Mathematics Guidance
Mixed Aged Planning in KS2

Overview and Long Term Plans

North Yorkshire County Council

MathsHUBS Archimedes NE

Introduction and Rationale

The project was borne out of the need in North Yorkshire, to organise the maths curriculum into areas which could be taught to mixed age classes. North Yorkshire has many small schools which lend themselves to mixed aged classes e.g. Y3 - Y5 or even whole key stages.

The project wanted to collate areas of similar content, to facilitate class teachers to teach multiple year groups with each year group accessing their curriculum entitlement.

These planning documents have been produced to provide an overview of learning objectives, together with associated exemplification for the three aims of the mathematics national curriculum, to enable mixed age teaching and learning of mathematics.

Long Term Planning and structure of units:

Although you may decide to block topics to teach in one go entirely, within this document are two suggested alternate models for long term planning of mathematics linked to the units. Timings for each unit are suggestions only. The unit can easily be adapted for any combination of mixed age classes within KS2.

There are 7 standalone units linked to the National Curriculum. The 8th Unit of algebra can be taught separately or alongside as suggested in the options included within this document. The Units are:

Number and Place Value		NPV	(4 weeks)
Addition and Subtraction		NAS	(4 weeks)
Multiplication and Division		NMD	(5 weeks)
Fractions, Decimals and Percentages		NFD	(7 weeks)
Algebra	ALG	(1 week – Y6 only)	
Geometry		GEO	(6 weeks)
Measure		MEA	(7 weeks)
Statistics		STC	(3 weeks)

The structure of each Unit is broken down in order to link similar objectives across year 3-6. There is unlikely to be an exact match across all year groups so teachers of mixed age classes will have to use their discretion in choosing an order of teaching that will work across all year groups. In addition there is exemplification and reasoning guidance from the NCETM, links to the schemes of work written by the White Rose Maths Hub and links to NRich activities.

Contributors and Acknowledgements

The working party consisted of four teachers all working with mixed age classes and a Local Authority mathematics adviser. The group were;

Jo Fitton	Masham CE (VA) Primary School
Fiona Motteu	Danby C of E Primary School
Gordon Stainsby	Reeth and Gunnerside Primary Schools
Jill Wells	Sinnington Primary School
Julie Pattison	0-19 mathematics adviser, North Yorkshire County Council

We would also like to thank Archimedes Maths Hub for their on-going support of this project and future work, the White Rose Maths Hub for granting us permission to incorporate their primary schemes of work within our project and NRich for allowing us to include links to their activities.

Future work and updates

This is intended to be the final version of these plans; however updates will be made if any errors are found. Feedback is welcome. Please email Julie.pattison@northyorks.gov.uk with any feedback or enquiries

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Long Term planning

Option 1

<table>
<tr><th></th><th>Week 1</th><th>Week 2</th><th>Week 3</th><th>Week 4</th><th>Week 5</th><th>Week 6</th><th>Week 7</th><th>Week 8</th><th>Week 9</th><th>Week 10</th><th>Week 11</th><th>Week 12</th></tr>
<tr><td>Autumn</td><td colspan="2">Number and Place Value
NPV</td><td colspan="2">Addition and Subtraction
NAS</td><td colspan="3">Geometry
GEO</td><td colspan="2">Multiplication and Division
NMD</td><td colspan="3">Fractions decimals and Percentage
NFD</td></tr>
<tr><td>Spring</td><td colspan="3">Measures
MEA</td><td colspan="2">Number and Place Value
NPV

Algebra (Y6 only)
ALG</td><td colspan="2">Addition and Subtraction
NAS</td><td colspan="2">Statistics
STC</td><td colspan="3">Multiplication and Division
NMD</td></tr>
<tr><td>Summer</td><td colspan="4">Fractions decimals and Percentage
NFD</td><td colspan="3">Geometry
GEO</td><td>Statistics
STC</td><td colspan="4">Measures
MEA</td></tr>
</table>

Masham C.E. School

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Option 2

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number and Place Value NPV		Number and Place Value NPV		Addition and Subtraction NAS				Multiplication and Division NMD			
			Algebra (Y6 only) ALG									
Spring	Measures			Fractions Decimals and Percentage NFD					Statistics STC			Multiplication and Division NMD
Summer	Geometry GEO			Fractions decimals and Percentage NFD		Geometry GEO			Measures MEA			

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Long Term planning

Option 3 (3 day (top) and 2 day (bottom) for part time teaching split)

<table>
<tr><th></th><th>Week 1</th><th>Week 2</th><th>Week 3</th><th>Week 4</th><th>Week 5</th><th>Week 6</th><th>Week 7</th><th>Week 8</th><th>Week 9</th><th>Week 10</th><th>Week 11</th><th>Week 12</th></tr>
<tr><td rowspan="2">Autumn</td><td colspan="4">NPV – Number and Place Value</td><td colspan="4">NAS – Addition and Subtraction</td><td colspan="4">NMD – Multiplication and Division</td></tr>
<tr><td colspan="4">GEO - Position and Movement</td><td colspan="4">MEA - Measuring</td><td colspan="4">MEA - Units</td></tr>
<tr><td rowspan="2">Spring</td><td colspan="4">NFD – Fractions, Decimals and Percentages</td><td colspan="4">GEO – Angles & Shape 1</td><td colspan="4">NFD – Fractions, Decimals and Percentages</td></tr>
<tr><td colspan="4">NPV – Number and Place Value
ALG - Algebra (Y6 only)</td><td colspan="4">NAS – Addition and Subtraction</td><td colspan="4">STC - Statistics</td></tr>
<tr><td rowspan="2">Summer</td><td colspan="6">MEA – Perimeter, Area and Volume & Time 1</td><td colspan="4">NFD – Fractions, Decimals and Percentages</td><td colspan="2">STC - Statistics</td></tr>
<tr><td colspan="6">NMD – Multiplication and Division</td><td colspan="5">GEO – Shape 2</td><td>MEA - Time 2</td></tr>
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Long Term planning

Option 4

<table>
<tr><th></th><th>Week 1</th><th>Week 2</th><th>Week 3</th><th>Week 4</th><th>Week 5</th><th>Week 6</th><th>Week 7</th><th>Week 8</th><th>Week 9</th><th>Week 10</th><th>Week 11</th><th>Week 12</th></tr>
<tr><td rowspan="2">Autumn</td><td colspan="2" rowspan="2">NPV
Number and Place Value</td><td colspan="4">NAS – Addition only</td><td colspan="4">NAS – Subtraction only</td><td colspan="2">NMD – Multiplication only</td></tr>
<tr><td colspan="4">NFD
Fractions, decimals and Percentages</td><td colspan="4">MEA
Measures</td><td colspan="2">GEO
Geometry</td></tr>
<tr><td rowspan="2">Spring</td><td colspan="2">NMD – Multiplication only</td><td colspan="4">NMD – Division only</td><td colspan="2">ALG – Y6 Algebra</td><td colspan="4">NAS – Addition only</td></tr>
<tr><td colspan="2">GEO
Geometry</td><td colspan="4">STC
Statistics</td><td colspan="2">NPV
Number and Place Value</td><td colspan="4">NFD
Fractions, decimals and Percentages</td></tr>
<tr><td rowspan="2">Summer</td><td colspan="4">NAS – Subtraction only</td><td colspan="4">NMD – Multiplication only</td><td colspan="4">NMD – Division only</td></tr>
<tr><td colspan="4">MEA
Measures</td><td colspan="4">GEO
Geometry</td><td colspan="4">STC
Statistics</td></tr>
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