



Broadwood Primary School Maths Yearly Overview: Year 6

Number Facts Targets to be practised throughout the year:

* Add and subtract numbers mentally with increasingly large numbers, * multiply and divide numbers mentally drawing upon known facts, * Ready to Progress Criteria 6AS/MD-1: Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number), 6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding

Autumn 1						
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Place Value: Composition of Numbers and Decimals	Place Value: The linear number system	<i>Assessment</i>	Multiplication and Division (mental methods)	Multiplication (formal methods)	Division (formal methods)	
- read, write, order and compare numbers up to 10 000 000 and determine the value of each digit - Links to Ready to Progress criteria 6NPV-2: Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning	- round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero - Links to Ready to Progress criteria 6NPV-3: Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts		- 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 (links to Ready to Progress criteria 6NPV-1) - identify common factors, common multiples and prime numbers	- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - multiply one-digit numbers with up to two decimal places by whole numbers in the context of measures and money	- 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 - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context - use written division methods in cases where the answer has up to two decimal places - introduce division of decimal numbers by one-digit whole number in practical contexts involving measures and money	



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Autumn 2						
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Application of Place Value	Fractions			Geometry: Position and Direction	Four Operations (order of operations & problem solving)	
- Practise formal written method of column addition and subtraction - Recognise the place value of each digit in numbers up to 10 million - Links to Ready to Progress criteria 6NPV-4: Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.	- use common factors to simplify fractions; use common multiples to express fractions in the same denomination (links to Ready to Progress criteria 6F-1) - compare and order fractions, including fractions > 1 (links to Ready to Progress criteria 6F-2) - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions (links to Ready to Progress criteria 6F-3) - multiply simple pairs of proper fractions, writing the answer in its simplest form using a variety of images to support understanding - divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$]			- describe positions on all four quadrants - draw and translate simple shapes on the coordinate plane, and reflect them in the axes - draw and label a pair of axes in all four quadrants with equal scaling - extend knowledge of one quadrant to all four quadrants, Inc. negative numbers - draw and label rectangles, parallelograms and rhombuses, specified by coordinates in four quadrants, predicting missing coordinates using properties of shapes.	- Explore the order of operations using brackets - use their knowledge of the order of operations to carry out calculations involving the four operations - perform mental calculations, including with mixed operations and large numbers - solve problems involving addition, subtraction, multiplication and division - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	



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Spring 1						
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Decimals: Division	Ratio (revisit Multiplication and Division and Fractions)		Assessment	Percentages	Algebra	
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] - solve problems which require answers to be rounded to specified degrees of accuracy - practise calculations with simple fractions and decimal fraction equivalents to aid fluency	- Links to Ready to Progress criteria 6AS/MD-3: Solve problems involving ratio relationships. - 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.			- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts - solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	- Link to Ready to Progress criteria: 6AS/MD-4: Solve problems with 2 unknowns - 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 - use symbols and letters to represent variables and unknowns in mathematical situations such as: - missing numbers, lengths, coordinates and angles formulae in mathematics and science - equivalent expressions (for example, $a + b = b + a$) - generalisations of number patterns - number puzzles (for example, what two numbers can add up to)	



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Spring 2					
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Calculating Fractions	Shape		Data and Statistics	Ratio, Proportion, Fractions and Percentages	
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form using a variety of images to support understanding - divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$]	- Links to Reay to Progress criteria 6G-1: Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. - 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 - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. - describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements. These relationships might be expressed algebraically for example, $d = 2 \times r$; $a = 180 - (b + c)$.		- interpret and construct pie charts and line graphs and use these to solve problems - calculate and interpret the mean as an average - connect angles, fractions and percentages to the interpretation of pie charts - encounter and draw graphs relating two variables, arising from own enquiry and in other subjects. connect conversion from kilometres to miles in measurement to its graphical representation - find the mean of a data set	- recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes and recipes) - link percentages or 360° to calculating angles of pie charts - consolidate understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems - use the notation $a:b$ to record - solve problems involving unequal quantities, for example, 'for every egg you need three spoonfuls of flour', '$3/5$ of the class are boys' - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	



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Summer 1				
Week 1	Week 2	Week 3	Week 4	Week 5
Place Value with Measures	Calculating Measures	SATs revision / consolidation	Assessment	Teacher Assessment to inform planning in response to SATs
• 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 • add and subtract positive and negative integers for measures such as temperature using a number line	• recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres, and extending to other units [for example, mm^3 and km^3]	Teacher planning in response to cohort need		Teacher planning in response to cohort need



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Summer 2: Y6 – Y7 Transition Focus				
Week 1	Week 2	Week 3	Week 4	Week 5 – 7
Maths in Context: Money	Maths in Context: Time	Maths in Context: Data and Statistics	Maths in Context: Measures	Ready to Progress: Teacher Assessment, Transition to Secondary Planning in response to cohort need

Topics selected for summer term 3b reflect a practical using and applying approach.

NCETM Checkpoints materials for Y7 are due to be released for 21/22. Suggest looking at these to plan for transition.