LADY MARGARET PRIMARY SCHOOL
Meaningful Learning opportunities and strong Motivation leads to rapid Progress and high levels of Success.

LMPS Maths Termly Overview 2020 - 2021

YEAR 4

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Autumn Term	Spring Term	Summer Term
The National Curriculum expectation is that by the end of Year 4, children are able to recall all 12 tables up to 12x12. **Times table focus this term:** Recall multiples of 3,4 and 8 up to 12x in any order, including missing numbers and related division facts fluently. Fluently count in 6s in order up to 12x6, using multiples of 3 to support. Recall multiples of 6 in any order, including missing numbers and related division facts with growing fluency. Fluently count in 7s in order up to 12x7.	**Times table focus this term:** Recall multiples of 6 in any order, including missing numbers and related division facts fluently. Recall multiples of 7 in any order, including missing numbers and related division facts with growing fluency. Fluently count in 9s in order up to 12x9. Fluently count in 11s in order up to 12x11. Recall multiples of 9 in any order, including missing numbers and related division facts with growing fluency	**Times table focus this term:** Recall multiples of 11 in any order, including missing numbers and related division facts fluently. Fluently count in 12s in order up to 12x12. Recall multiples of 12 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by adding 2 more groups). **Children will be sitting an online Multiplication Tables Check in June – tests knowledge of the tables up to 12x12.**

LADY MARGARET PRIMARY SCHOOL
Meaningful Learning opportunities and strong Motivation leads to rapid Progress and high levels of Success.

Year 3 conceptual prerequisites (see teaching guide for strands and teaching guidance)
Children must be confident in the following:

- Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10.
- Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.
- Reason about the location of any threedigit number in the linear number system, including identifying the previous and next multiple of 10 and 100.
- Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.
- Recall multiplication and division facts in the 5 and 10, and 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.
- Use known division facts to solve division problems. Calculate small differences, for example: 74 – 72 = 2
- Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example: 80 + 60 = 140; 140 – 60 = 80; 30 x 4 = 120; 120 ÷ 4 = 30
- Multiply two-digit numbers by 10, and divide three-digit multiples of 10 by 10.
- Understand the inverse relationship between multiplication and division. Write and use multiplication table facts with the factors presented in either order.
- Reason about the location of fractions less than 1 in the linear number system
- Add and subtract fractions with the same denominator, within 1 whole.
- Draw polygons by joining marked points.
- Measure lines in centimetres and metres. Add more than 2 addends. Recall multiplication table facts.

Y4 Unit 1. Place value - 4-digit numbers (1) (9 Lessons)
Prerequisite strands to focus on:
4NPV–1 Equivalence of 10 hundreds and 1 thousand
4NPV–2 Place value in four-digit numbers
4NPV–3 Four-digit numbers in the linear number system
4NPV–4 Reading scales with 2, 4, 5 or 10 intervals
Number - number and place value

- identify, represent and estimate numbers using different representations
- count in multiples of 6, 7, 9, 25 and 1000
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- order and compare numbers beyond 1000

Y4 Unit 6. Multiplication and division (2) (15 Lessons)
Prerequisite strands to focus on:
4NF–1 Recall of multiplication tables
4NF–2 Division problems with remainders
Number - multiplication and division

- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- recognise and use factor pairs and commutativity in mental calculations
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- solve problems involving multiplying and adding, including using the distributive law to

Y4 Unit 11. Decimals (2) (7 Lessons)
Number - fractions (including decimals)

- add and subtract fractions with the same denominator
- recognise and write decimal equivalents of any number of tenths or hundredths
- recognise and write decimal equivalents to 1/4; 1/2; ¾
- find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- round decimals with one decimal place to the nearest whole number

- round any number to the nearest 10, 100 or 1000
- read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value

Y4 Unit 2. Place value - 4-digit numbers (2) (9 Lessons)
Prerequisite strands to focus on:
4NPV–3 Four-digit numbers in the linear number system
4NPV–4 Reading scales with 2, 4, 5 or 10 intervals
4NF–3 Scaling number facts by 100
Number - number and place value

- identify, represent and estimate numbers using different representations
- count in multiples of 6, 7, 9, 25 and 1000
- find 1000 more or less than a given number
- count backwards through zero to include negative numbers
- order and compare numbers beyond 1000
- round any number to the nearest 10, 100 or 1000
- solve number and practical problems that involve all of the above and with increasingly large positive numbers
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

Y4 Unit 3. Addition and subtraction (15 Lessons)
Prerequisite strands to focus on:

multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

Y4 Unit 7. Measure - area (5 Lessons)
Measurement

- find the area of rectilinear shapes by counting squares
- estimate, compare and calculate different measures, including money in pounds and pence

Y3 Unit 9. Fractions (1) (10 Lessons)
Prerequisite strands to focus on:
4F–1 Mixed numbers in the linear number system
Number – fractions

- 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, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- compare and order unit fractions, and fractions with the same denominators

- compare numbers with the same number of decimal places up to two decimal places
- solve simple measure and money problems involving fractions and decimals to two decimal places

Y4 Unit 12. Money (9 Lessons)
Number - fractions (including decimals)

- solve simple measure and money problems involving fractions and decimals to two decimal places

Measurement

- estimate, compare and calculate different measures, including money in pounds and pence

Y3 Unit 11. Time (11 lessons)
Measurement

- 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]

LADY MARGARET PRIMARY SCHOOL
Meaningful Learning opportunities and strong Motivation leads to rapid Progress and high levels of Success.

4NPV–1 Equivalence of 10 hundreds and 1 thousand
4NPV–2 Place value in four-digit numbers
4NPV–3 Four-digit numbers in the linear number system
4NF–3 Scaling number facts by 100
4NPV–4 Reading scales with 2, 4, 5 or 10 intervals

Number - number and place value

- round any number to the nearest 10, 100 or 1000
- solve number and practical problems that involve all of the above and with increasingly large positive numbers

Number - addition and subtraction

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Y3 Unit 8. Length (5 Lessons)
Prerequisite strands to focus on:
4G–2 Perimeter: regular and irregular polygons

Measurement

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes

Teach the following lessons from Y3 Unit 8:

- solve problems that involve all of the above

Teach the following lessons from Y3 Unit 9:

- *Unit Starter – go through vocabulary, structures and representations*
- *Lesson 1 (Unit and non-unit fractions)*
- *Lesson 2 (Making the whole)*
- *Lessons 3 & 4 (Tenths)*
- *Lessons 5 & 6 (Fractions as numbers)*
- *Lessons 8 - 10 (Fraction of a set of numbers)*

Y4 Unit 8. Fractions (1)
Prerequisite strands to focus on:
4F–1 Mixed numbers in the linear number system
4F–2 Convert between mixed numbers and improper fractions
4F–3 Add and subtract improper and mixed fractions (same denominator)

Number - fractions (including decimals)

- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
- recognise and show, using diagrams, families of common equivalent fractions
- solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

Y4 Unit 9. Fractions (2) (8 Lessons)

Number - fractions (including decimals)

Teach all of the teach all of Y3 Unit 11 (Time):

- *Ensure that you go through the Unit Starter – go through vocabulary, structures and representations*
- *Teach all lessons in the Unit (11 lessons)*
- *Complete the End of Unit Check.*
- *Then move onto Y4 Unit 13 below.*

Please note: it is essential that this unit is taught thoroughly as time is not explicitly taught in Y5 & 6.

Y4 Unit 13. Time (5 lessons)

Measurement

- convert between different units of measure [for example, kilometre to metre; hour to minute]

Y4 Unit 14. Statistics (5 Lessons)

Statistics

- 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

Y3 Unit 13. Angles and properties of shape (9 Lessons)

Geometry - properties of shapes

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them
- recognise angles as a property of shape or a description of a turn

LADY MARGARET PRIMARY SCHOOL
Meaningful Learning opportunities and strong Motivation leads to rapid Progress and high levels of Success.

- *Unit Starter – go through vocabulary, structures and representations*
- *Lessons 1 & 2 (Measuring length)*
- *Lesson 3 (Equivalent lengths – metres and centimetres)*
- *Lesson 4 (Equivalent lengths – centimetres and millimetres)*
- *Lesson 8 (Measuring the perimeter)*

Y4 Unit 4. Measure - perimeter (5 Lessons)
Prerequisite strands to focus on:
4G–2 Perimeter: regular and irregular polygons
Measurement

- convert between different units of measure [for example, kilometre to metre; hour to minute]
- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

Y4 Unit 5. Multiplication and division (1) (11 Lessons)
Prerequisite strands to focus on:
4NF–1 Recall of multiplication tables
4NF–2 Division problems with remainders
4MD–1 Multiplying and dividing by 10 and 100
4MD–2 Manipulating the multiplicative relationship
4MD–3 The distributive property of multiplication
Number - multiplication and division

- recall multiplication and division facts for multiplication tables up to 12 × 12
- use place value, known and derived facts to multiply and divide mentally, including:
- solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

Y4 Unit 10. Decimals (1) (10 Lessons)
Number - fractions (including decimals)

- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
- recognise and write decimal equivalents of any number of tenths or hundredths
- find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- solve simple measure and money problems involving fractions and decimals to two decimal places

- 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

First, teach the following lessons from Y3 Unit 12:

- *Unit Starter – go through vocabulary, structures and representations*
- *Lessons 1 (Turns & angles)*
- *Lesson 2 (Right angles in shapes)*
- *Lesson 3 (Comparing angles)*
- *Lesson 5 & 6 (Types of line)*
- *Lessons 7 & 8 (2D and 3D shapes)*

Y4 Unit 15. Geometry - angles and 2D shapes
Prerequisite strands to focus on:
4G–3 Identify line symmetry in 2D shapes
Geometry - properties of shapes

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

multiplying by 0 and 1; dividing by 1; multiplying together three numbers **Measurement** • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days		**Y4 Unit 16. Geometry - position and direction** (6 Lessons) Prerequisite strands to focus on: 4G–1 Draw polygons specified by coordinates or by translation **Geometry** - position and direction - describe positions on a 2-D grid as coordinates in the first quadrant - describe movements between positions as translations of a given unit to the left/right and up/down - plot specified points and draw sides to complete a given polygon