

## YEAR 6

<u>Children know how to:</u>	<u>Opportunities and ideas for journaling.</u> <u>“How do mathematicians..”</u>	<u>Problem Solving and reasoning opportunities</u>	<u>NCETM Spine and Assessment Materials</u>	
<b>AUTUMN</b>				
<b>Number: Place Value (2 WEEKS)</b>			<a href="#">Year 6 Spine 1</a>	
Numbers to ten million	<a href="#">White Rose Activity</a>  <a href="#">Negative Numbers</a>  How do mathematicians compare numbers?	NRICH <a href="#">Round the four dice</a> (for Rounding)  <a href="#">I See Reasoning</a> Page 7-27	1.30: TP 1:1-1.8, 2.1-2.8, 3.1-3.6	
Compare and order any number			1.30: TP 2.9-2.10, 3.3	
Round any number			1.30: TP 5.1-5.13	
Negative numbers			<a href="#">Yr6 NCETM assessment materials</a> Page 9-11	
<b>Number: Addition, Subtraction, Multiplication and Division (4 WEEKS)</b>			<a href="#">Year 6 Spine 1</a> <a href="#">Year 6 Spine 2</a>	
Add and subtract integers	How do mathematicians divide using factors?	NRICH <a href="#">Explore the number patterns you make</a> <a href="#">Moons of Vuvv</a> <a href="#">Mystery Matrix</a> <a href="#">Factor lines</a>	1.30: TP 4.1-4.8, 6.1-6.13	
Multiply up to a 4-digit number by a 2-digit number			How do mathematicians find squares and cubes?	2.28: TP: 1.1-1.5, 2.1-2.5
Short division				2.23: TP 1.1- 1.7, 2.1-2.8, 3.1-3.3, 4.1-4.13, 5.1-5.6,
Division using factors	How do mathematicians know what order to use operations?	<a href="#">Factor-multiple chains</a> <a href="#">Round and Round the Circle</a> <a href="#">Counting Cogs</a> <a href="#">Four go</a>  <a href="#">I See Reasoning</a> Page 28-63	2.24: TP 1.1- 1.7, 2.1-2.9, 3.1-3.7	
Long division (1)			1.31: TP 1.1-1.4, 2.1-2.5, 3.1-3.7, 4.1-4.5, 5.1-5.7	
Long division (2)			<a href="#">Yr6 NCETM assessment materials</a> Page 12-17	
Long division (3)				
Long division (4)				
Common factors				
Common multiples				
Primes to 100				
Squares and cubes				
Order of operations				
Mental calculations and estimation				
Reason from known facts				
<b>Number: Fractions (4 WEEKS)</b>			<a href="#">Year 6 Spine 3</a>	
Simplify fractions	White Rose Activity	NRICH <a href="#">Rectangle tangle</a>	3.9: TP: 1.1- 1.12	
Fractions on a number line			3.9: TP: 2.1- 2.9, 3.1-3.8	

Compare and order (denominator)	<a href="#">Add and subtract fractions activity (denominators are not multiples)</a>  How do mathematicians compare fractions?  How do mathematicians find fractions of amounts?  How do mathematicians divide fractions?	<a href="#">Fraction Fascination</a>  <a href="#">I See Reasoning</a> Page 64-75	<a href="#">Yr6 NCETM assessment materials</a> Page 18-22
Compare and order (numerator)			
Add and subtract fractions (1)			
Add and subtract fractions (2)			
Add fractions			
Subtract fractions			
Mixed addition and subtraction			
Multiply fractions by integers			
Multiply fractions by fractions			
Divide fractions by integers (1)			
Divide fractions by integers (2)			
Four rules with fractions			
Fraction of an amount			
Fraction of an amount – find the whole			
<b><a href="#">Geometry: Position and Direction (1 WEEK)</a></b>			
The first quadrant	How do mathematicians use four quadrants?  How do mathematicians translate/reflect?	NRICH <a href="#">Coordinate Tan</a> <a href="#">Ten hidden squares</a>  <a href="#">I See Reasoning</a> Page 132-137	<a href="#">Yr6 NCETM assessment materials</a> P34-36
Four quadrants			
Translations			
Reflections			
<b>SPRING</b>			
<b>Number: Decimals (2 WEEK)</b>			
Three decimal places			
Multiply by 10, 100 and 1,000			
Divide by 10, 100, 1,000			
Multiply decimals by integers			
Divide decimals by integers			
Division to solve problems			
Decimals as fractions			
Fractions to decimals (1)			
Fractions to decimals (2)			
<b>Number: Percentages (2 WEEKs)</b>			
Fractions to percentages			
Equivalent FDP			
Order FDP			
Percentage of an amount (1)			
Percentage of an amount (2)			

Percentages – missing values			
<b>Number: Algebra (2 WEEKS)</b>			
Find a rule – one step			
Find a rule – two step			
Forming expressions			
Substitution			
Formulae			
Forming equations			
Solve simple one-step equations			
Solve two-step equations			
Find pairs of values			
Enumerate possibilities			
<b>Measurement: Converting Units (1 WEEK)</b>			
Metric measures			
Covert metric measures			
Calculate with metric measures			
Miles and kilometres			
Imperial measures			
<b>Measurement: Perimeter, Area and Volume (2 WEEKS)</b>			
Shapes – same area			
Area and perimeter			
Area of a triangle (1)			
Area of a triangle (2)			
Area of a triangle (3)			
Area of a parallelogram			
Volume – counting cubes			
Volume of a cuboid			
<b>Number: Ratio (2 WEEKS)</b>			
Using ratio language			
Ratio and fractions			
Introducing the ratio symbol			
Calculating ratio			
Using scale factors			
Calculating scale factors			
Ration and proportion problems			
<b>SUMMER</b>			
<b>Geometry: Properties of Shape (2 WEEKS)</b>			
Measure with a protractor			

Introduce angles			
Calculate angles			
Vertically opposite angles			
Angles in a triangle			
Angles in a triangle – special cases			
Angles in a triangle – missing angles			
Angles in special quadrilaterals			
Angles in regular polygons			
Draw shapes accurately			
Draw nets of 3-D shapes			
<b>Statistics (2 WEEKS)</b>			
Circles			
Read and interpret pie charts			
Pie charts with percentages			
Draw pie charts			
The mean			
<b>Revision of gaps (3 WEEKS)</b>			
Week 1			
Week 2			
Week 3			