HOOK JUNIOR SCHOOL

Y5 Long Term Plan

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Aut.	Number and Place Value			Negative Numbers		Mental Addition / Subtraction and Missing Number Problems				Patterns in Addition and Subtraction		Roman Numeral and Statistics			
Spr.	Factors, Multiples, Primes and Composite Numbers	Short Multiplication / Short Division / Patterns in Multiplication and Division		Decimals		Area, Perimeter and Volume	Fractions								
Sum.	Fractions				Measures: Converting Units		Geometry: Angles			Long Multiplication		Long Division			

Year 5 Medium Term Plan - Whole Overview 2023 - 2024

Each step below is not one lesson or one learning target. Breakdown steps into smaller learning targets, with one learning target per lesson. Use White Rose tasks where they fit alongside other appropriate tasks.

Mini starters / prior learning required to achieve objective as a reminder: read, write and compare and order numbers up to 1000 using equality and inequalities; counting forwards and backwards in 10s,100s,1000s, 5s, 50s using counting stick (including into negative numbers), class chanting, counting orchestra etc.; revise 10, 100, 1000 more or less; revise number bonds to 1000

Number and Place Value: Numbers to 1 Million

(approximately 3 weeks)

Spine 1.26: Composition and Calculation – multiples of 1,000 to 1,000,000

Explore the composition of six-digit, whole-thousand numbers, using the partitioning structure; apply knowledge and strategies from segments 1.17 and 1.18 combined with unitising in 1,000s, as well as column methods and rounding.

1. Use White Rose Y5 (Y4 recap) – 1000s, 100s, 10s and 1s. Use this to assess which representation of number / resources children are familiar with and ensure that the part-part-whole model is familiar. Also use to reinforce expectations of how book and resources are used.
2. **Spine 1.26 Teaching point 1** – Understanding of numbers composed of hundred thousands, ten thousands and one thousands can be supported by making links to numbers composed of hundreds, tens and ones.
3. **Spine 1.26 Teaching point 2** – Multiples of 1,000 up to 1,000,000 can be placed in the linear number system by drawing on knowledge of the place of numbers up to 1,000 in the linear number system.
4. **Spine 1.26 Teaching point 3** – Numbers can be ordered and compared using knowledge of their composition and of their place in the linear number system.
5. **Spine 1.26 Teaching point 4** – Calculation approaches for numbers up to 1,000 can be applied to multiples of 1,000 up to 1,000,000.

6. Spine 1.22 Teaching point 4 – Numbers can be rounded to simplify calculations or to indicate approximate sizes. Use this Y4 teaching point to recap rounding before applying this to calculation in the next teaching point.
7. Spine 1.26 Teaching point 5 – Numbers can be rounded to simplify calculations or to indicate approximate sizes.
8. Spine 1.26 Teaching point 6 – Known patterns can be used to divide 10,000 and 100,000 into two, four and five equal parts. These units are commonly used in graphing and measures.

Negative Numbers

(approximately 2 weeks)

Spine 1.27: Negative Numbers – counting, comparing and calculating

Introduce children to negative numbers, making links to everyday contexts; explore addition and subtraction below zero and across zero.

Use this unit on negative numbers to introduce the children to the idea that you can have a negative amount of money in a bank account (to owe money or be in debt). Briefly discuss the dangers of this including interest payments.

1. Spine 1.27 Teaching point 1 – Positive and negative numbers can be used to represent change.
2. Spine 1.27 Teaching point 2 – Our number system includes numbers that are less than zero; these are negative numbers. Numbers greater than zero are positive numbers.
3. Spine 1.27 Teaching point 3 – The negative/minus symbol (−) is placed before a numeral to indicate that the value is a negative number.
4. Spine 1.27 Teaching point 4 – Negative numbers can be shown on horizontal scales; numbers to the left of zero are negative (less than zero) and numbers to the right of zero are positive (greater than zero). The larger the value of the numeral after the negative/minus symbol, the further the number is from zero.
5. Spine 1.27 Teaching point 5 – Knowledge of the positions of positive and negative numbers in the number system can be used to calculate intervals across zero.
6. Spine 1.27 Teaching point 6 – Negative numbers are used in coordinate and graphing contexts.

Mental Addition / Subtraction and Missing Number Problems

(approximately 4 weeks)

Spine 1.28: Common Structures and the Part–Part–Whole Relationship

Extend the part–part–part–whole structure (three or more parts) to solve missing part/whole problems in a range of contexts; draw on number composition and additive concepts from across the spine, focusing on the structural equivalence of the problems.

1. **Recap mental strategies for addition and subtraction using elements from spine 1.18 and the associated ready to progress documents.** Recap mental and written methods for adding 3 or more numbers. Ensure number bonds to 10 and 100 can be recalled and applied to mentally bridge tens and hundreds. Recap how the commutativity of addition means individual numbers of partitions of those numbers can be added in any order. Give extended and varied practise of adding sets of numbers using a range of strategies for efficiency (e.g. starting with number bonds or doubles or numbers that avoid bridging).
2. **Spine 1.28 Teaching point 1** – Mathematical relationships encountered at primary level are either additive or multiplicative; both of these can be observed within the structure of part–part–whole relationships.
3. **Spine 1.28 Teaching point 2** – Problems in many different contexts can be solved by adding together the parts to find the whole. Different strategies can be used to calculate the whole, but the structure of the problem remains the same.
4. **Spine 1.28 Teaching point 3** – If the value of the whole is known, along with the values of all but one of the parts, the value of the missing part can be calculated. Different strategies can be used to calculate the missing part, but the structure of the problem remains the same.
5. **Spine 1.28 Teaching point 4** – Problems in many different contexts have the 'missing-part' structure.
6. Solve a range of addition and subtraction multi-step problems in contexts, deciding which methods to use and why.
7. **Geometry** – Angles in a triangle add up to 180 degrees. Angles on a straight also add up to 180 degrees. Use as an opportunity to apply understanding from 1.28.
8. **Geometry** – Angles in a quadrilateral add up to 360 degrees. Further application of understanding from 1.28.

Patterns in Addition and Subtraction

(approximately 2 weeks)

Spine 1.29: Using Equivalence and the Compensation Property to Calculate

Explore the effect on the sum of changing the value of one or both addends; explore the effect on the difference of changing the value of the minuend, the subtrahend or both. Apply knowledge of compensation properties and inverse operations to calculate and balance equations.

1. **Spine 1.29 Teaching point 1** – If one addend is increased and the other is decreased by the same amount, the sum stays the same. (same sum)
2. **Spine 1.29 Teaching point 2** – If one addend is increased (or decreased) and the other is kept the same, the sum increases (or decreases) by the same amount.
3. **Spine 1.29 Teaching point 3** – If the minuend and subtrahend are changed by the same amount, the difference stays the same. (same difference)
4. **Spine 1.29 Teaching point 4** – If the minuend is increased (or decreased) and the subtrahend is kept the same, the difference increases (or decreases) by the same amount.
5. **Spine 1.29 Teaching point 5** – If the minuend is kept the same and the subtrahend is increased (or decreased), the difference decreases (or increases) by the same amount.
6. **Spine 1.29 Teaching point 6** – The value of the expressions on each side of an equals symbol must be the same; addition and subtraction are inverse operations. We can use this knowledge to balance equations and solve problems.

Roman Numerals

(approximately 3 lessons)

1. Read Roman numerals to 20 (I to XX) – Year 3 recap
2. Read Roman numerals to 100 (I to C) – Year 4 recap
3. Read Roman numeral to 1000 (M) and recognise years written in Roman numerals.

Statistics

NC Objectives:

- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Key vocabulary: scale, fewer, less, more, greater, most, least, difference, data, tally chart, discrete data, continuous data, axes, interpret, table, pictogram, represent, present

Steps in progression (based on White Rose Scheme of Learning – see this for planning guide):

NB: These steps are not one lesson or one learning target. Breakdown steps into smaller learning targets, with one learning target per lesson.

1. Interpret charts – interpreting discrete data in bar charts, pictograms and tables (Y4 recap)
2. Time recap, especially common conversions between measures of time and ways time is recorded
3. Reading and interpreting information in timetables
4. Comparison, sum and difference problems using information presented in bar charts, pictograms, tables (including timetables) and other graphs (Y4 recap)
5. Introducing line graphs – interpreting graphs
6. Comparison, sum and difference problems using information presented in line graphs
7. Introducing line graphs – drawing line graph
8. Line graphs
9. Mini assessment

Factors, Multiples, Primes and Composite Numbers

(approximately 1 week)

Spine 2.21: Factors, multiples, primes and composite numbers

Identify properties of factors and multiples including square and prime numbers, composite numbers, common and prime factors, and common multiples. Use factor pairs to solve problems efficiently.

1. **Spine 2.21 Teaching point 1** – Factors are positive integers that can be multiplied together to equal a given number.
2. **Spine 2.21 Teaching point 2** – Systematic methods can be used to find all factors of a number; factors come in pairs; all positive integers have an even number of factors apart from square numbers, which have an odd number of factors; numbers with more than two factors are called composite numbers.

3. **Spine 2.21 Teaching point 3** – Prime numbers are positive integers that have exactly two factors. Explore how to establish whether a number up to 100 is prime and recall all prime numbers up to 19 (NC requirement).
4. **Spine 2.21 Teaching point 4** – A common factor is a factor that is shared by two or more numbers. A prime factor is a factor that is also a prime number.
5. **Spine 2.21 Teaching point 5** – A multiple of a number is the product of that number and an integer; a common multiple is a multiple that is shared by two or more numbers.
6. **Spine 2.21 Teaching point 6** – The factor pairs of '100' can be used to support efficient calculation.
7. **NC objective:** recognise and use squared numbers and cube numbers and the notation for squared and cubed.

Short Multiplication

Recap from Y4 – approx. 3 lessons

Spine 2.14: Multiplication: partitioning leading to short multiplication

Introduce the short multiplication algorithm, using it to multiply two-/three-digit numbers by single-digit numbers; explore regrouping where necessary.

1. **Spine 2.14 Teaching point 1** – The distributive law can be applied to multiply any two-digit number by a single-digit number, by partitioning the two-digit number into tens and ones, multiplying the parts by the single-digit number, then adding the partial products.
2. **Spine 2.14 Teaching point 2** – Any two-digit number can be multiplied by a single-digit number using an algorithm called 'short multiplication'; the digits of the factors must be aligned correctly; the algorithm is applied working from the least significant digit (on the right) to the most significant digit (on the left); if the product in any column is ten or greater, we must 'regroup'.
3. **Spine 2.14 Teaching point 3** – The distributive law can be applied to multiply any three-digit number by a single-digit number, by partitioning the three-digit number into hundreds, tens and ones, multiplying the parts by the single-digit number, then adding the partial products.
4. **Spine 2.14 Teaching point 4** – Any three-digit number can be multiplied by a single-digit number using the short multiplication algorithm.

Short Division

Recap from Y4 – approx. 3 lessons

Spine 2.15: Division: partitioning leading to short division

Introduce the short division algorithm, using it to divide two-/three-digit numbers by single-digit numbers; explore exchange where necessary.

1. **Spine 2.15 Teaching point 1** – Any two-digit number can be divided by a single-digit number, by partitioning the two-digit number into tens and ones, dividing the parts by the single-digit number, then adding the partial quotients; if dividing the tens gives a remainder of one or more tens, we must exchange the remaining tens for ones before dividing the resulting ones value by the single-digit number.
2. **Spine 2.15 Teaching point 2** – Any two-digit number can be divided by a single-digit number using an algorithm called 'short division'; the algorithm is applied working from the most significant digit (on the left) to the least significant digit (on the right); if there is a remainder in the tens column, we must 'exchange'.
3. **Spine 2.15 Teaching point 3** – Any three-digit number can be divided by a single-digit number, by partitioning the two-digit number into hundreds, tens and ones, dividing the parts by the single-digit number, then adding the partial quotients; if dividing the hundreds gives a remainder of one or more hundreds, we must exchange the remaining hundreds for tens before dividing the resulting tens value by the single-digit number.
4. **Spine 2.15 Teaching point 4** – Any three-digit number can be divided by a single-digit number using the short-division algorithm.

Patterns in Multiplication and Division

(approximately 4 lessons)

Spine 2.18: Using equivalence to calculate

Develop efficiency in calculation by using equivalence, through adjusting the factors (in multiplication) and the dividend and divisor (in division).

1. **Spine 2.18 Teaching point 1** – For multiplication, if there is a multiplicative increase to one factor and a corresponding decrease to the other factor, the product stays the same.

2. **Spine 2.18 Teaching point 2** – For division, if there is a multiplicative change to the dividend and a corresponding change to the divisor, the quotient stays the same.

Decimals

(approximately 2 weeks)

Spine 2.19: Calculation: ×/÷ decimal fractions by whole numbers

NOTE: the spines use the words 'decimal fraction' to mean decimals. Continue to use 'decimals' with the children to ensure clarity with prior teaching.

Before starting this unit, ensure that the children have secure place value of decimals taught in Year 4. See spines 1.23 and 1.24 for prior learning on tenths, hundredths and thousands.

Ensure children can:

- Represent, order and compare numbers with up to 3 decimal places
- Add and subtract numbers with up to 3 decimal places using the formal methods of column addition and subtraction
- Add and subtract numbers with up to 3 decimal places using a range of mental strategies

Develop strategies for multiplying and dividing decimal fractions by whole numbers, including combining known facts with unitising, multiplying and dividing by 10 and 100, and using adjusting strategies.

1. **Spine 2.19 Teaching point 1** – Decimal fractions (with a whole number of tenths or hundredths) can be multiplied by a whole number by using known multiplication facts and unitising.
2. **Spine 2.19 Teaching point 2** – Multiplying by 0.1 is equivalent to dividing by 10; multiplying by 0.01 is equivalent to dividing by 100. Understanding of place value can be used to divide a number by 10/100: when a number is divided by 10, the digits move one place to the right; when a number is divided by 100, the digits move two places to the right.

3. **Spine 2.19 Teaching point 3** – To multiply a single-digit number by a decimal fraction with up to two decimal places, convert the decimal fraction to an integer by multiplying by 10 or 100, perform the resulting calculation using an appropriate strategy, then adjust the product by dividing by 10 or 100.
4. **Spine 2.19 Teaching point 4** – If the multiplier is less than one, the product is less than the multiplicand; if the multiplier is greater than one, the product is greater than the multiplicand.
5. **Spine 2.19 Teaching point 5** – To divide any decimal fraction with up to two decimal places by a single-digit number, convert the decimal fraction to an integer by multiplying by 10 or 100, perform the resulting calculation using an appropriate strategy, then adjust the quotient by dividing by 10 or 100.
6. **NC objective**: round decimals with 2 decimals places to the nearest whole number and one decimal place.
7. **NC objective**: solve a range of problems involving numbers with up to three decimal places.

Area, Perimeter and Volume

(approximately 2 weeks)

Begin by recapping perimeter and area from Y4. See Y4 teaching points below:

1. **Spine 2.16 Teaching point 1** – Perimeter is the distance around the edge of a two-dimensional (2D) shape.
2. **Spine 2.16 Teaching point 2** – Perimeter is measured in units of length and can be calculated by adding together the lengths of the sides of a 2D shape.
3. **Spine 2.16 Teaching point 3** – Multiplication can be used to calculate the perimeter of a regular polygon; when the perimeter is known, side-lengths can be calculated using division.
4. **Spine 2.16 Teaching point 4** – Area is the measurement of the surface of a flat item.
5. **Spine 2.16 Teaching point 5** – Area is measured in square units, such as square centimetres (cm^2) and square metres (m^2).
6. **Spine 2.16 Teaching point 6** – The area of a rectangle can be calculated using multiplication; the area of a composite rectilinear shape can be found by splitting the shape into smaller rectangles.

Spine 2.20: Multiplication with three factors and volume

Use multiplication to calculate the volume of cuboids and shapes comprised of several cuboids; use division to solve associated inverse problems. Use associativity and commutativity to solve abstract multiplication problems with three factors.

1. **Spine 2.20 Teaching point 1** – Volume is the amount of space that something occupies.
2. **Spine 2.20 Teaching point 2** – Volume is measured in cubic units, such as cubic centimetres (cm^3) and cubic metres(m^3).
3. **Spine 2.20 Teaching point 3** – The volume of a cuboid can be calculated by multiplying the length, width and height.
4. **Spine 2.20 Teaching point 4** – Both the commutative law and the associative law can be applied when multiplying three or more numbers.
5. **Spine 2.20 Teaching point 5** – The choice of which order to multiply in can be made according to the simplest calculation.

Fractions

(approximately 10 - 12 weeks)

Fractions – the following content is from Y3 and 4 yet forms the foundation for fractions work in Y5. Teach with the required depth to ensure that children are secure. The current cohort of Y5 will have already covered the Y4 content so this will therefore be a recap.

1. **Coverage required from new Y3** - **Spine 3.2 Teaching point 5** – Unit fractions can be compared and ordered by looking at the denominator. The greater the denominator, the smaller the fraction and **Spine 3.3 Teaching points 7 and 8** - Non-unit fractions with the same denominator can be compared. If the denominators are the same, then the greater the numerator, the greater the fraction; non-unit fractions with the same numerator can be compared. If the numerators are the same, then the greater the denominator, the smaller the fraction
2. **Spine 3.7 Teaching point 1** – When two fractions have different numerators and denominators to one another but share the same numerical value, they are called ‘equivalent fractions’.
3. **Spine 3.7 Teaching point 2** – Equivalent fractions share the same proportional (multiplicative) relationship between the numerator and denominator. Equivalent fractions can be generated by maintaining that relationship through the process of multiplication and division
4. **Spine 3.7 Teaching point 3** – Fractions can be simplified by dividing both the numerator and denominator by a common factor

5. **Recap Coverage from Y3** - **Spine 3.4 Teaching points 1, 2 and 3** from Y3 – When adding fractions with the same denominators, just add the numerators; When subtracting fractions with the same denominators, just subtract the numerators; Addition and subtraction of fractions are the inverse of each other, just as they are for whole numbers
6. **Recap Coverage from Y4** – **Spine 3.5** from Y4
    - **Spine 3.5 Teaching point 1** – Quantities made up of both wholes and parts can be expressed as mixed numbers
    - **Spine 3.5 Teaching point 2** – Mixed numbers can be placed on a number line
    - **Spine 3.5 Teaching point 3** – Understanding how to compare and order proper fractions supports the comparison and ordering of mixed numbers
    - **Spine 3.5 Teaching point 4** – Mixed numbers can be partitioned and combined in the same was as whole numbers
    - **Spine 3.5 Teaching point 5** – Mixed numbers can be written as improper fractions
    - **Spine 3.5 Teaching point 6** – Improper fractions can be added and subtracted in the same way as proper fractions
7. **Spine 3.8 Teaching point 1** – In order to add related fractions, first convert one fraction so that both share the same denominator ('a common denominator')
8. **Spine 3.8 Teaching point 2** – To subtract related fractions, first convert one fraction so that both share a common denominator
9. **Spine 3.8 Teaching point 3** – The common denominator method can be extended to adding and subtracting non-unit fractions
10. **Spine 3.8 Teaching point 4** – To add and subtract *non-related* fractions, the product of the two denominators provides a common denominator
11. **Spine 3.8 Teaching point 5** – Converting to common denominators is one of several methods that can be used to compare fractions
12. **Recap Coverage from Y4** – **Spine 3.6** from Y4
    - **Spine 3.6 Teaching point 1 and 2** – Repeated addition of proper and improper fractions can be expressed as multiplication of a fraction by a whole number; repeated addition of a mixed number can be expressed as multiplication of a mixed number by a whole number. Ensure Y5 NC objective met: multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
    - **Spine 3.6 Teaching point 3 and 4** – Finding a unit fraction of a quantity can be expressed as a multiplication of a whole number by a fraction; a non-unit fraction of a quantity can be calculated by first finding a unit fraction of that quantity
    - **Spine 3.6 Teaching point 5** – If the size of a non-unit fraction is known, the size of the unit fraction and then the size of the whole can be found
13. **Create Mini Assessment**

Measures: Converting Units

Converting units (approximately 2 weeks)

Teaching points, sequence and supporting visuals from the NCETM (curriculum prioritisation material / ready to progress).

1. Pupils apply memorised unit conversions to convert between units of measure (larger to smaller units - whole number conversions)
2. Pupils apply memorised unit conversions to convert between units of measure (smaller to larger units - whole number conversions)
3. Pupils convert from and to fraction and decimal fraction quantities of larger units
4. Pupils derive common conversions over 1
5. Pupils carry out conversions that correspond to 100 parts
6. Pupils solve measures problems involving different units
7. Pupils understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
8. Pupils convert between miles and kilometres
9. Pupils solve problems involving converting between units of time

NC objective: use all four operations to solve problems involving measure (length, mass, volume, money) using decimal notation and scaling.

Geometry: Angles

Angles (approximately 3 weeks)

Recap YEAR 4 CONTENT:

NC Objectives:

- Identify acute and obtuse angles and compare and order angles up to two right angles by size
- Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- Identify lines of symmetry in 2-D shapes, presented in different orientations.
- Complete a simple symmetric figure with respect of a specific line of symmetry

Key vocabulary: acute, obtuse, angle, polygon, isosceles, scalene, right angle, equilateral triangle, straight line, quadrilateral, regular shape, irregular shape, square, rectangle, rhombus, trapezium, kite, parallelogram, parallel, perpendicular, vertex, sides, symmetry, symmetrical, properties, horizontal, vertical, diagonal lines

1. Identify types of angles and compare and order angles (acute, obtuse and right angles)
2. Triangles – describe the properties and name different quadrilaterals based on these
3. Triangles – draw different quadrilaterals applying their properties
4. Recap Y3 parallel and perpendicular lines
5. Quadrilaterals – describe the properties and name different quadrilaterals based on these
6. Quadrilaterals – draw different quadrilaterals applying their properties
7. Lines of symmetry – within 2-D shapes and compare to properties
8. Lines of symmetry – apply to shapes of different sizes and orientations

YEAR 5 CONTENT:

Teaching points, sequence and supporting visuals from the NCETM (curriculum prioritisation material / ready to progress).

1. Pupils compare the size of angles where there is a clear visual difference
2. Pupils use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles
3. Pupils use a unit called degrees (°) as a standard unit to measure angles

4. Pupils estimate the size of angles in degrees using angle sets

5. Pupils measure the size of angles accurately using a protractor

Additional NC objective on position and direction: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. **For this objective, many sessions will be needed. Use White Rose for the teaching sequence and tasks.**

Long Multiplication

(approximately 2 weeks)

Moved forward from Y6 to free up the Y6 curriculum.

Spine 2.23: Multiplication strategies for larger numbers and long multiplication

Develop strategies for multiplying two numbers with two or more digits, including adjusting strategies when multiplying by a power of ten, partitioning followed by multiplication and addition of partial products, and long multiplication.

1. **Spine 2.23 Teaching point 1** – When multiplying two numbers that are multiples of 10, 100 or 1,000, multiply the number of tens, hundreds or thousands and then adjust the product using place value.
2. **Spine 2.23 Teaching point 2** – When multiplying two numbers where one number is a multiple of 10, 100 or 1,000, use short multiplication and adjust the product using place value.
3. **Spine 2.23 Teaching point 3** – Two two-digit numbers can be multiplied by partitioning one of the factors, calculating partial products and then adding these partial products. This method can be extended to multiplication of three-digit numbers by two-digit numbers.
4. **Spine 2.23 Teaching point 4** – 'Long multiplication' is an algorithm involving multiplication, then addition of partial products, which supports multiplication of two numbers with two or more digits.
5. **Spine 2.23 Teaching point 5** – Multiplication where one of the factors is a composite number can be carried out by multiplying one factor and then the other factor.

Long Division

(approximately 2 weeks)

Moved forward from Y6 to free up the Y6 curriculum.

Spine 2.24: Division: dividing by two-digit divisors

Learn to divide by two-digit divisors, recording calculations using either the short or long division algorithm. Represent remainders in an appropriate way, according to the context, including using the short or long division algorithm to express remainders as decimal fractions.

1. Recap division of three-digit and four-digit numbers by a single digit number using the short division algorithm. Note: use well known times tables such as 4x / 8x / 5x to minimise timetable barrier to learning the method. Explain the reason for doing this to the children.
2. **Spine 2.24 Teaching point 1** – Any two-or three-digit dividend can be divided by a two-digit divisor by skip counting in multiples of the divisor (quotient < 10); these calculations can be recorded using the short or long division algorithms.
3. **Spine 2.24 Teaching point 2** – Any three-or four-digit dividend can be divided by a two-digit divisor using the short or long division algorithms (including quotient ≥ 10).
4. **Spine 2.24 Teaching point 3** – When there is a remainder, the result can be expressed as a whole-number quotient and a whole-number remainder, as a whole-number quotient and a proper-fraction remainder, or as a decimal-fraction quotient.

TEACHING MATERIAL NOT YET COVERED – potentially to be shifted to Y6 in 2023/24

Spine 2.22: Combining multiplication with addition and subtraction

Learn to combine multiplication with addition or subtraction. Learn to use brackets to change the order of operations. Build on knowledge of the distributive law.

1. **Spine 2.22 Teaching point 1** – Multiplication can be combined with addition and subtraction; when there are no brackets, multiplication is completed before addition or subtraction; when there are brackets, the calculation within the brackets is completed first.
2. **Spine 2.22 Teaching point 2** – When adding or subtracting multiplication expressions that have a common factor, the distributive law can be applied.