# Maths planning document
# Teagues Bridge Primary school
# 2023 – Year 3

| Written on: | 30th March 2020 |
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| Reviewed on: | March 2023 |
| Next review: | March 2024 |
| Staff Responsibility | Mr M Hale |
| Governor responsibility | Drew White |

This document supported by the CLIC maths program providing teaching and consolidation of mental strategies for mathematics and the white rose small steps for teaching sequences. Weeks are a guideline and should be adapted for the needs of the children. Time for consolidation is designed for recapping of previous units to ensure learning in committed to the long-term memory. This can also be used to teach areas of misconceptions.

# Mathematics Intent

At Teagues Bridge, our intention is **ambitious**. We aim to create strong mathematicians who have the necessary skills and understanding to tackle mathematical challenges in varying contexts, including the ability to reason and apply their knowledge to solving problems. This should mean that children are able to apply their knowledge to everyday life and can **aspire** to achieve anything that they want. We want our pupils to have strong mental manipulation and to use written strategies when appropriate.

Our philosophy for mathematics is replacing an idea that maths is lots of rules and numbers with a study of patterns and connected ideas. In early years they will build a foundation of number understanding and representation through mainly concrete and pictorial representations. The approach will be supported by in depth questioning, throughout the school to develop mastery.

Use of CPA is encouraged to ensure the curriculum is accessible for all children and that they all have the **opportunity** and are able to demonstrate their understanding in a variety of ways. This will enable them to have a good understanding of maths and not just the ability to follow a procedure. We want to **empower** them to want to ask questions and want to find the answers.

**Aims:** The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.
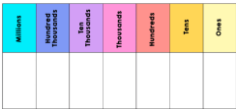
The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.
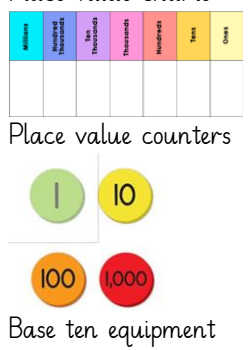
Our lessons are structured to enable all children to achieve and have an **opportunity** to make progress with their learning. Each lesson begins with a **CLIC maths** activity, where they have chance to develop their mental strategies, secure number facts and number manipulation. They then **develop** their mathematical fluency with the teacher modelling and explaining before they have a go themselves. Children then have a **reasoning/ problem solving** activity which is a variation of the previous work to demonstrate they have mastered the objective. Children who are ready can then **challenge** themselves with a task that requires applying the learning to a greater depth. We have our own programme of study which is supported with schemes like White Rose to support.
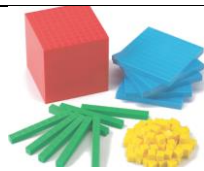
# Year 3 – Yearly Overview

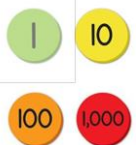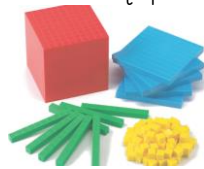| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Week 13 | Week 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Number and place value Counting, reading, writing and partitioning | | Addition and subtraction to 1000 ( adding and subtracting 1's 10's and 100's) and 3 digit numbers no exchange | | | Multiplication and division – repeated addition of equal groups X3, x4 and x8 timestables | | | | Fractions : unit fractions | | | Measurement: length | |
| **Spring** | Number and place value : estimating, comparing and ordering | | Addition and subtraction adding/ subtracting across 10 Adding/ subtracting 2 digit numbers | | | Multiplication: 2 by 1 digit number | | Fractions : non unit fractions Fractions on a number line | | | Measurement: Perimeter | Measurement: Time | | |
| **Summer** | Addition and subtraction Mixed add/ subtract, comparing/ missing numbers | | Division – 2 by 1 digit numbers | | Fractions : adding and subtracting fractions | | Measurement : Money | | Geometry : shape | | Measurement: Mass and capacity | | Statistics | |

# Year 3: Autumn term

| National curriculum objectives | Prior knowledge from year 2 | Learning outcomes (including WR steps) | Mathematical aspect | Vocabulary | Manipulatives | Problem solving resources |
|---|---|---|---|---|---|---|
| • To read and write numbers up to 1000 in numerals and in words. | Knows to read and write numbers to 100 | Maths resources for teachers | White Rose Maths<br><br>Steps 1 to 5<br><br>LO I know to represent numbers to 100<br><br>Lo I know to represent numbers to 1000 | Place Value reading, writing and ordering two- and three-digit numbers | hundreds (100s)<br>tens (10s)<br>ones (1s)<br>place value | Place value charts<br><br>Place value counters<br><br>Base ten equipment<br><br>Numicon<br> | |
| • To recognise the place value of each digit in a three-digit number | Knows the properties of two-digit numbers | Steps 2, 4,7 and 8 | Place Value – partitioning | hundreds (100s)<br>tens (10s)<br>ones (1s)<br>place value | Place value charts<br><br>Place value counters | How Would We Count? *<br><br>Recognise the place value of each digit. |

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| (hundreds, tens, ones). | Knows that numbers can be partitioned and rearranged | LO I know to partition numbers to 100<br><br>Lo I know to partition numbers to 1000<br><br>Lo I know how to partition numbers to 1000 in different ways<br><br>Lo I know to represent 3 digit numbers using hundreds, tens and units. | | | Base ten equipment<br><br>Numicon | **Coded Hundred Square** * |
| • To count from 0 in multiples of 4, 8, 50 and 100, | Knows that counting can be done in varying step sizes. | Steps 3, 4, 9 and 10.<br><br>Lo I know how to count in multiples on a number line<br><br>Lo I know to count in hundreds<br><br>Lo I know how to find one, ten and hundred more or less. | Place value – counting in different steps. | hundreds (100s)<br>tens (10s)<br>ones (1s)<br>place value<br>count | Place value charts<br><br>Place value counters<br><br>Base ten equipment | **Take Three Numbers** * I<br><br>**Planning a School Trip** *<br><br>**Number Differences** * G<br><br>**Sitting Round the Party Tables** *<br><br>**Number Match** |

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| | | Lo I know to count in different steps on a numberline. | | | Numicon | |
| • To add and subtract numbers mentally, including:<br>○ a three-digit number and ones<br>○ a three-digit number and tens<br>○ a three-digit number and hundreds. | Knows number bonds to 20.<br><br>Knows efficient strategies for adding and subtracting for up to two 2-digit numbers.<br><br>Knows that addition is commutative.<br><br>Knows efficient methods using number sense, place value, bridging, near doubles and adjustment strategies.<br><br>Knows number bonds to and within | [Maths resources for teachers | White Rose Maths](#)<br><br>**Step 1 – 10**<br><br>LO I know to count using number bonds<br><br>Lo I know to add and subtract ones<br><br>Lo I know to add and subtract tens<br><br>Lo I know to add and subtract hundreds<br><br>Lo I know to spot patterns in addition and subtraction | Addition and subtraction : 1, 10's and 100's | addition<br>subtraction<br>mental method<br>total<br>plus<br>add<br>minus<br>take away<br>count on | Base ten equipment<br><br>Numicon | **Buying a Balloon** *<br><br>**Super Shapes** *<br><br>**Strike it Out** * G<br><br>**Dicey Addition** * G |

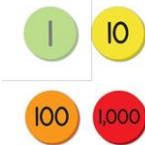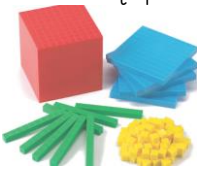| | | 20. Fact families for + and –<br><br>Knows efficient strategies for adding and subtracting for up to two 2-digit numbers.<br><br>Knows that addition is inverse to subtraction. | Lo I know to add 1's across a 10.<br><br>Lo I know to add 10's across a 100<br><br>Lo I know to subtract 1's across a 10<br><br>Lo I know to subtract 10's across 100.<br><br>Lo I know to make connections between addition and subtraction | | | | |
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| • To add and subtract numbers with up to three digits, using the efficient written methods of columnar addition and subtraction. | Knows the operation to use and chooses the efficient method.<br>Knows facts to 100 using multiples of 10. | Steps 11 and Step 12<br><br>Lo I know to add 2 numbers( no exchange)<br><br>Lo I know to subtract 2 numbers (no exchange) | Addition and subtraction – written methods | addition<br>subtraction<br>mental method<br>total<br>column<br>plus<br>add<br>minus<br>take away<br>count on | Base ten equipment<br><br>Numicon | **Play to 37** * **G**<br><br>**Build it Up** * **I**<br><br>**Finding Fifteen** **<br><br>**Domino Square** **<br><br>**Got It** ** **G**<br><br>**Make 37** **<br>O |

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| • To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. | Knows the odds and evens in the times tables for 2,5 and 10.<br><br>Knows table facts for 2,5 and 10.<br><br>Know the test of divisibility for 2, 5 and 10. | Maths resources for teachers \| White Rose Maths<br><br>Steps 1 – 15<br>LO I know to make equal groups<br><br>Lo I know how to use arrays<br><br>Lo I know to how calculate multiples of 2<br><br>Lo I know how to calculate multiplies if 5 and 10<br><br>Lo I know sharing and grouping<br><br>Lo I know to multiply by 3<br><br>Lo I know to divide by 3<br><br>Lo I know and can recall my 3 times tables | Multiplication and division – the facts | equal<br>multiply<br>divide<br>times-table<br>sharing<br>grouping<br>array<br>bar model<br>remainder<br>repeated addition<br>multiplication sentence<br>division statement<br>division fact | Place value counters<br><br>Base ten equipment<br><br>Numicon<br><br>Multilink | **Ordering Cards** *<br>**G**<br><br>**Music to My Ears** |

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| | | Lo I know my 3 timestables<br><br>Lo I know how to multiply by 4<br><br>Lo I know how to divide by 4<br><br>Lo I know the 4 times tables<br><br>Lo I know how to multiply by 8<br><br>Lo I know how to divide by 8<br><br>Lo I know the 8 times tables<br><br>Lo I know the patterns within the 2, 4 and 8 timetables | | | | |
| • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit | Knows that fractions are relative to the whole.<br><br>Knows that fractions are equal parts to the whole. | [Maths resources for teachers \| White Rose Maths](#)<br><br>Step 1 , 3 and 4<br><br>LO I know what the denominator in a | Fractions – unit and non unit fractions : representing, comparing and ordering | equal parts<br>whole<br>unit fraction<br>equation<br>integer<br>numerator<br>denominator<br>represent | Fraction tiles<br><br>Cuisenaire rods | |

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| fractions with small denominators | Knows simple equivalence in halves and quarters. Knows thirds are three equal parts of a whole. | unit fraction represents<br><br>LO I know what the numerator in a non-unit fraction represents<br><br>LO I know what the whole represents. | | share<br>group | <br><br>Fractions circles<br> | |
| • Compare and order unit fractions, and fractions with the same denominators | Knows that fractions of amounts can be calculated using multiplication and division facts | [Maths resources for teachers \| White Rose Maths](#)<br><br>Steps 2 and 4<br><br>LO I know to compare and order unit fractions<br><br>LO I know to compare and order non-unit fractions | Fractions – unit and non unit fractions : comparing and ordering | equal parts<br>whole<br>unit fraction<br>equation<br>integer<br>numerator<br>denominator<br>represent<br>share<br>group | | **Fraction Match** * G<br><br>**Matching Fractions** * G |
| • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) | Know how to measure a length, a mass, and a capacity in nonstandard units then standard units. | [Maths resources for teachers \| White Rose Maths](#)<br><br>Steps 1-9 | Measurement : length | length<br>height<br>width<br>perimeter<br>distance<br>centimetre (cm)<br>millimetre (mm)<br>metre (m) | ruler<br><br><br><br>metre ruler | **Olympic Starters** * I<br><br>**Car Journey** * I<br><br>**Oh! Harry!** ** |

| | Knows the correct measuring equipment for length, mass, and capacity | Lo I know to measure lengths in metres and centimetres<br><br>Lo I know to measure lengths in millimetres<br><br>Lo I know to measure lengths in centimetres and millimetres<br><br>Lo I know to measure In metres, centimetres and millimetres<br><br>Lo I know equivalent lengths ( metres and centimetres)<br><br>LO I know equivalent lengths (centimetres and millimetres)<br><br>Lo I know to compare lengths<br><br>Lo I know to add lengths<br><br>Lo I know to subtract lengths | | unit of measurement measure | metre wheel. | |
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Spring term planning
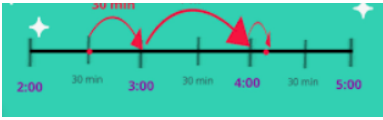
| National curriculum objectives | Prior knowledge from year 2 | Learning outcomes (including WR steps) | Mathematical aspect | Vocabulary | Manipulatives | Problem solving resources |
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| To Identify, represent and estimate numbers using different representations | Knows the symbols of comparing numbers. Uses the skill of estimation. | Maths resources for teachers \| White Rose Maths<br><br>Steps 11 –<br><br>LO To estimate numbers on a numberline to 1,000 | Number and place value : Estimating | more<br>less<br>greater than (>)<br>less than (<)<br>equal to<br>order<br>compare<br>estimate<br>exchange | Place value charts<br><br>Place value counters<br><br>Base ten equipment<br><br>Numicon | **Take Three Numbers** * I<br><br>**Planning a School Trip** *<br><br>**Number Differences** * G<br><br>**Sitting Round the Party Tables** *<br><br>**Number Match** * G |
| Compare and order numbers up to 1,000 | Compares and orders on a number line. | Steps – 12 and 14 LO To compare numbers to 1,000 | Number and place value : comparing | more<br>less<br>greater than (>)<br>less than (<)<br>equal to | | **A Mixed-up Clock** *<br><br>**That Number Square!** * I |

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| | | LO To order numbers to 1,000<br><br>LO To count in 50's | | order<br>compare<br>estimate<br>exchange | | **Three Neighbours** ** I<br><br>**Magic Vs** **<br><br>**Square Subtraction** *** I |
| Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction | Knows efficient strategies for adding and subtracting for up to two 2-digit numbers. | Maths resources for teachers | White Rose Maths<br><br>Steps 11 – 18<br><br>LO I know to add 2 numbers – no exchange<br><br>LO- I know to subtract 2 numbers – no exchange<br><br>LO – I know to add 2 numbers – across 10<br><br>LO I know to add 2 numbers across 100<br><br>LO I know to subtract 2 digit numbers across 10 | Number: addition and subtraction | addition<br>subtraction<br>mental method<br>column method<br>exchange | Place value counters<br><br>Base ten equipment<br><br>Numicon | **Buying a Balloon** *<br><br>**Super Shapes** *<br><br>**Strike it Out** * G<br><br>**Dicey Addition** * G<br><br>**Half Time** *<br><br>**Play to 37** * G<br><br>**Build it Up** * I<br><br>**Finding Fifteen** **<br><br>**Domino Square** **<br><br>**Got It** ** G<br><br>**Make 37** **<br><br>**Consecutive Numbers** ** I<br><br>**Dice in a Corner** *** I |

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| | | LO I know to subtract 2 numbers across 100.<br><br>LO I know to add 3 digit numbers<br><br>LO I know to subtract 3 digit numbers | | | | |
| Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods | Knows table facts for 2,5 and 10. | **Maths resources for teachers \| White Rose Maths**<br><br>Steps 4 to 9<br><br>Lo I know to multiply 2 digit by 1 digit number with no exchange<br><br>Lo I know to multiply a 2 digit by 1 digit number with exchange<br><br>Lo I know the relationship between multiplication and division. | Number Multiplication : 2 x 1 digit | equal<br>multiply<br>divide<br>times-table<br>sharing<br>grouping<br>array<br>bar model<br>remainder<br>repeated addition<br>multiplication sentence<br>division statement<br>division fact | Multilink<br><br>Place value counters<br><br>1  10<br><br>100  1,000<br><br>Base ten equipment | **A Square of Numbers** * G<br><br>**What Do You Need?** *<br><br>**Follow the Numbers** * I<br><br>**What's in the Box?** *<br><br>**How Do You Do It?** *<br><br>**Ip Dip** * I<br><br>**Journeys in Numberland** * I<br><br>**This Pied Piper of Hamelin** ** |

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| | | Lo I know to divide 2 digit by I digit with no exchange<br><br>Lo I know to divide 2 digit by I digit with regrouing<br><br>Lo I know to divide a 2 digit by I digit number with remainders | | |  | |
| Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators | Knows that fractions are relative to the whole.<br><br>Knows that fractions are equal parts to the whole. | [Maths resources for teachers \| White Rose Maths](#)<br><br>Step 3<br><br>LO I know what the numerator in a non-unit fraction represents. | Fractions : non unit fractions. | equal parts<br>whole<br>unit fraction<br>equation<br>integer<br>non-unit fraction<br>numerator<br>denominator<br>represent<br>share<br>group<br>mixed number<br>whole number<br>divide<br>set of objects<br>multiply<br>tenth<br>interval | Fraction tiles<br><br><br><br>Cuisenaire rods<br><br><br><br>Fractions circles<br><br><br><br>Numicon | **Fraction Match** * **G**<br><br>**Matching Fractions** * **G** |

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| Compare and order unit fractions, and fractions with the same denominators | Knows simple equivalence in halves and quarters.<br><br>Knows thirds are three equal parts of a whole. | Step 5<br><br>LO I Know to compare and order unit fractions | Fractions: compare and order fractions | equal parts<br>whole<br>unit fraction | Fraction tiles | **Fraction Match** *<br>G |
| | | | | | | |
| Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators | Knows that fractions of amounts can be calculated using multiplication and division facts | Step 6 – 10<br>LO I know fractions and scales<br><br>LO I know fractions on a number line<br><br>LO I know how to count in fractions on a number line<br><br>LO I know equivalent fractions on a number line<br><br>LO I know equivalent fractions on a bar model. | Fractions – equivalents | unit fraction<br>equation<br>integer<br>non-unit fraction<br>numerator<br>denominator<br>represent<br>share<br>group<br>equivalent | Fraction tiles | **Matching Fractions** * G |
| Measure the perimeter of simple 2-D shapes | Know how to measure a length, a mass, and a capacity in nonstandard | [Maths resources for teachers | White Rose Maths](#)<br>Length and perimeter | Measurement : perimeter | length<br>height<br>width<br>perimeter | ruler<br><br>Helix | **Olympic Starters** *<br>I<br><br>**Car Journey** * I |

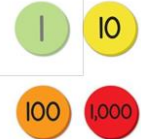| | | | | | | |
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| | units then standard units. | Step 10 to 12<br>LO I know what a perimeter is<br><br>LO I know how to measure perimeter<br><br>LO I know how to calculate perimeter | | distance<br>centimetre (cm)<br>millimetre (mm)<br>metre (m)<br>unit of measurement<br>measure | metre ruler<br><br>metre wheel. | **Oh! Harry!** ** |
| Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks | Know that time passes in cycles. Know the features of the clock face: hands, 1 to 12 positions, half past and o'clock. | **Maths resources for teachers | White Rose Maths**<br><br>Steps 1 – 5<br><br>LO I know Roman numerals to 12<br><br>LO I know to tell the time to 5 minute intervals<br><br>LO I know to tell the time to 1 minute intervals<br><br>LO I know to read time on a digital clock | Measurement : Time | month<br>year<br>midnight<br>midday<br>am<br>pm<br>duration<br>estimate<br>consecutive<br>hour<br>minute<br>second<br>past<br>to<br>start<br>end<br>duration<br>digital clock<br>analogue clock | Clocks<br><br>Numberlines for counting time<br><br>Digital display clocks | **What Is the Time?** *<br><br>**Clocks** *<br><br>**Two Clocks** **<br><br>**The Time Is ...** **<br><br>**5 on the Clock** ***<br>I<br><br>**Approaching Midnight** G |

| | | LO I know how to use AM and PM | | | | | |
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| Know the number of seconds in a minute and the number of days in each month, year and leap year | Knows the correct unit of measure and the equipment for each aspect of measurement. | Steps 6 – 7 and 10 - 11<br><br>LO I know years, months and days.<br><br>LO I know days and hours<br><br>LO I know minutes and seconds<br><br>LO I know to convert between different units of time. | Measurement Time | past<br>to<br>start<br>end<br>month<br>year<br>hour<br>minute<br>second | Clocks<br><br><br><br>Numberlines for counting time<br><br><br><br>Digital display clocks<br><br> | **What Is the Time?** *<br><br>**Clocks** *<br><br>**Two Clocks** **<br><br>**The Time Is …** **<br><br>**5 on the Clock** ***I<br><br>**Approaching Midnight** G |
| Compare durations of events | Knows the correct unit of measure and the equipment for each aspect of measurement. | Steps 8 – 9 and 12<br><br>LO I know Hours and minutes – using start and end times<br><br>Lo I know hours and minutes – durations | Measurement: time | to<br>start<br>end<br>duration | | |

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| | | LO I know solving time problems | | | | |
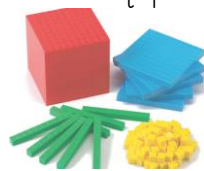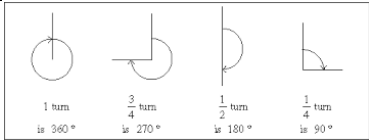
# Summer Term planning

| National curriculum objectives | Prior knowledge from year 2 | Learning outcomes (including WR steps) | Mathematical aspect | Vocabulary | Manipulatives | Problem solving resources |
|---|---|---|---|---|---|---|
| Add and subtract numbers mentally, including: <br> • a 3-digit number and ones <br> • a 3-digit number and tens <br> • a 3-digit number and hundreds | Knows number bonds to and within 20 and to 100. | Maths resources for teachers \| White Rose Maths (whiteroseeducation.com) <br><br> Step 19 <br><br> LO I know complements to 100. | Addition and subtraction | addition subtraction mental method column method exchange making 100 number bonds | Place value counters <br><br> Base ten equipment <br><br> Numicon | **Got It** ** G <br><br> **Make 37** ** <br><br> **Consecutive Numbers** ** I <br><br> **Dice in a Corner** *** I <br><br> **4 Dom** *** |
| Estimate the answer to a calculation and | Knows the operation to use | Step 20 | Addition and subtraction | addition subtraction | | **Build it Up** * I |

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| use inverse operations to check answers | and chooses the efficient method. Knows facts to 100 using multiples of 10 | LO I know how to estimate answers.

Step 21
LO I know to use the inverse operations | | mental method
column method
exchange
making 100
number bonds
estimate
inverse | | **Finding Fifteen** **

**Domino Square** |
| Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | Knows efficient strategies for adding and subtracting for up to two 2-digit numbers mentally and with recording appropriate to the strategy chosen. | Step 22
Lo I know to chose the most efficient method to problem solve. | Addition and subtraction – problem solving | addition
subtraction
mental method
column method
exchange
making 100
number bonds
estimate
inverse | | **Buying a Balloon** *

**Super Shapes** *

**Strike it Out** * G

**Dicey Addition** * G

**Half Time** * |
| Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods | Knows that multiplication is inverse to division.

Know the test of divisibility for 2, 5 and 10. | [Maths resources for teachers \| White Rose Maths (whiteroseeducation.com)](#) multiplication and division B

Step 7 -9
LO I know to divide 2 digit numbers by 1 digit (no exchange) | Division | equal
multiply
divide
times-table
sharing
grouping
array
bar model
remainder
repeated addition
multiplication
sentence
division statement
division fact | Place value counters

Base ten equipment

Numicon | **Ordering Cards** * G

**Music to My Ears** * I |

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| | | LO I know to divide 2 digit numbers by I digit ( with exchange)<br><br>Lo I know to divide 2 digit numbers with remainders | | | Multilink<br><br> | |
| 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 | Know the test of divisibility for 2, 5 and 10.<br>3 -digit sum of 3, 6 or 9. | Step 10 – 11<br><br>LO I know how to scale problems<br><br>LO I know how to find all possibilities | Multiplication and division – problem solving | equal<br>multiply<br>divide<br>times-table<br>sharing<br>grouping<br>array<br>bar model<br>remainder<br>repeated addition<br>multiplication sentence<br>division statement<br>division fact | Place value counters<br><br>Base ten equipment<br><br> | **A Square of Numbers** * **G**<br><br>**What Do You Need?** *<br><br>**Follow the Numbers** * **I**<br><br>**What's in the Box?** *<br><br>**How Do You Do It?** *<br><br>**Ip Dip** * **I**<br><br>**Journeys in Numberland** * **I**<br><br>**This Pied Piper of Hamelin** ** |

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| • To recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. | Knows how to calculate halves and quarters in the context of length, mass and capacity. | [Maths resources for teachers \| White Rose Maths (whiteroseeducation.com)](#)<br><br>Steps 1 to 6<br>LO I know to add fractions.<br><br>LO I know to subtract fractions.<br><br>LO I know to partition the whole into fractions.<br><br>LO I know to find fractions of a set of objects.<br><br>LO I know to find non-unit fractions of a set of objects.<br><br>LO I know to find fractions of amounts. | Fractions: adding and subtracting fractions | equal parts<br>whole<br>unit fraction<br>equation<br>integer<br>non-unit fraction<br>numerator<br>denominator<br>represent<br>share<br>group<br>mixed number<br>whole number<br>divide<br>set of objects<br>multiply<br>tenth<br>interval | Fraction tiles<br><br>Cuisenaire rods<br><br>Fractions circles<br><br>Numicon | **Fraction Match** * G<br><br>**Matching Fractions** * G |
| • Add and subtract amounts of money to give change, using both £ and p in practical contexts | Knows the standard units of measure for length, mass, and capacity. | [Maths resources for teachers \| White Rose Maths (whiteroseeducation.com)](#)<br><br>Steps 1 to 5<br><br>LO I know the values of pounds and pence | Measurement: Money | pounds (£) and pence (p)<br>convert<br>total<br>difference<br>change | | **How Much Did it Cost?** ** |

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| | | LO I know to convert between pounds and pence<br><br>Lo I know to add money<br><br>LO I know to subtract money<br><br>LO I know to find change | | | | |
| ● Recognise angles as a property of shape or a description of a turn | Knows how to describe position and movement using clockwise, anti-clockwise, left and right.<br><br>Knows how to describe position and movement using right angles for quarter turns. | Maths resources for teachers \| White Rose Maths (whiteroseeducation.com)<br>Geometry : Shape<br><br>Step 1<br>LO I know angles and turns | Geometry shape | right angle<br>clockwise<br>anticlockwise<br>turn<br>half turn<br>full turn |  | **Square Corners** ** |
| ● 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 | Knows how to describe position and movement using right angles for quarter turns. | Maths resources for teachers \| White Rose Maths (whiteroseeducation.com)<br><br>Step 2 and 3<br><br>LO I know right angles as turns | Geometry turns | right angle<br>clockwise<br>anticlockwise<br>turn<br>half turn<br>full turn | | **Building Blocks** *<br><br>**Triple Cubes** * I<br><br>**Stick Images** |

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| whether angles are greater than or less than a right angle | | LO I know to compare angles | | | | |
| • Measure the perimeter of simple 2-D shapes | Knows the standard units of measure for length, mass, and capacity | Step 4<br>LO I know to measure and draw accurately | Geometry : Drawing lines | Line<br>accurate<br>cm<br>mm | ruler | |
| • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines | Knows symmetry is reflection in a vertical line. | Steps 5 and 6<br><br>LO I know horizontal and vertical lines of symmetry<br><br>LO I know lines that are parallel and perpendicular. | Geometry: parallel, perpendicular and lines of symmetry | Parallel, perpendicular, Horizontal, Vertical | Mirrors | **Overlapping Again** ** |
| • Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them | Know the mathematical names and properties of 2d and 3d shapes. | Steps 7 – 10<br><br>LO I know to recognise and draw 2D shapes<br><br>LO I know to name and draw different 2D polygons<br><br>LO I I know to recognise and draw 3 D shapes<br><br>LO I know how to make 3D shapes | Geometry 2D and 3D shapes | triangle<br>quadrilateral<br>kite<br>trapezium<br>rhombus<br>parallelogram<br>cuboid<br>triangular prism<br>square-based pyramid<br>cone<br>cylinder<br>sphere<br>edge<br>face | 2 D and 3 D shapes | **Building Blocks** *<br><br>**Triple Cubes** * I<br><br>**Stick Images** * G<br><br>**Rolling That Cube** *<br><br>**A Puzzling Cube** *<br><br>**Arranging Cubes** * G |

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| | | | | vertices clockwise anticlockwise | | |
| • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) | Knows the relationships between units of measure for length, mass, and capacity<br><br>Knows the standard units of measure for length, mass, and capacity. | [Maths resources for teachers \| White Rose Maths (whiteroseeducation.com)](#)<br><br>Steps 1 – 11<br>LO I know to read and use different scales<br><br>LO I know to measure mass in grams<br><br>LO I know to measure mass in Kilograms and grams<br><br>LO I know to find equivalent masses (kilograms and grams)<br><br>LO I know to compare masses<br><br>LO I know to add and subtract masses<br><br>LO I know to measure capacity and volume in millilitres | Measurement: mass and capacity | mass weigh measure scale interval gram (g) kilogram (kg) capacity litre (l) millilitre (ml) scale interval convert | Non standard weights for measures | **Olympic Starters** * I<br><br>**Car Journey** * I<br><br>**Oh! Harry!** ** |

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| | | LO I know to measure capacity and volume in litres and millilitres<br><br>LO I know equivalent capacities and volumes<br><br>LO I know to compare volume and capacities<br><br>LO I know to add and subtract volumes and capacity | | | | |
| • Interpret and present data using bar charts, pictograms and tables<br><br>• Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables | Knows how data is represented and read.<br><br>Knows how to interpret data. | [Maths resources for teachers | White Rose Maths (whiteroseeducation.com)](whiteroseeducation.com)<br><br>Steps 1 – 6<br>LO I know to Interpret pictograms<br><br>LO I know how to draw pictograms<br><br>LO I know to interpret bar charts<br><br>LO I know how to draw bar charts | Statistics : pictograms and bar charts | pictogram<br>key<br>bar chart<br>scale<br>table<br>row<br>column<br>vertical axis | Objects to make physical bar cand tally charts<br><br>Graph paper | **How Big Are Classes 5, 6 and 7?** *<br><br>**Our Sports** * I<br><br>**Class 5's Names** *<br><br>**Going for Gold** * I<br><br>**The Domesday Project** * I<br><br>**The Car That Passes** * I<br><br>**If the World Were a Village** * |

| ** | | Lo I know to collect and present data in the most suitable way.<br><br>LO I know how to draw and interpret 2 way tables. | | | | **Now and Then** **<br><br>**It's a Tie** ** I<br><br>**Real Statistics** *** |