Wickham Church of England Primary School

Maths Long Term Map – Year 4

	lessons	Domain	Unit Objectives
Autumn 1	5	Number and place value	• **Solve number problems and practical problems involving:** • **Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones)** Up to 10,000 • **Identify, represent and estimate numbers using different representations** including number-lines • **Find 10 ,100, 1000 more or less than a given number** • **Round any number to the nearest 10,100,1000** (represent on a number line)
	10	Addition and Subtraction	• Y2:**Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100** • Y3:**Compare and order numbers from zero up to 1000; using < , > and = signs** • **Read and write numbers to at least 1000 in numerals and in words** • Y3: **Add and subtract numbers mentally including a 3-digit number and ones and a 3-digit number and hundreds.** • **Estimate the answer to a calculation and use inverse operations to check answers** • **Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.**
	5	Addition and Subtraction: Money	• Add and subtract amounts of money to give change using both £ and p to solve problems • Use known and derived facts to work out change from £1 (100p), £10 , £100 • Know 100p = £1; 2 x 50p = £1; 10 x 10p = £1; 5 x 20p = £1; 20 x 5p = £1; 50 x 2p = £1; relate to multiplication facts/ repeated addition in the context of money. • Record addition and subtraction money calculations using pictorial representations such as a number-line and barmodels. • **Estimate, compare and calculate money in £ and p** • **Convert between units (£ and p)**
	5	Addition and Subtraction: Measurement	• **Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m Convert between units (km to m, m to cm, cm to mm (x) and vice versa (÷)** ⬜ Know 1000m = 1km • Derive 500m = ½ km, 250 m = ¼ km , 750 km = ¾ km and 100m = 1/10 km • **Solve problems involving all of the above** • **Order and compare numbers beyond 1000** (represent on number lines)
	10	Multiplication and division	• **Use place value, known and derived facts to multiply and divide mentally** • Y2/3: **Recall and use multiplication and division facts for the 2,3,4,5,8,10 multiplication tables.** ⬜ Represent multiplication and division facts as arrays using a grid (rather than dots) and a number-line ⬜ **Count in multiples of 3 and 4 from zero**. • Derive, **recall and use multiplication and division facts for 6x and 12x multiplication tables** • Solve problems including missing number problems involving multiplication and division, recording solutions with a range of representations to include number-lines, bar-models and arrays. • **Solve problems involving multiplying and adding (**partitioning and recombining). E.g. 37 x 8 = (30 x 8) + (7 x 8).

Autumn term 2	10	Fractions (10)	• **Count up and down in tenths (proper and decimal fractions); recognise that tenths arise from dividing and object into ten equal parts.** Record using number lines (making explicit links with decimals) and bar models • **Round decimals with one decimal place to the nearest whole number** using different representations, including the number line • **Find the effect of dividing a one-or two-digit number by 10 and 100;** use place value understanding. ▯ **Recognise and show, using diagrams, families of common equivalent fractions** ▯ Count in halves, quarters and thirds on a number-line. • **Add and subtract fractions with the same denominator (**number-lines and bar-models)
	10	Geometry (10)	• **Compare and classify geometric shapes, including quadrilaterals based on their properties and sizes** • **Identify acute and obtuse angles** • **Complete a simple symmetric figure with respect to a specific line of symmetry** • **Describe positions on a 2-D grid as co-ordinates in the first quadrant (**(x,y) co-ordinates) • **Find the area of rectilinear shapes by counting squares** (relate to tables facts on array grids)
	15	NPV / measurement (length (5), mass (5))	• **Measure and compare lengths (mm/cm/m/ km)** • **Convert between units (km to m, m to cm, cm to mm (x) and vice versa (÷)** • **Measure and compare mass (g/kg)** • Know that there are 1000g = 1 kg and derive associated facts: 500g = ½ kg ; 250 g = ¼ kg ; 750 g = ¾ kg; 100g = 1/10 kg; 10g = 1/100 kg • **Count up and down in hundredths; recognising that hundredths arise from dividing an object by 100 and dividing tenths by 10. (**bar-model and number-line) • **Recognise the place value of each digit in a 4-digit number (1000s,100s, 10s and ones)** • **Find 1000 more or less than a given number** • **Order and compare numbers beyond 1000** (represent on number lines) • **Read, write and convert time between analogue and digital 12 and 24-hour clocks** • **Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days**

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Spring term 1	10	Fractions	• **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.** • **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.** • **Count up and down in hundredths** (represent on number lines) • **Recognise that hundredths arise when dividing and object by a hundred and dividing tenths by ten.** • **Round decimals with one decimal place to the nearest whole number** (represent on number lines) • **Recognise and write decimal equivalents to ¼, ½ and ¾** (represent on number lines and bar models)
	5	Geometry	• **Compare and classify geometric shapes (triangles) based on their properties and sizes.** • **Identify acute and obtuse angles** • **Identify lines of symmetry in 2-D shapes presented in different orientations** • **Describe positions on a 2-D grid as co-ordinates in the first quadrant ((x,y) co-ordinates)** • **Describe movements between positions as translations of a given unit to the left / right and up/down.**
	15	Subtraction and addition	• Recall and use complements to 100 and 1000 to support mental strategies. • Record and addition and subtraction calculations using a combination of representations e.g bar model, number-line, number sentence. • Add three numbers, with a sum of up to 1000. • **Estimate and use inverse operations to check answers to a calculation** • **Add and subtract numbers with up to four digits using formal written methods** building on the use of structured concrete resources to ensure conceptual understanding. • Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why.
	5	Measurement (time)	• **Read, write and convert time between analogue and digital 12-hour and 24-hour clocks.** • **Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.** • Represent time intervals on a number-line • Know 1 hour = 60 minutes; ½ hour = 30 minutes, ¼ hour = 15 minutes, ¾ hour = 45 minutes • Know I minute = 60 seconds; 365 days in a year (366 in a leap year); 14 days in a fortnight

Spring term 2	10	Multiplication and division	• **Y3: Recall and use multiplication and division facts for the 2,3,4,5,8 and 10 multiplication tables.** ⬚ Represent multiplication and division facts as arrays using a grid (rather than dots) and on a number-line ⬚ **Count in multiples of 6,7 and 9 from zero.** • Derive, **recall and use multiplication and division facts for up to 12 x 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** • Solve problems including missing number problems involving multiplication and division, recording solutions with a range of representations to include number-lines, bar-models and arrays.
	5	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** • Find one tenth of an amount by dividing by ten and one hundredth by dividing by one hundred. • Know one tenth = 0.1 • Count in tenths and record on a number line beyond one.

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	15	Subtraction and addition / statistics (10)	**Compare and order numbers beyond 1000** **Round any number to the nearest 10,100, 1000** **Identify, represent and estimate numbers using different representations** **Solve number and practical problems that involve** an understanding of place value and with increasingly large positive numbers. **Add and subtract numbers with up to four digits using formal written methods** building on the use of structured concrete resources to ensure conceptual understanding. **Solve comparison, sum and difference problems using information presented in bar charts, pictograms and other graphs, e.g. bar charts for discrete data and time graphs for continuous data**
	5	Measurement (5) (volume/ capacity)	- Measure, compare, add and subtract volume/capacity (l / ml) **Convert between different units of measure (ml/l)** **Solve number and practical problems that involve** an understanding of place value and with increasingly large positive numbers. **Add and subtract numbers with up to four digits using formal written methods** building on the use of structured concrete resources to ensure conceptual understanding.

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Summer term 1	15	Multiplication and division	• **Multiply two-digit and three-digit numbers by a one-digit number** • **Recognise the place value of each digit in a 3-digit number (100s, 10s and ones)** ⬜ **Use place value understanding to divide single digit and 2-digit numbers by 10.** • **Recognise that tenths arise from dividing one digit numbers or quantities by 10.** • **Count from zero in multiples of 3,4,8,50 and 100** • Y2: **Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.** • Represent multiplication and division facts as arrays using a grid (rather than dots) and a number-line • Derive, **recall and use multiplication and division facts for 3 , 4 and 8 multiplication tables** • Understand the links within and between tables facts ('one, ten, five, derive') • **Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, using mental strategies** • **Solve problems including missing number problems involving multiplication and division**, recording solutions with a range of representations to include number-lines, bar-models and arrays.
	10	Geometry	• **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** • **Plot specified points on a 2-D grid as coordinates in the first quadrant and draw sides to complete a given polygon.** • **Find the area of rectilinear shapes by counting squares (on a grid)** • Solve more complex problems involving fractions and area of shapes e.g. 'If ¼ of my bedroom is covered in a rug, how much is not?' and 'If 3/7 of a field is planted with carrots and the rest with onions, what fraction of the field is planted with onions and how much area if taken up by onions if the whole field has an area of 140m^2 ?'
	10	Addition and subtraction (statistics)	• **Add and subtract with numbers 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** • **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**

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Summer term 2	10	Multiplication and division	• **Recall 2/3/4/5/6/8 multiplication and division facts for multiplication tables up to 12 x 12** • **Use place value, known and derived facts to multiply and divide mentally, including: by 0 and 1; dividing by 1; multiplying three numbers together.** • **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 multiply two digit numbers by one digit (37 x 8 = (30 x 8) + (7 x 8)),** the associative law (2 × 3) × 4 = 2 × (3 × 4)**).** integer scaling problems (six times taller) **and harder correspondence problems such as n objects are connected to m objects (**e.g. the numbers of choices of a meal on a menu, or three cakes shared equally between 10 children. • Combine knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, 2 x 6 x 5 = 10 x 6 = 60. • Solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. • **Find the effect of dividing a one-or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths**
	5	Fractions	• **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** • **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 ½; ½ ; ¾**
	10	Measure (money (5)	• **Solve simple money problems involving fractions and decimals to two decimal places** • **Estimate, compare and calculate with money in £ and p** • **Read, write and convert between analogue and digital 12 and 24-hour clocks** • **Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days**
	10	Measurement (length)	• **Convert between kilometres, metres, centimetres and millimetres** • **Estimate, compare and calculate with measures of length** • **Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres** • **Solve length problems involving fractions and decimals to two decimal places** • **Round decimals** in the context of length **to the nearest whole number** • **Compare** lengths **with the same number of decimal place (up to two decimal places)**

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