Match of White Rose Scheme of Work v3.0 to Numicon 3 Activity Groups

Clicking on a link in the long-term plan below will take you straight to all the information you need on that strand within the document. There, you can see which Numicon Focus Activity corresponds to each White Rose Small Step for that strand. You can click on each of the Numicon Focus Activity links to open the relevant activity on Numicon Online in a new tab. Please note you will need to be logged into your Numicon Online subscription first.

Unless otherwise specified, references are to the *Number, Pattern and Calculating 3 Teaching Resource Handbook (NPC 3 TRH)* or the *Geometry, Measurement and Statistics 3 Teaching Resource Handbook (GMS 3 TRH)*.

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Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Autumn Term | Small Steps Progression Week 1 to 3 – Number: Place value

Unless otherwise specified, references are to the *Number, Pattern and Calculating 3 Teaching Resource Handbook (NPC 3 TRH)* or the *Geometry, Measurement and Statistics 3 Teaching Resource Handbook (GMS 3 TRH)*. The strands are referred to as follows: PA = Pattern and Algebra; NNS = Numbers and the Number System; Calc = Calculating; Geo = Geometry; Mea = Measurement; SF = Securing Foundations. The first number denotes the Activity Group, while the second number marks the focus activity.
For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Represent numbers to 100	NNS 1.1
Partition numbers to 100	NNS 4.2
Number line to 100	NNS 3.3
Hundreds	NNS 2.2
Represent numbers to 1,000	NNS 1.4
Partition numbers to 1,000	NNS 4.1
Flexible partitioning of numbers to 1,000	*Extend* NNS 4.2 *to include numbers to 1,000*
Hundreds, tens and ones	NNS 2.3, NNS 2.4, NNS 2.5, NNS 3.1, NNS 3.5
Find 1, 10 or 100 more or less	*Extend* Calc 9.1 *to include 1 and 100 more or less*
Number line to 1,000	NNS 5.9
Estimate on a number line to 1,000	NNS 5.8
Compare numbers to 1,000	NNS 5.7
Order numbers to 1,000	NNS 5.5, NNS 5.6
Count in 50s	PA 3.6

NC Objectives

- Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.
- Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones).
- Compare and order numbers up to 1,000.
- Identify, represent and estimate numbers using different representations.
- Read and write numbers up to 1,000 in numerals and words.
- Solve number problems and practical problems involving these ideas.

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Autumn Term | Small Steps Progression Week 4 to 8 – Number: Addition and subtraction

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For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Apply number bonds within 10	Calc 2.3
Add and subtract 1s	Calc 3.2, Calc 4.3 *Extend number size if necessary*
Add and subtract 10s	Calc 8.5, Calc 8.6
Add and subtract 100s	Calc 8.1, Calc 8.2
Spot the pattern	Calc 9.1, Calc 9.3
Add 1s across a 10	Calc 3.1
Add 10s across a 100	Calc 12.1, Calc 12.2, Calc 12.6
Subtract 1s across a 10	Calc 4.5
Subtract 10s across a 100	Calc 12.1, Calc 12.3, Calc 12.7
Make connections	Calc 9.2
Add two numbers (no exchange)	Simplify Calc 13.1
Subtract two numbers (no exchange)	*Extend the examples* Calc 14.5
Add two numbers (across a 10)	Calc 13.1
Add two numbers (across a 100)	Calc 13.2, Calc 13.6
Subtract two numbers (across a 10)	*Extend the examples* Calc 14.6
Subtract two numbers (across a 100)	*Extend the examples* Calc 14.6
Add 2-digit and 3-digit numbers	*Adjust the number size in* Calc 13.3

NC Objectives

- Add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds.
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Subtract a 2-digit number from a 3-digit number	Calc 14.3
Complements to 100	Calc 9.6
Estimate answers	*Extend the examples* Calc 13.5, Calc 14.5
Inverse operations	Calc 2.10
Make decisions	Calc 14.2

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Autumn Term | Small Steps Progression Week 9 to 12 – Number: Multiplication and division A

Unless otherwise specified, references are to the *Number, Pattern and Calculating 3 Teaching Resource Handbook (NPC 3 TRH)* or the *Geometry, Measurement and Statistics 3 Teaching Resource Handbook (GMS 3 TRH)*. The strands are referred to as follows: PA = Pattern and Algebra; NNS = Numbers and the Number System; Calc = Calculating; Geo = Geometry; Mea = Measurement; SF = Securing Foundations. The first number denotes the Activity Group, while the second number marks the focus activity.
For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Multiplication – equal groups	Calc 5.1, Calc 5.2, Calc 5.3, Calc 5.4
Use arrays	Calc 6.1, Calc 6.2
Multiples of 2	PA 2.2, PA 2.3, Calc 10.2, Calc 10.3
Multiples of 5 and 10	PA 2.4, PA 3.2
Sharing and grouping	Calc 11.1, Calc 11.2, Calc 11.3
Multiply by 3	Calc 5.4
Divide by 3	
The 3 times-table	PA 2.4
Multiply by 4	Calc 15.1, Calc 15.4
Divide by 4	Calc 7.1, Calc 7.4
The 4 times-table	PA 2.4
Multiply by 8	Calc 10.5
Divide by 8	Calc 10.5
The 8 times-table	PA 2.4
The 2, 4 and 8 times-table	Calc 10.4, Calc 10.5

NC Objectives

- *Show that multiplication of two numbers can be done in any order (commutative) and division on one number by another cannot* **(Y2)**.
- *Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers* **(Y2)**.
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
- Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Spring Term | Small Steps Progression Week 1 to 3 – Number: Multiplication and division B

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Overview

Small step	Numicon focus activities
Multiples of 10	Calc 7.3, Calc 10.2, Calc 15.5
Related calculations	*Extend to* PA 3.5, PA 3.6
Reasoning about multiplication	Adapt Calc 6.3, Calc 6.4
Multiply a 2-digit number by a 1-digit number – no exchange	Calc 15.6
Multiply a 2-digit number by a 1-digit number – with exchange	Calc 15.7
Link multiplication and division	Calc 7.1, Calc 7.4
Divide a 2-digit number by a 1-digit number – no exchange	Calc 7.2, Calc 7.5
Divide a 2-digit number by a 1-digit number – flexible partitioning	Calc 15.8
Divide a 2-digit number by a 1-digit number – with remainders	Calc 7.6, Calc 11.4
Scaling	Calc 15.1, Calc 15.2, Calc 15.3, Calc 15.4, Mea 5.3
How many ways?	Calc 6.5

NC Objectives

- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
- Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
- Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objectives.

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Spring Term | Small Steps Progression Week 4 to 6 – Measurement: Length and perimeter

Unless otherwise specified, references are to the *Number, Pattern and Calculating 3 Teaching Resource Handbook (NPC 3 TRH)* or the *Geometry, Measurement and Statistics 3 Teaching Resource Handbook (GMS 3 TRH)*. The strands are referred to as follows: PA = Pattern and Algebra; NNS = Numbers and the Number System; Calc = Calculating; Geo = Geometry; Mea = Measurement; SF = Securing Foundations. The first number denotes the Activity Group, while the second number marks the focus activity.
For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Measure in metres and centimetres	NNS 5.4, NNS 6.8
Measure in millimetres	Mea 3.3
Measure in centimetres and millimetres	
Metres, centimetres and millimetres	NNS 6.5
Equivalent lengths (metres and centimetres)	Mea 3.1
Equivalent lengths (centimetres and millimetres)	Mea 3.4
Compare lengths	Mea 1.1, Mea 1.6, Mea 4.1
Add lengths	Mea 3.5
Subtract lengths	Mea 3.5
What is perimeter?	
Measure perimeter	Mea 3.1
Calculate perimeter	Mea 3.2

NC Objectives

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).
- Measure the perimeter of simple 2D shapes.

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Spring Term | Small Steps Progression Week 7 to 9 – Number: Fractions A

Unless otherwise specified, references are to the *Number, Pattern and Calculating 3 Teaching Resource Handbook (NPC 3 TRH)* or the *Geometry, Measurement and Statistics 3 Teaching Resource Handbook (GMS 3 TRH)*. The strands are referred to as follows: PA = Pattern and Algebra; NNS = Numbers and the Number System; Calc = Calculating; Geo = Geometry; Mea = Measurement; SF = Securing Foundations. The first number denotes the Activity Group, while the second number marks the focus activity.
For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Understand the denominators of unit fractions	NNS 7.1
Compare and order unit fractions	NNS 7.2, NNS 7.3
Understand the numerator of non-unit fractions	NNS 7.4 Steps 1 to 3
Understand the whole	NNS 7.4 Steps 4 to 6
Compare and order non-unit fractions	*Use the resources from* NNS 7.4
Fractions and scales	Mea 6.2
Fractions on a number line	NNS 7.5
Count in fractions on a number line	*Extend* NPC 2: NNS 6.5
Equivalent fractions on a number line	*Extend* NNS 7.6 *to include number lines*
Equivalent fractions as bar models	NNS 7.7

NC Objectives

- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
- Recognise and show, using diagrams, equivalent fractions with small denominators.
- Compare and order unit fractions, and fractions with the same denominators.
- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Spring Term | Small Steps Progression Week 10 to 12 – Measurement: Mass and capacity

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For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Use scales	PA 3.5, PA 3.6, PA 3.7
Measure mass in grams	Mea 5.1
Measure mass in kilograms and grams	Mea 5.5
Equivalent masses (kilograms and grams)	Mea 5.2
Compare mass	Mea 4.1, Mea 4.2, Mea 4.3, Mea 4.4
Add and subtract mass	Mea 5.4
Measure capacity and volume in millilitres	Mea 6.1
Measure capacity and volume in litres and millilitres	Mea 6.4
Equivalent capacities and volumes (litres and millilitres)	Mea 6.2
Compare capacity and volume	Mea 5.1, Mea 5.2, Mea 5.3, Mea 5.4
Add and subtract capacity and volume	Mea 6.3

NC Objectives

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Summer Term | Small Steps Progression Week 1 to 2 – Number: Fractions B

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For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Add fractions	NNS 8.5
Subtract fractions	NNS 8.5
Partition the whole	NNS 8.2
Unit fractions of a set of objects	NNS 8.1
Non-unit fractions of a set of objects	NNS 8.3, NNS 8.4
Reason with fractions of an amount	NNS 8.7, NNS 8.8

NC Objectives

- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
- Add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$).

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Summer Term | Small Steps Progression Week 3 to 4 – Measurement: Money

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For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Pounds and pence	NNS 4.3, NNS 4.4
Convert pounds and pence	Mea 4.1
Add money	Mea 4.2, Mea 4.4, Mea 4.5, NNS 4.5, Calc 13.5
Subtract money	Mea 4.3, Mea 4.5
Find change	Mea 4.3, Calc 8.5

NC Objectives

- Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Summer Term | Small Steps Progression Week 5 to 7 – Measurement: Time

Unless otherwise specified, references are to the *Number, Pattern and Calculating 3 Teaching Resource Handbook (NPC 3 TRH)* or the *Geometry, Measurement and Statistics 3 Teaching Resource Handbook (GMS 3 TRH)*. The strands are referred to as follows: PA = Pattern and Algebra; NNS = Numbers and the Number System; Calc = Calculating; Geo = Geometry; Mea = Measurement; SF = Securing Foundations. The first number denotes the Activity Group, while the second number marks the focus activity.
For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Roman numerals to 12	Mea 1.1, Mea 1.2
Tell the time to 5 minutes	GMS 2: Mea 7.4
Tell the time to the minute	Mea 1.4
Read time on a digital clock	Mea 1.3
Using a.m. and p.m.	Mea 2.1
Years, months and days	Mea 2.4
Days and hours	Mea 2.3
Hours and minutes – using start and end times	Mea 1.5
Hours and minutes – using durations	Mea 2.2
Minutes and seconds	Mea 2.3
Units of time	Mea 2.3, Mea 2.5
Solve problems with time	Mea 1.5

NC Objectives

- Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12-hour and 24-hour clocks.
- Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.
- Know the number of seconds in a minute and the number of days in each month, year and leap year.
- Compare durations of events (for example to calculate the time taken by particular events or tasks).

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Summer Term | Small Steps Progression Week 8 to 9 – Geometry: Shape

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For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Turns and angles	Geo 2.1
Right angles	Geo 2.2
Compare angles	Geo 2.3
Measure and draw accurately	Geo 1.2, *Adapt* Mea 3.3
Horizontal and vertical	Geo 1.1
Parallel and perpendicular	Geo 1.1, Geo 1.2, Geo 3.5
Recognise and describe 2-D shapes	Geo 2.4, Geo 3.1, Geo 3.2
Draw polygons	Geo 1.2
Recognise and describe 3-D shapes	Geo 1.4, Geo 3.1, Geo 3.2
Make 3-D shapes	Geo 1.3

NC Objectives

- Draw 2D shapes and make 3D shapes using modelling materials.
- Recognise 3D shapes in different orientations and describe them.
- Recognise angles as a property of shape or a description of a turn.
- Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
- Measure the perimeter of simple 2-D shapes
- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

Match of White Rose Maths Progression to Numicon Focus Activities
Year 3 | Summer Term | Small Steps Progression Week 10 to 11 – Statistics

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For example, NNS 1.7 refers to Numbers and the Number System 1, focus activity 7.

Overview

Small step	Numicon focus activities
Interpret pictograms	Mea 3.6
Draw pictograms	*Extend* Mea 3.6
Interpret bar charts	Mea 5.7
Draw bar charts	*Extend* Mea 5.7
Collect and represent data	Mea 5.6, Geo 3.3
Simple two-way tables	Geo 1.4, Geo 3.2

NC Objectives

- Interpret and present data using bar charts, pictograms and tables.
- Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables.