



Gladstone Road Primary School Mathematics (STEM TEAM)

Curriculum design & LTP Progression 2020/2021

Year 4 LTP Overview 2020/2021						
Autumn Term 14 Weeks	Number and Place Value 3 weeks		Calculations: Addition and Subtraction within 10000 4 weeks		Calculations: Multiplication and Division 4 weeks	Geometry: Properties of shapes 3 weeks
Spring Term 11 Weeks	Calculations: Further multiplication and Division 2 weeks		Statistics: Graphs 1 week	Fractions 3 weeks	Measurement: Time 2 weeks	Measurement: Mass, Volume and Length 3 weeks
Summer Term 14 Weeks	Decimals 4 weeks	Measurement: Money 2 weeks	Calculations: Further multiplication and Division 3 weeks	Measurement: Area of figures 2 weeks	Number and Place Value: Roman Numerals 1 week	Geometry: Position and direction 2 weeks



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KS2 Y4 Units	Autumn Term (14 weeks)	Spring Term (11 weeks)	Summer Term (14 weeks)
	<p>Number and Place Value (numbers to 10 000) – 3 weeks MNP Lessons Chapter 1 – 1 to 14</p> <p><u>Progression of skills</u></p> <p>count backwards through zero to include negative numbers</p> <p>L4: To be able to understand and use place value to count.</p> <p>count in multiples of 6, 7, 9, 25 and 1 000</p> <p>L1: To be able to count in hundreds and twenty-fives.</p> <p>L2: To be able to count in thousands.</p> <p>L3: To be able to count in thousands, hundreds, tens and ones.</p> <p>L4: To be able to understand and use place value to count.</p> <p>L10: To be able to count in sixes, sevens and nines.</p> <p>find 1 000 more or less than a given number</p> <p>L8: To be able to make number patterns (using 100, 10, 1 more and less).</p> <p>L9: To be able to make number patterns (4-digit numbers).</p> <p>order and compare numbers beyond 1000</p> <p>L6: To be able to compare and order numbers.</p>	<p>Calculations: Further Multiplication and Division – 2 weeks MNP Lessons Chapter 4 – 1 to 11 (multiplying)</p> <p><u>Progression of skills</u></p> <p><i>count in multiples of 6, 7, 9, 25 and 1 000</i> (copied from Number and Place Value)</p> <p>recall multiplication and division facts for multiplication tables up to 12×12</p> <p>recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)</p> <p>L3: To be able to understand commutativity.</p> <p>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</p> <p>L1: To be able to multiply by 0 and 1.</p> <p>L2: To be able to divide by 1.</p> <p>L4: To be able to multiply three numbers.</p> <p>L5: To be able to multiply with multiples of 10.</p> <p>L8: To be able to multiply multiples of 100.</p> <p>L13: To be able to divide 3-digit numbers.</p> <p>L14: To be able to divide 2-digit numbers with a remainder.</p> <p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p>	<p>Decimals – 4 weeks MNP Lessons Chapter 8 – 1 to 17 (1-8 writing decimals; 9-12 compare and order)</p> <p><u>Progression of skills</u></p> <p>compare numbers with the same number of decimal places up to two decimal places</p> <p>L8: To be able to read and write numbers as decimals.</p> <p>L9 L10 L11: To be able to compare and order numbers with the same number of decimal places up to 2 decimal places.</p> <p>L12: To be able to identify numbers, which are 1 tenth or 1 hundredth more/less in a number sequence.</p> <p>round decimals with one decimal place to the nearest whole number</p> <p>L13 L14: To be able to round numbers with 1 decimal place to the nearest whole number.</p> <p>recognise and write decimal equivalents of any number of tenths or hundredths</p> <p>L1 L2 L3: To be able to recognise and write decimal equivalents of any number of tenths.</p> <p>L4 L5 L6 L7: To be able to recognise and write decimal equivalents of any number of hundredths.</p> <p>recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$</p> <p>L15: To be able to recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.</p>



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<p>L7: To be able to compare and order 4-digit numbers.</p> <p>compare numbers with the same number of decimal places up to two decimal places (copied from Fractions)</p> <p>identify, represent and estimate numbers using different representations</p> <p>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</p> <p>L5: To be able to recognise the place value of each digit in a 4-digit number.</p> <p>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 units, tenths and hundredths (copied from Fractions)</p> <p>round any number to the nearest 10, 100 or 1000</p> <p>L11: To be able to round numbers to the nearest 1000.</p> <p>L12: To be able to round numbers to the nearest 10, 100 or 1000.</p> <p>L13 L14: To be able to round numbers to estimate.</p> <p>round decimals with one decimal place to the nearest whole number (copied from Fractions)</p> <p>solve number and practical problems that involve all of the above and with increasingly large positive numbers</p> <p>L15: To be able to use knowledge of numbers to solve problems.</p>	<p>L6: To be able to multiply 2-digit numbers without renaming.</p> <p>L7: To be able to multiply 2-digit numbers with renaming.</p> <p>L9: To be able to multiply 3-digit numbers without renaming.</p> <p>L10 L11: To be able to multiply 3-digit numbers with renaming.</p> <p>L12: To be able to divide 2-digit numbers.</p> <p><i>estimate and use inverse operations to check answers to a calculation</i> (copied from Addition and Subtraction)</p> <p>solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects</p>	<p>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</p> <p>L16: To be able to divide 1- or 2-digit numbers by 10.</p> <p>L17: To be able to divide 1- or 2-digit numbers by 100.</p>
<p>Calculations: Addition and Subtraction – 4 weeks</p> <p>MNP Lessons Chapter 2 – 1 to 17 (1-7 addition; 8 – 14 subtraction; 15-17 word problems) NOT lesson 11</p> <p>Progression of skills</p>	<p>Statistics: graphs – 1 week</p> <p>MNP Lessons Chapter 5 – 1 to 4</p> <p>Progression of skills</p> <p>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</p> <p>L1: To be able to draw and read picture graphs and bar graphs.</p>	<p>Measurement: Money – 2 weeks</p> <p>MNP Lessons Chapter 9 – 1 to 8</p> <p>Progression of skills</p> <p>estimate, compare and calculate different measures, including money in pounds and pence</p> <p>L1 L2: To be able to write amounts of money as decimals.</p>



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<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>L1: To be able to find the sum of two numbers.</p> <p>L2: To be able to add two numbers without renaming.</p> <p>L3: To be able to add two numbers with renaming in the ones column.</p> <p>L4: To be able to add two numbers with renaming in the tens and ones columns.</p> <p>L5: To be able to add two numbers with renaming in the hundreds, tens and ones columns.</p> <p>L6 L7: To be able to add using mental strategies (making tens, hundreds and thousands).</p> <p>L8: To be able to find the difference between two numbers.</p> <p>L9: To be able to subtract without renaming (using columnar subtraction)</p> <p>L10: To be able to subtract with renaming in the tens and ones columns.</p> <p>L11 L12: To be able to subtract with renaming in the hundreds, tens and ones columns.</p> <p>L13: To be able to subtract with renaming in the thousands, hundreds, tens and ones columns.</p> <p>L14: To be able to subtract using mental strategies.</p> <p>estimate and use inverse operations to check answers to a calculation</p> <p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</p> <p>L15: To be able to solve word problems involving addition and subtraction.</p> <p>L16 L17: To be able to solve two-step word problems involving addition and subtraction.</p>	<p>L2: To be able to draw and read bar graphs.</p> <p>L3 L4: To be able to draw and read line graphs.</p> <p>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>	<p>L3: To be able to compare amounts of money.</p> <p>L8: To be able to estimate amounts of money.</p> <p>round decimals with one decimal place to the nearest whole number</p> <p>L4: To be able to round amounts of money to the nearest £1 and £10.</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>L5: To be able to solve word problems involving addition and subtraction of money.</p> <p>L6: To be able to solve word problems involving multiplication of money.</p> <p>L7: To be able to solve word problems involving division of money.</p>
<p>Half-Term</p> <p>Calculation: Multiplication and Division – 4 weeks</p> <p>MNP Lessons Chapter 3 – 1 to 17 (1-7 multiply; 8-12 divide; 13-17 word problems)</p>	<p>Fractions – 3 weeks</p> <p>MNP Lessons Chapter 6 – 1 to 13 (Lesson 12 over two lessons)</p> <p>Progression of skills</p> <p>count up and down in hundredths</p> <p>L1: To be able to count in hundredths.</p>	<p>Number: Roman Numerals – 1 week</p> <p>MNP Lessons Chapter 14 – 1 to 2</p> <p>Progression of skills</p> <p>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</p>



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<p>Progression of skills</p> <p><i>count in multiples of 6, 7, 9, 25 and 1000</i> (copied from Number and Place Value)</p> <p>recall multiplication and division facts for multiplication tables up to 12×12</p> <p>recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)</p> <p>L1: To be able to multiply by 6. L2: To be able to multiply by 7 L3: To be able to multiply by 9. L4: To be able to multiply by 9 using relational understanding. L5: To be able to multiply by 11. L6: To be able to multiply by 11 by counting in tens. L7: To be able to multiply by 12. 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 L8: To be able to divide by 6. L9: To be able to divide by 7. L10: To be able to divide by 9. L11: To be able to multiply and divide by 11 and 12. L12: To be able to divide with a remainder.</p> <p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout – covered spring term</p> <p><i>estimate and use inverse operations to check answers to a calculation</i> (copied from Addition and Subtraction)</p> <p>solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects L13 L14: To be able to solve word problems involving multiplication and division. L15: To be able to solve multi-step word problems involving multiplication and division (in the context of measures).</p>	<p>recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</p> <p>recognise and show, using diagrams, families of common equivalent fractions L4 L5: To find equivalent fractions.</p> <p>add and subtract fractions with the same denominator L8: To be able to add fractions with the same denominator. L9: To be able to add fractions with the same denominator and record answers as mixed numbers L10: To be able to add fractions with the same denominator and record the answers in the simplest form. L11: To be able to subtract a fraction from a whole number. L12: To be able to subtract a fraction from a mixed number.</p> <p>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 L13: To be able to solve word problems involving fractions</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places. L13: To be able to solve word problems involving fractions</p> <p>L2: To be able to write mixed numbers. L3: To be able to show mixed numbers on a number line. L6: To be able to simplify mixed numbers L7: To be able to simplify improper fractions.</p>	<p>L1: To be able to write Roman numerals to 20. L2: To be able to write Roman numerals to 100. recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</p>
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	<p>L16: To be able to solve word problems involving multiplication and division (all possibilities). L17: To be able to solve multi-step word problems involving multiplication and division.</p>		
	<p>Geometry: Properties of shapes – 3 weeks MNP Lessons Chapter 12 – 1 to 10 (1-4 shapes; 5-9 symmetry; 10 sorting)</p> <p><u>Progression of skills</u></p> <p>identify lines of symmetry in 2-D shapes presented in different orientations L5: To be able to identify lines of symmetry in 2-D shapes. L6: To be able to identify lines of symmetry in 2-D shapes. L8: To be able to draw a line of symmetry for a 2-D shape.</p> <p>complete a simple symmetric figure with respect to a specific line of symmetry L7: To be able to complete a simple symmetric figure with respect to a specific line of symmetry. L9: To complete symmetrical figures.</p> <p>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes L3: To be able to compare and classify triangles. L4: To be able to compare and classify quadrilaterals. L10: To be able to compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p> <p>identify acute and obtuse angles and compare and order angles up to two right angles by size L1: To be able to identify right, acute and obtuse angles. L2: To be able to compare and order angles by size.</p>	<p>Half-term Measurement: Time – 2 weeks MNP Lessons Chapter 7 – 1 to 6 (Pre-teaching and extra consolidation needed)</p> <p><u>Progression of skills</u></p> <p>estimate, compare and calculate different measures, including money in pounds and pence</p> <p>read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) L1: To be able to tell the time on a 24-hour clock.</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days L2: To be able to convert time in minutes to seconds. L3: To be able to convert time in hours to minutes. L4: To be able to solve word problems involving duration of time. L5: To be able to convert years to months and weeks to days L6: To be able to solve word problems involving duration of time and conversion.</p>	<p>Half-term Measurement: Area of figures – 2 weeks MNP Lessons Chapter 11 – 1 to 6 Lesson 1& 2 combined. (1-4 by counting; 5 by multiplying)</p> <p><u>Progression of skills</u></p> <p>find the area of rectilinear shapes by counting squares L1: To be able to measure the surface an object covers. L2: To be able to find the area of rectilinear shapes by counting squares. L3: To be able to find the area of rectilinear shapes by counting squares. L4: To be able to find the area of rectilinear shapes by counting squares. L5: To be able to find the area of rectilinear shapes by counting squares. L6: To be able to find the area of rectilinear shapes by counting squares.</p>
		<p>Measurement: Mass, Volume and Length – 3 weeks</p>	<p>Calculations: Further Multiplication and Division – 2 weeks</p>



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	<p>MNP Lessons Chapter 10 – 1 to 12 (1-3 mass; 4-6 volume; 7-11 height/length)</p> <p><u>Progression of skills</u></p> <p>estimate, compare and calculate different measures, including money in pounds and pence</p> <p>L1: To be able to estimate mass to the nearest kilogram.</p> <p>L2: To be able to measure mass.</p> <p>L4: To be able to measure volume in litres using decimals.</p> <p>L5: To be able to measure volume in litres using decimals.</p> <p>L7: To be able to measure height in metres using decimals.</p> <p>L8: To be able to measure length in centimetres.</p> <p>convert between different units of measure (e.g. kilometre to metre; hour to minute)</p> <p>L3: To be able to convert between different units of measure for mass.</p> <p>L6: To be able to convert different units of measure for volume.</p> <p>L9: To be able to convert between centimetres and metres.</p> <p>L10: To be able to convert between metres and kilometres.</p> <p>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p>L11: To be able to measure perimeter in centimetres and millimetres and convert between the two units.</p> <p>L12: To be able to solve word problems involving measurements.</p>	<p>MNP Lessons Chapter 4 – 12 to 18 (12 – 16 Division; 17-18 Word Problems)</p> <p><u>Progression of skills</u></p> <p>recall multiplication and division facts for multiplication tables up to 12×12</p> <p>L12: To be able to divide 2-digit numbers.</p> <p>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</p> <p>L13: To be able to divide 3-digit numbers.</p> <p>L14: To be able to divide 2-digit numbers with a remainder.</p> <p>L15: To be able to divide 3-digit numbers with renaming.</p> <p>L16: To be able to divide 3-digit numbers with a remainder.</p> <p>solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects</p> <p>L17: To be able to solve word problems involving multiplication and division.</p> <p>L18: To be able to solve word problems involving multiplication and division</p>
		<p>Geometry: Position and Direction – 2 weeks</p> <p>MNP Lessons Chapter 13 – 1 to 5</p> <p><u>Progression of skills</u></p> <p>describe positions on a 2-D grid as coordinates in the first quadrant</p> <p>L1 L2: To be able to describe positions on a 2-D grid as coordinates in the first quadrant.</p> <p>L3: To be able to plot specified points and draw sides to complete a given polygon.</p> <p>describe movements between positions as translations of a given unit to the left/right and up/down</p>



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			L4 L5: To be able to describe movements between positions as translations of a given unit to the left/right and up/down.
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