



Year 6 Mathematics Yearly Overview

(Some terms may be longer; some units may vary in length of time due to AFL)

Mental/Oral Starters (*adaptable based on AFL)				
Suggestions: *Rounding to 10, 100... *11&12 x tables... *Factor pairs... *Calculate using known facts				
Autumn 1		<p>Prior Learning</p> <ul style="list-style-type: none"> Compare numbers to a million Rounding to 1 million <p>Revisit NCETM spine 1.26</p>	<p>Prior Learning</p> <ul style="list-style-type: none"> Add & subtract 4-digit numbers Use inverse to check accuracy Multiply and divide drawing on known facts Multiply & divide 4-Digits by 1-digit Divide with remainders <p>Revisit NCETM spine 1.20, 1.21</p>	<p>Prior Learning</p> <ul style="list-style-type: none"> Compare fractions where denominators are multiples Recognise mixed numbers and improper fractions. Identify equivalent fractions
	<p>Review</p> <ul style="list-style-type: none"> Expectations Year 5 arithmetic <p>NCETM spine 2.15, 2.14, 2.13, 1.20, 1.21</p>	<p>Place value</p> <ul style="list-style-type: none"> Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Round any whole number to a required degree of accuracy NCETM spine 1.30 Solve number and practical problems that involve all of the above. <p>NCETM spine mainly 1.30 (TP2 & TP3)</p> <p>WR autumn block 1 (step 1 - 7)</p>	<p>Addition, Subtraction, Multiplication and Division</p> <ul style="list-style-type: none"> Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication NCETM spine mainly 2.23 Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context NCETM spine mainly 2.24 Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Perform mental calculations, including with mixed operations and large numbers Identify common factors, common multiples and prime numbers NCETM spine mainly 2.21 Use their knowledge of the order of operations to carry out calculations involving the four operations Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <p>WR autumn block 2</p>	<p>Fractions (understanding)</p> <ul style="list-style-type: none"> Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions > 1 Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. NCETM spine mainly 3.7 <p>WR autumn block 3</p>

NCETM: <https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development> (Spine 1: Number, Add & Subtract, Spine 2: Multiplication and Division, Spine 3: Fractions)

White Rose Small Steps: <https://whiterosemaths.com/primary-sols/>

Mental/Oral Starters (*adaptable based on AFL)

Suggestions: * Common factors, multiples... * Check calculations using Inverse... * Round the nearest tenth... *add and subtract decimals between 1 whole

Autumn 2	<ul style="list-style-type: none"> Recall equivalence F, D, P <u>Review</u> formal calculations from autumn term 	<p style="text-align: center;">Prior Learning</p> <ul style="list-style-type: none"> Add and subtract fractions with denominators that are multiples Add and subtract mixed numbers Multiply a fraction by a whole 	<p style="text-align: center;">Prior Learning</p> <ul style="list-style-type: none"> Decimal compliments to 1 Add and subtract decimal numbers with the same number of decimal places <p style="text-align: center;">Revisit NCETM spine 1.24</p>	<p style="text-align: center;">Prior Learning</p> <ul style="list-style-type: none"> Understand meaning of percentage Percentages as fractions and decimals
	<p style="text-align: center;">Algebra</p> <ul style="list-style-type: none"> Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with two unknowns Enumerate possibilities of combinations of two variables. <p style="text-align: center;">WR spring block 3 NCETM spine 1.28, 1.31</p>	<p style="text-align: center;">Fractions (calculation)</p> <ul style="list-style-type: none"> Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions NCETM spine 3.8 Multiply simple pairs of proper fractions, writing the answer in its simplest form NCETM spine 3.9 Divide proper fractions by whole numbers Associate a fraction with division and calculate decimal fraction equivalents <p style="text-align: center;">WR autumn block 3</p>	<p style="text-align: center;">Decimals</p> <ul style="list-style-type: none"> Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places NCETM spine 2.99 Multiply one-digit numbers with up to two decimal places by whole numbers Use written division methods in cases where the answer has up to two decimal places Solve problems that require answers to be rounded to a specific degree of accuracy. NCETM spine 3.9 WR spring block 1 	<p style="text-align: center;">Percentages</p> <ul style="list-style-type: none"> Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. <p style="text-align: center;">NCETM spine 3.10 WR spring block 2</p>

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Suggestions: *Convert (cm, mm, m) ...*Time duration...*Order and compare fractions...*Multiply 3 numbers

Spring 1	Prior Learning	Prior Learning	Prior Learning	Prior Learning
	<ul style="list-style-type: none"> <u>Review:</u> Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit 	<ul style="list-style-type: none"> Convert metric measures Name imperial measures Convert units of time Know how many days in each month – days in a year. <u>Review:</u> multiply and divide by powers of 10 	<ul style="list-style-type: none"> Measure and calculate perimeter (cm – m) Estimate volume Multiply 3 numbers <u>Review:</u> Addition and multiplication of decimal numbers Calculate area of rectangles and squares NCETM revisit spine 3.10 	<ul style="list-style-type: none"> Translation in the first quadrant
	<u>Place value</u>	<u>Converting units</u>	<u>Perimeter, Area and Volume</u>	<u>Position and Direction</u>
	<ul style="list-style-type: none"> Use negative numbers in context, and calculate intervals across zero Solve number and practical problems that involve all of the above. <p>WR autumn block 1 (step 8)</p>	<ul style="list-style-type: none"> Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places Convert between miles and kilometres WR spring block 4 NCETM spine 2.29 (TP2 metric) 	<p>Recognise that shapes with the same area can have different perimeters and vice versa NCETM spine 2.30</p> <ul style="list-style-type: none"> Recognise when it is possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles <p>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]. WR spring block 5 NCETM spine 2.20</p>	<ul style="list-style-type: none"> Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. <p>NCETM spine 1.27 (TP 6) WR autumn block 4</p>

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Mental/Oral Starters (*adaptable based on AFL)

Suggestions: * Rounding to the nearest 10, 100, 1000... *Factor pairs, multiples, prime and square numbers... *Count through zero... *Formula for area (triangles) and volume

Spring 2	Prior Learning	Prior Learning	Prior Learning
	<ul style="list-style-type: none"> • <u>Review</u> simplifying fractions • <u>Review</u>: multiples and factors • <u>Review</u>: Converting measures • 	<ul style="list-style-type: none"> • Measure using a protractor • Calculate angles on a straight line • Calculate angles round a point • Calculate lengths and angles in shapes 	<ul style="list-style-type: none"> • Read and interpret line graphs • Read and interpret tables • Two-way tables and timetables • <u>Review</u>: mental and formal division strategies
	Number Ratio	Properties of Shapes	Statistics
	<ul style="list-style-type: none"> • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • Solve problems involving similar shapes where the scale factor is known or can be found • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. WR spring block 6 NCETM spine 2.27 	<ul style="list-style-type: none"> • Draw 2-D shapes using given dimensions and angles • Recognise, describe and build simple 3-D shapes, including making nets • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. NCETM spine 1.28 (TP 4 missing angles) WR summer block 1 	<ul style="list-style-type: none"> • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • Interpret and construct pie charts and line graphs and use these to solve problems NCETM spine 3.10 • Calculate and interpret the mean as average. NCETM spine 2.26 <p>NCETM spine 1.28, WR summer block 3</p>

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Mental/Oral Starters (*adaptable based on AFL)			
Summer 1	Prior Learning		Prior Learning
	Revise in preparation for SATs		Begin transition work

Mental/Oral Starters (*adaptable based on AFL)			
Summer 2	Prior Learning	Prior Learning	Prior Learning
	Transition work (Year 7 objectives – links with secondary school) Investigations Project maths Maths linked to other curriculum areas		

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