Woodlands mathematics curriculum plan
Year 3

Long term plan.

The LTP is a guide for what should be taught and when but this will change depending on the needs of your teaching group. If it is a weaker area then more time will need to be spent on the strand. If you feel your teaching group are secure then less time will be needed and you can then build in additional revision/consolidation or move on to the next strand. Use the LTP as a guide but ensure that the time spent on each strand matches the need of your teaching group.
The LTP does not include assessment weeks.

	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: Place value 4 weeks				Revision weeks		Number: Addition and subtraction 5 weeks					Consolidation of Autumn term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Spring	Consolidation of Autumn term Number: Multiplication and division 4 weeks				Number: Multiplication and division 3 weeks			Number: Fractions 5 weeks					Consolidation of Spring and Autumn term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
Summer	Consolidation weeks - reinforce concepts taught through application, problem solving and reasoning. Measures and geometry		Health and fitness week	Consolidation weeks - reinforce concepts taught through application, problem solving and reasoning. Measures and geometry							

Daily dashboard, daily sizzling 6 starters, daily reasoning challenges and weekly workouts revisit and keep simmering content children have already been taught.
Areas to be also be taught through continuous provision and through cross-curricular links - statistics, measure, geometry, time, rapid recall of number facts.

Resource Links	
Vocabulary progression document Year 1 maths mastery booklet NCETM place value reasoning map with NRICH links NCETM addition and subtraction reasoning map with NRICH links NCETM multiplication and division reasoning map with NRICH links NCETM fractions reasoning map with NRICH links NCETM measurement reasoning map with NRICH links NCETM Geometry – shape - reasoning map with NRICH links NCETM Geometry – position - reasoning map with NRICH links White Rose fluency, reasoning and problem solving documents White Rose Autumn Mastery document White Rose Spring Mastery document White Rose Summer Mastery document Blooms planning tool Blooms questions KS1 White Rose end of block assessments White Rose end of term assessments	White Rose reasoning problems Powerpoints Place value within 10 Place value within 20 Place value to 50 Place value to 100 Addition and subtraction to 10 Addition and subtraction to 20 Length and height Weight and volume Multiplication and division Fractions Position and direction Money Time Shape

Medium term plan.

Autumn term

Number: Place value – 4 weeks

White Rose Small Steps	National curriculum objectives
• Hundreds • Represent numbers to 1,000 • 100s, 10s and 1s (1) • 100s, 10s and 1s (2) • Number line to 1,000 • Find 1, 10 and 100 more or less than a given number • Compare objects to 1,000 • Compare numbers to 1,000 • Order numbers • Count in 50s • Roman numerals **NCETM spines: Spine 1: Number, addition and subtraction** **1.17 Composition and calculation: 100 and bridging 100** **NCETM link** **Teaching point 1**: There are ten tens in 100; there are 100 ones in 100. 100 can also be composed multiplicatively from 50, 25 or 20, units that are commonly used in graphing and measures. **Teaching point 2**: Known addition facts can be used to calculate complements to 100. **Teaching point 3**: Known strategies for addition and subtraction across the tens boundary can be combined with unitising to count and calculate across the hundreds boundary in multiples of ten. **Teaching point 4**: Knowledge of two-digit numbers can be extended to count and calculate across the hundreds boundary from/to any two-digit number in ones or tens. **1.18 Composition and calculation: three-digit numbers** **NCETM link** **Teaching point 1**: Three-digit numbers can be composed additively from hundreds, tens and ones; this structure can be used to support additive calculation. **Teaching point 2**: Each number on the 0 to 1,000 number line has a unique position.	Identify, represent and estimate numbers using different representations. Find 10 or 100 more or less than a given number. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order number up to 1,000. Read and write numbers up to 1,000 in numerals and in words. Solve number problems and practical problems involving these ideas. Count from 0 in multiples of 4, 8, 50 and 100

Teaching point 3: The smallest three-digit number is 100, and the largest three-digit number is 999; the relative size of two three-digit numbers can be determined by examining the hundreds digits, then the tens digits, and then the ones digits, as necessary. **Teaching point 4**: Three-digit multiples of ten can be expressed multiplicatively and additively, in terms of tens or hundreds. **Teaching point 5**: Known facts and strategies for addition and subtraction within and across ten, and within and across 100, can be used to support additive calculation within 1,000. **Teaching point 6**: Familiar counting sequences can be extended up to 1,000.	
Number: Addition and subtraction – 5 weeks	
White Rose Small Steps • Add and subtract multiples of 100 • Add and subtract 3-digit and 1-digit numbers – crossing 10 • Subtract a 1-digit number from a 3-digit number – crossing 10 • Add and subtract 3-digit and 2-digit numbers – not crossing 100 • Add 3-digit and 2-digit numbers – crossing 100 • Subtract a 2-digit number from a 3-digit number – crossing 100 • Add and subtract 100s • Spot the pattern – making it explicit • Add and subtract a 2-digit and 3-digit number – not crossing 10 or 100 – beginning to use the column method • Add a 2-digit and 3-digit number – crossing 10 or 100 – column method • Subtract a 2-digit number from a 3-digit number – crossing 10 or 100 – column method • Add two 3-digit numbers – not crossing 10 or 100 – column method • Add two 3-digit numbers – crossing 10 or 100 – column method • Subtract a 3-digit number from a 3-digit number – no exchange – column method • Subtract a 3-digit number from a 3-digit number – exchange – column method	**National curriculum objectives** Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

- Estimate answers to calculations
- Check answers

NCETM spine link – Spine 1: Addition and subtraction

1.19 Securing mental strategies: calculation up to 999

NCETM link

Teaching point 1: Known partitioning strategies for adding two-digit numbers within 100 can be extended to the mental addition of two-digit numbers that bridge 100, and addition of three-digit numbers.
Teaching point 2: Transforming addition calculations into equivalent calculations can support efficient mental strategies.
Teaching point 3: Subtraction calculations can be solved using a 'finding the difference' strategy; this can be thought of as 'adding on' to find a missing part.
Teaching point 4: The order of addition and subtraction steps in a multi-step calculation can be chosen or manipulated such as to simplify the arithmetic.

1.20 Algorithms: column addition

NCETM link

Teaching point 1: Any numbers can be added together using an algorithm called *'column addition'*.
Teaching point 2: The digits of the addends must be aligned correctly before the algorithm is applied.
Teaching point 3: In column addition, the digits of the addends are added working from the least significant digit (on the right) to the most significant digit (on the left).
Teaching point 4: If any column sums to ten or greater, we must *'regroup'*.
Teaching point 5: The numbers within each column should be added in the most efficient order.

1.21 Algorithms: column subtraction

NCETM link

Teaching point 1: One number can be subtracted from another using an algorithm called *'column subtraction'*; the digits of the minuend and subtrahend 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).

Teaching point 2: If there is an insufficient number of any unit to subtract from in a given column, we must exchange from the column to the left.	

Spring term

Number: Multiplication and division – 4 weeks

White Rose Small Steps

- Multiplication – equal groups
- Multiply by 3
- Divide by 3
- The 3 times table
- Multiply by 4
- Divide by 4
- The 4 times table
- Multiply by 8
- Divide by 8
- The 8 times table

NCETM – Spine 2: Multiplication and division

2.7 Times tables: 2, 4 and 8, and the relationship between them

NCETM link

Teaching point 1: Counting in multiples of four can be represented by the four times table. Adjacent multiples of four have a difference of four. Facts from the four times table can be used to solve multiplication and division problems with different structures.

Teaching point 2: Products in the four times table are double the products in the two times table; products in the two times table are half of the products in the four times table.

Teaching point 3: Counting in multiples of eight can be represented by the eight times table. Adjacent multiples of eight have a difference of eight. Facts from the eight times table can be used to solve multiplication and division problems with different structures.

Teaching point 4: Products in the eight times table are double the products in the four times table; products in the four times table are half of the products in the eight times table. Products that are in the two, four and eight times tables share the same factors.

Teaching point 5: Divisibility rules can be used to find out whether a given number is divisible (to give a whole number) by two, four or eight.

National curriculum objectives

Count from 0 in multiples of 4, 8, 50 and 100

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.

2.8 Times tables: 3, 6 and 9, and the relationship between them

NCETM link

Teaching point 1: Counting in multiples of three can be represented by the three times table. Adjacent multiples of three have a difference of three. Facts from the three times table can be used to solve multiplication and division problems with different structures.

Number: Multiplication and division – 3 weeks

White Rose Small Steps

- Comparing statements
- Related calculations
- Multiply 2-digits by 1-digit (1) – repeated addition using concrete apparatus – no exchange
- Multiply 2-digits by 1-digit (2) – repeated addition using concrete apparatus – exchange
- Divide 2-digits by 1-digit (1) – partition into tens and ones and share into equal groups – no exchange or remainders
- Divide 2-digits by 1-digit (2) – partition into tens and ones and share into equal groups – with exchanging but no remainders
- Divide 2-digits by 1-digit (3) – with remainders
- Scaling
- How many ways?

National curriculum objectives

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Number : Fractions – 5 weeks

White Rose Small Steps (part 1)

- Unit and non-unit fractions
- Making the whole
- Tenths
- Count in tenths
- Tenths as decimals
- Fractions on a number line
- Fractions of a set of objects (1) – find a unit fraction by dividing into equal groups
- Fractions of a set of objects (2) – unit and non-unit fractions
- Fractions of a set of objects (3) – applying to problem solving

White Rose Small Steps (part 2)

- Equivalent fractions (1) – bar models
- Equivalent fractions (2) – number lines
- Equivalent fractions (3) – pictorial and abstract – spotting patterns
- Compare fractions
- Order fractions
- Add fractions
- Subtract fractions

NCETM spines

3.1 Preparing for fractions: the part–whole relationship

NCETM link

Teaching point 1: Any element of a whole is a part; if a whole is defined, then a part of this whole can be defined.
Teaching point 2: A whole can be divided into equal parts or unequal parts.
Teaching point 3: The relative size of parts can be compared.
Teaching point 4: If one of the equal parts and the number of equal parts are known, these can be used to construct the whole.

National curriculum objectives

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.

Solve problems that involve all of the above.

Recognise and show, using diagrams, equivalent fractions with small denominators.
Compare and order unit fractions, and fractions with the same denominators.
Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
Solve problems that involve all of the above.

3.2 Unit fractions: identifying, representing and comparing

NCETM link

Teaching point 1: A whole can be divided into any number of equal parts.
Teaching point 2: Fraction notation can be used to describe an equal part of the whole. One equal part of a whole is called a unit fraction. Each unit fraction has a name.
Teaching point 3: Fractional notation can be applied to represent one part of a whole in different contexts.
Teaching point 4: Equal parts do not need to look the same.
Teaching point 5: Unit fractions can be compared and ordered by looking at the denominator. The greater the denominator, the smaller the fraction.
Teaching point 6: If the size of a unit fraction is known, the size of the whole can be worked out by repeated addition of that unit fraction.

3.3 Non-unit fractions: identifying, representing and comparing

NCETM link

Non-unit fractions

Teaching point 1: All non-unit fractions are made up of more than one of the same unit fraction.
Teaching point 2: Non-unit fractions are written using the same convention as unit fractions. A non-unit fraction has a numerator greater than one.
Teaching point 3: When the numerator and the denominator in a fraction are the same, the fraction is equivalent to one whole.

Fractions as numbers

Teaching point 4: All unit and non-unit fractions are numbers that can be placed on a number line.
Teaching point 5: Repeated addition of a unit fraction results in a non-unit fraction.
Teaching point 6: When the numerator and the denominator are the same, the value of the fraction is one.

Comparing fractions

Teaching point 7: 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.

Teaching point 8: 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. **3.4 Adding and subtracting within one whole** **NCETM link** **Teaching point 1**: When adding fractions with the same denominators, just add the numerators. **Teaching point 2**: When subtracting fractions with the same denominators, just subtract the numerators. **Teaching point 3**: Addition and subtraction of fractions are the inverse of each other, just as they are for whole numbers. **Teaching point 4**: To subtract from one whole, first convert the whole to a fraction where the denominator and numerator are the same.	

Summer term

Measurement: Length and perimeter – 2 weeks

White Rose Small Steps • Measure length • Equivalent lengths – m and cm • Equivalent lengths – mm and cm • Compare lengths • Add lengths • Subtract lengths • Measure perimeter • Calculate perimeter	**National curriculum objectives** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2-D shapes.
Measurement: Money – 2 weeks	

White Rose Small steps	National curriculum objectives
• Pounds and pence • Convert pounds and pence • Add money • Subtract money • Give change	Add and subtract amounts of money to give change, using both £ and p in practical contexts.
Measurement: Time – 2 weeks	
White Rose Small Steps	**National curriculum objectives**
• Months and years • Hours in a day • Telling the time to 5 minutes • Telling the time to the minute • Using a.m. and p.m. • 24-hour clock • Finding durations • Comparing durations • Start and end times • Measuring time in seconds	Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events [for example to calculate the time taken by particular events or tasks].
Statistics – 1 week	
White Rose Small Steps	**National curriculum objectives**

• Pictograms • Bar charts • Tables	Interpret and present data using bar charts, pictograms and tables. Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.
Geometry – properties of shape – 2 weeks	
White Rose Small Steps • Turns and angles • Right angles in shapes • Compare angles • Draw accurately • Horizontal and vertical • Parallel and perpendicular • Recognise and describe 2-D shapes • Recognise and describe 3-D shapes • Make 3-D shapes	**National curriculum objectives** Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them.
Measurement – Mass and capacity – 2 weeks	

White Rose Small Steps	National curriculum objectives
• Measure mass (1) – kilograms or grams • Measure mass (2) – mixed measures – kilograms and grams • Compare mass • Add and subtract mass • Measure capacity (1) – litres or millilitres • Measure capacity (2) – mixed measures – litres and millilitres • Compare capacity • Add and subtract capacity	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)