

Woodlands mathematics curriculum plan

Year 2

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				Number: Addition and subtraction 5 weeks		Revision week	Number: Addition and subtraction (within 10) 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	Number: Multiplication and division 5 weeks					Revision week	Consolidation of Autumn term	Number: Fractions 3 to 4 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. Measurement and geometry		Statistics H & F week 1 week	Consolidation weeks - reinforce concepts taught through application, problem solving and reasoning. Measurement 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, spicy/scorcher challenges and through cross-curricular links - 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

- Count objects to 100 and read and write numbers in numerals and words.
- Represent numbers to 100.
- Tens and ones with a part-whole model.
- Tens and ones using addition.
- Use a place value chart.
- Compare objects.
- Compare numbers.
- Order objects and numbers.
- Count in 2s, 5s and 10s.
- Count in 3s.

National curriculum objectives

Read and write numbers to at least 100 in numerals and in words.

Recognise the place value of each digit in a two digit number (tens, ones).

Identify, represent and estimate numbers using different representations including the number line.

Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs.

Use place value and number facts to solve problems.

Count in steps of 2, 3 and 5 from 0, and in tens from any number, forwards and backwards.

Number: Addition and subtraction – 5 weeks

White Rose Small Steps

- Fact families – addition and subtraction bonds to 20
- Check calculations
- Compare number sentences
- Related facts
- Bonds to 100 (tens e.g $60+40=$)
- Add and subtract ones
- Add and subtract tens
- Add a 2-digit and a 1-digit number (crossing tens)
- Subtract 1-digit number from a 2-digit number (crossing tens)
- Add two 2-digit numbers not crossing tens
- Add two 2-digit numbers crossing tens
- Subtract 2-digit number from a 2-digit number not crossing tens
- Subtract 2-digit number from a 2-digit number crossing tens
- Bonds to 100 (tens and ones)
- Add three 1-digit numbers

NCETM spine link – Spine 1: Addition and subtraction

1.11 Addition and subtraction: bridging 10

NCETM link

- **Teaching point 1:** Addition of three addends can be described by an aggregation story with three parts.
- **Teaching point 2:** Addition of three addends can be described by an augmentation story with a '*first..., then..., then..., now...*' structure.

National curriculum objectives

Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers.

Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.

Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods.

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

- **Teaching point 3:** The order in which addends (parts) are added or grouped does not change the sum (associative and commutative laws).
- **Teaching point 4:** When we are adding three numbers, we choose the most efficient order in which to add them, including identifying two addends that make ten (combining).
- **Teaching point 5:** We can add two numbers which bridge the tens boundary by using a 'make ten' strategy.
- **Teaching point 6:** We can subtract across the tens boundary by subtracting *through* ten or subtracting *from* ten.

1.12 Subtraction as difference

[NCETM link](#)

- **Teaching point 1:** Difference compares the number of objects in one set with the number of objects in another set; or the difference between two measures.
- **Teaching point 2:** Difference is one of the structures of subtraction.
- **Teaching point 3:** Consecutive whole numbers have a difference of one; consecutive odd/even numbers have a difference of two.
- **Teaching point 4:** We can apply the structure of difference to compare data.

1.13 Addition and subtraction: two-digit and single-digit numbers

[NCETM link](#)

- **Teaching point 1:** Knowledge of the number line, and quantity values of numbers, can be applied to add/subtract one to/from a given two-digit number.
- **Teaching point 2:** Known facts for the numbers *within* ten can be applied to addition/subtraction of a single-digit number to/from a two-digit number.
- **Teaching point 3:** Knowledge of numbers which sum to ten can be applied to the addition of a single-digit number and two-digit number that sum to a multiple of ten, or subtraction of a single-digit number from a multiple of ten.
- **Teaching point 4:** Known strategies for addition or subtraction bridging ten can be applied to addition or subtraction bridging a multiple of ten.

1.14 Addition and subtraction: two-digit numbers and multiples of ten

[NCETM link](#)

- **Teaching point 1:** When finding ten more or ten less than any two-digit number, the ones digit does not change.
- **Teaching point 2:** When ten is added or subtracted to/from a two-digit number, the tens digit changes and the ones digit stays the same.
- **Teaching point 3:** Knowledge of number facts within ten can be applied to adding or subtracting multiples of ten to/from a two-digit number.
- **Teaching point 4:** Two-digit numbers can be partitioned in different ways.

1.15 Addition: two-digit and two-digit numbers

[NCETM link](#)

- **Teaching point 1:** Known strategies can be combined to add two multiples of ten to two single-digit numbers.
- **Teaching point 2:** Two two-digit numbers can be added by partitioning one or both of them into tens and ones.

1.16 Subtraction: two-digit and two-digit numbers

[NCETM link](#)

- **Teaching point 1:** Known strategies can be used to subtract a multiple of ten and a single-digit number from a two-digit number.
- **Teaching point 2:** A two-digit number can be subtracted from a two-digit number by partitioning the subtrahend into tens and ones.

Spring term

Number: Multiplication and division – 5 weeks

White Rose Small Steps

Link 1

Link 2

- Recognise equal groups
- Make equal groups
- Add equal groups
- Multiplication sentences using the x symbol
- Multiplication sentences from pictures
- Use arrays
- 2 times-table
- 5 times-table
- 10 times-table
- Make equal groups – sharing
- Make equal groups – grouping
- Divide by 2
- Odd and even numbers
- Divide by 5
- Divide by 10

NCETM spine 2: Multiplication and division

2.2 Structures: multiplication representing equal groups

NCETM link

- **Teaching point 1:** Objects can be grouped into equal or unequal groups.
- **Teaching point 2:** When describing equally grouped objects, the number of groups and the size of the groups must both be defined.
- **Teaching point 3:** Equal groups can be represented with a repeated addition expression.
- **Teaching point 4:** Equal groups can be represented with a multiplication expression.

National curriculum objectives

Recall and use multiplication and division facts for the 2, 5 and 10 times-tables, including recognising odd and even numbers.

Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals ($=$) sign.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.

Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.

- **Teaching point 5:** Multiplication expressions can be written for cases where the groups each contain zero items, and for cases where the groups each contain one item.

2.3 Times tables: groups of 2 and commutativity (part 1)

[NCETM link](#)

- **Teaching point 1:** For equally grouped objects, the number of groups is a factor, the group size is a factor, and the overall number of objects is the product; this can be represented with a multiplication equation. Counting in multiples of two can be used to find the product when the group size is two.
- **Teaching point 2:** Counting in multiples of two can be represented by the two times table. Adjacent multiples of two have a difference of two. Facts from the two times table can be used to solve problems about groups of two.
- **Teaching point 3:** Factor pairs can be written in either order, with the product remaining the same (commutativity).

2.4 Times tables: groups of 10 and of 5, and factors of 0 and 1

[NCETM link](#)

- **Teaching point 1:** Counting in multiples of ten can be represented by the ten times table. Adjacent multiples of ten have a difference of ten. Facts from the ten times table can be used to solve problems about groups of ten.
- **Teaching point 2:** Counting in multiples of five can be represented by the five times table. Adjacent multiples of five have a difference of five. Facts from the five times table can be used to solve problems about groups of five.
- **Teaching point 3:** Skip counting and grouping can be used to explore the relationship between the five times table and the ten times table.
- **Teaching point 4:** When zero is a factor, the product is zero. When one is a factor, the product is equal to the other factor (if there are only two factors).

2.5 Commutativity (part 2), doubling and halving

[NCETM link](#)

- **Teaching point 1:** The same multiplication equation can have two different grouping interpretations. Problems about two/five/ten equal groups can be solved using facts from the two/five/ten times table. (commutativity)
- **Teaching point 2:** If two is a factor, knowledge of doubling facts can be used to find the product; problems about doubling can be solved using facts from the two times table.
- **Teaching point 3:** Halving is the inverse of doubling; problems about halving can be solved using facts from the two times table and known doubling facts.
- **Teaching point 4:** Products in the ten times table are double the products in the five times table; products in the five times table are half of the products in the ten times table.

2.6 Structures: quotitive and partitive division

[NCETM link](#)

- **Teaching point 1:** Objects can be grouped equally, sometimes with a remainder.
- **Teaching point 2:** Division equations can be used to represent 'grouping' problems, where the total quantity (dividend) and the group size (divisor) are known; the number of groups (quotient) can be calculated by skip counting in the divisor. (quotitive division)
- **Teaching point 3:** Division equations can be used to represent 'sharing' problems, where the total quantity (dividend) and the number we are sharing between (divisor) are known; the size of the shares (quotient) can be calculated by skip counting in the divisor. (partitive division)
- **Teaching point 4:** Strategies for finding the quotient, that are more efficient than skip counting, include using known multiplication facts and, when the divisor is two, using known halving facts.
- **Teaching point 5:** When the dividend is zero, the quotient is zero; when the dividend is equal to the divisor, the quotient is one; when the divisor is equal to one, the quotient is equal to the dividend

Number: Fractions – 2 - 3 weeks

White Rose Small Steps

- Make equal parts
- Recognise a half
- Find a half
- Recognise a quarter
- Recognise a third
- Find a third
- Unit fractions
- Non-unit fractions
- Equivalence of $\frac{1}{2}$ and $\frac{2}{4}$
- Find three quarters
- Count in fractions

NCETM spine 3 – Fractions

NCETM link

- 1: Name the fractions 'one-half', 'one-quarter' and 'one-third' in relation to a fraction of a length, shape or set of objects.
- 2: Read and write the fraction notation $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$, and relate this to a fraction of a length, shape or set of objects.
- 3: Find half of numbers.
- 4: Find $\frac{1}{3}$ or $\frac{1}{4}$ of a number.
- 5: Find $\frac{2}{4}$ and $\frac{3}{4}$ of an object, shape, set of objects, length or quantity; recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

National curriculum objectives

Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.

Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$

Summer term

Measurement – length and height – 2 weeks

White Rose Small Steps

- Measure length (cm)
- Measure length (m)
- Compare lengths
- Order lengths
- Four operations with lengths

National curriculum objectives

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.

Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.

Mass, capacity and temperature – 3 weeks

White Rose Small Steps

- Compare mass
- Measure mass in grams
- Measure mass in kilograms
- Compare volume
- Millilitres
- Litres
- Temperature

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.

Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.

Geometry – position and direction – 2 weeks	
<u>White Rose Small Steps</u> • Describing movement • Describing turns • Describing movement and turns • Making patterns with shapes	<u>National curriculum objectives</u> Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). Order and arrange combinations of mathematical objects in patterns and sequences.
Statistics – 1 week	
<u>White Rose Small Steps</u> • Make tally charts • Draw pictograms (1 to 1) • Interpret pictograms (1 to 1) • Draw pictograms (2s, 5s and 10s) • Interpret pictograms (2s, 5s and 10s) • Block diagrams	<u>National curriculum objectives</u> Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data.

Time – 2 weeks

White Rose Small Steps

- O'clock and half past
- Quarter past and quarter to
- Telling time to 5 minutes
- Hours and days
- Find durations of time
- Compare durations of time

National curriculum objectives

Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day.

Compare and sequence intervals of time.

Measurement: Money – 2 weeks

White Rose Small Steps

- Count money – pence
- Count money – pounds (notes and coins)
- Count money – notes and coins
- Select money
- Make the same amount
- Compare money
- Find the total
- Find the difference
- Find change
- Two-step problems

National curriculum objectives

Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.

Find different combinations of coins that equal the same amounts of money.

Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

Geometry – properties of shape – 2-3 weeks

White Rose Small steps

- Recognise 2-D and 3-D shapes
- Count sides on 2-D shapes
- Count vertices on 2-D shapes
- Draw 2-D shapes
- Lines of symmetry
- Sort 2D shapes
- Make patterns with 2-D shapes
- Count faces on 3-D shapes
- Count edges on 3-D shapes
- Count vertices on 3-D shapes
- Sort 3-D shapes
- Make patterns with 3-D shapes

National curriculum objectives

Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.

Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.

Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.]

Compare and sort common 2-D and 3-D shapes and everyday objects.

Geometry – properties of shape – 2-3 weeks

White Rose Small steps

- Recognise 2-D and 3-D shapes
- Count sides on 2-D shapes
- Count vertices on 2-D shapes
- Draw 2-D shapes
- Lines of symmetry
- Sort 2D shapes
- Make patterns with 2-D shapes

National curriculum objectives

• Count faces on 3-D shapes • Count edges on 3-D shapes • Count vertices on 3-D shapes • Sort 3-D shapes • Make patterns with 3-D shapes	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] Compare and sort common 2-D and 3-D shapes and everyday objects.
--	--