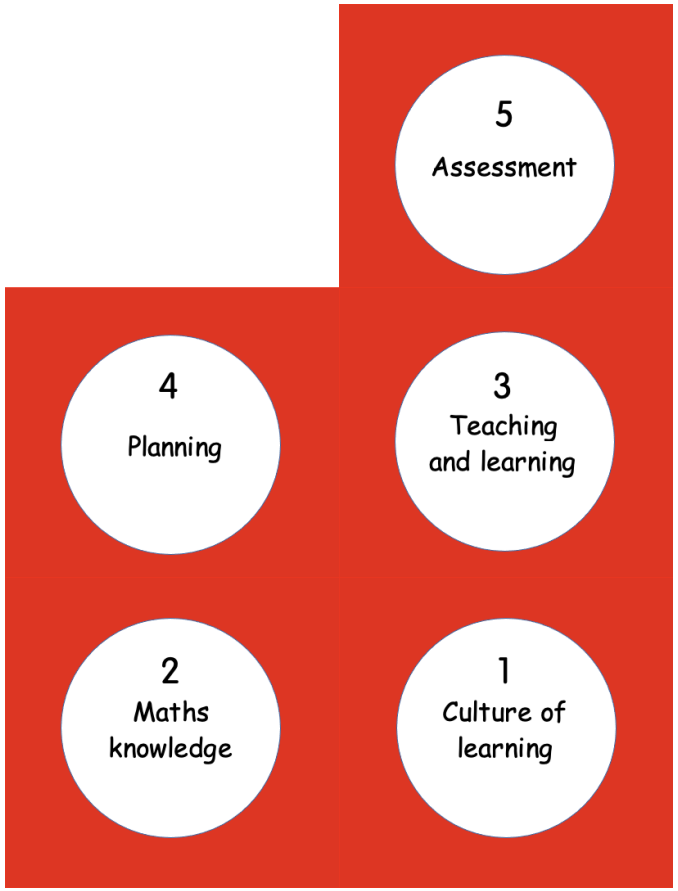
Successful Implementation

Invest in your staff

Quality PLD – we are the accredited PLD providers for Numicon by Oxford University Press

Successfully implement Numicon in your school –

- Raise student achievement
- Build confidence
- I do, we do, you do…



Results

Key findings:

- Schools that have invested in ongoing PD have the best results
- Teachers appreciate the flexibility within the structure
- Children are engaged –behaviour problems reduced
- Parents are very pleased

Results

numicon EDUSHOP

St Patrick's School

Numicon Impact Report

School Profile

Location: Christchurch

Roll Size: 183

Diverstity: 9.3% Māori, 9.3% Asian

Start Of Numicon: 2018

Description

St Patrick's School is a state-integrated Catholic full primary school in Christchurch that provides quality education for children aged 5 – 13.

St Patrick's School is committed to fostering confident, self-motivated and life-long learners. Through their Mercy Values St Patrick's fosters an environment where students are 'Called to Shine.'

The school provides an evidence-based, quality Catholic education, fostering academic excellence and values-based learning. It has a great community partnership between school, family and parish to nurture students' faith and help them reach their full potential.

Why Numicon?

In 2016 Tom Wallis, as a new Principal at St Patrick's School was concerned the Numeracy Project, which had been around for almost 20 years, was failing many students across New Zealand.

A report from 2015 showed that students were failing mathematics in higher numbers than ever before.

At St Patricks, overall students achievement results were good. There was concern however that tthe needs of those students performing just at and below were not being met. There were also inconsistencies with teachers using a variety of approaches and resources and no clear scope and sequence being followed.

Through Tom's study and investigations, he found that the evidence-based Numicon Programme would offer the school:

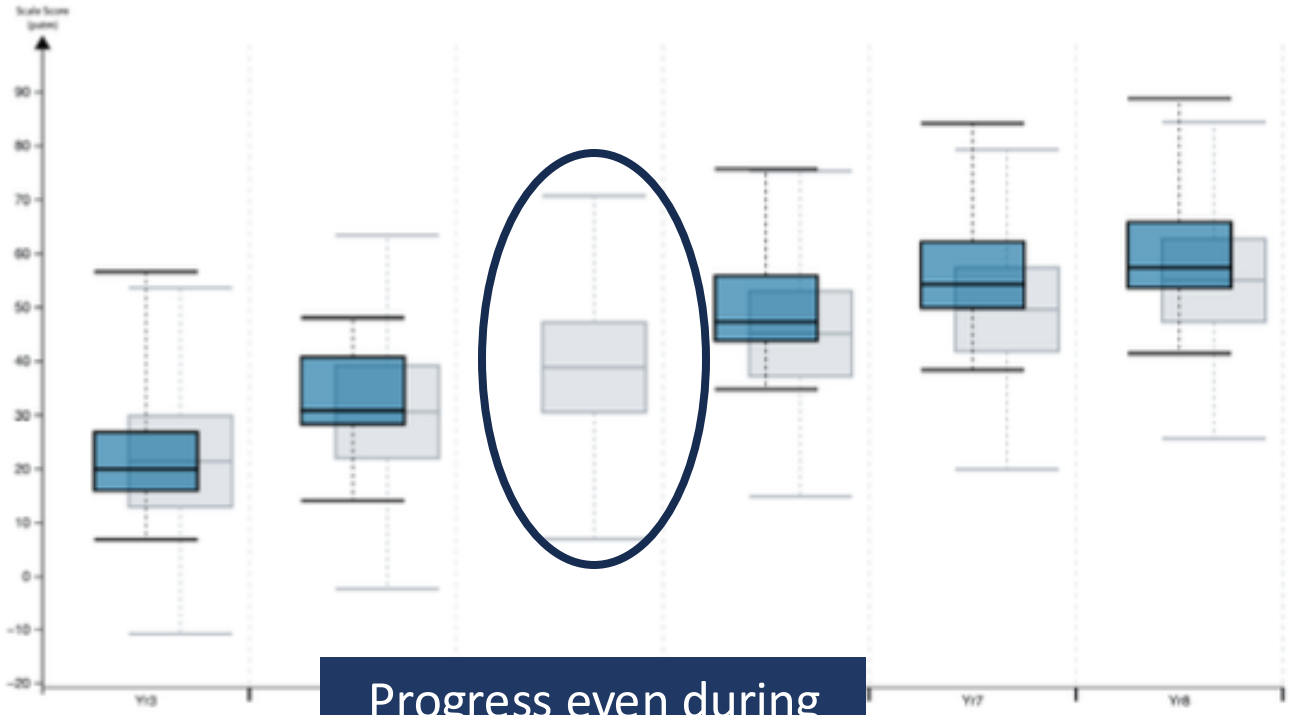
- an explicit, structured, well-resourced programme that provided a clear scope and sequence from Years 0 – 8.
- a Concrete, Pictorial, Abstract (CPA) approach that caters for all learners.
- quality PLD support so the programme and the approach could be implemented successfully.
- excellent intervention programmes that could be taken by teacher aides for those who needed to work at a slower pace.

Our Aims

Our aims were simple:

- Raise confidence, engagement and enthusiasm for maths in both teachers and students
- Meet all students' needs using the proven CPA approach.
- Consistency in teaching, planning and assessment across the school
- Provide all students with a strong foundational grounding in maths.

Year 8 Cohort



Progress even during the Covid lockdowns

Your decision…

PHASE 1

Years 0 & 1
Online teaching files
(Firm Foundations)

Years 2 & 3 Online teaching files Numicon
–
Apparatus as shown per class

PHASE 2

Years 4, 5 & 6
Online teaching files
Numicon – All
Student Investigations books
Apparatus as shown per class

PHASE 3

Years 7 & 8
Online teaching files
Numicon – All
Student Investigations books
Apparatus as shown per class

And more
Numicon
Shapes,
Pegs
Baseboards
Cuisenaire rods