Rowan Class Maths Long Term Plan

LKS2 Maths Long Term Plan	Topic/Learning Pathway	Key Vocabulary	Links to wider curriculum
Autumn 1	**Weeks 1-2 Number and Place value** Read, write and locate any 3-digit number on a landmarked line from 0-1,000 and use this to order and compare numbers. Understand place value in 3-digit numbers; add and subtract 1s, 10s or 100s without difficulty. Add and subtract amounts of money and give change by counting up; use both £ and p in practical contexts. Understand place value in 3-digit numbers; add and subtract 1, 10 or 100 without difficulty. Locate 4-digit numbers on a landmarked line and use this to compare and order numbers. Understand the numbers of 1s, 10s, 100s, 1,000s in a 4-digit number and the use of zero as a place holder. Understand the numbers of 1s, 10s, 100s, 1,000s in a 4-digit number and the use of zero as a place holder. **Weeks 3-4 Addition and Subtraction** Know securely number pairs for all the numbers up to and including 20. Solve problems including those involving missing numbers. Add and subtract 1-digit numbers from 2-digit numbers using number facts. Know securely number pairs for all the numbers up to and including 20.	Ones, tens, hundreds, thousands, place value, order, compare, count on, count back, more, less, halfway, larger, smaller, multiple, addition, subtraction, counting up, pair, take away, equals, multiples, commutative, division, doubling halving, partitioning, recombining, fraction, half, quarter, numerator, denominator, thirds, fifths, twelfths, equally, bar model	History – timelines English (George's Marvellous Medicine) – Potion making, halving and doubling recipes Computing – bar graphs, addition PE – circuit training and the use of results

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	Mentally add or subtract any pair of 2-digit numbers, including pairs to 100.		

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Mentally add or subtract any pair of 2-digit numbers, including pairs to 100.

Give change by counting up; use both £ and p in practical contexts.

Mentally add or subtract any pair of 2-digit numbers, e.g. 75 + 58 or 75 – 58.

Recognise that there are two ways of completing subtractions, either by counting up or by counting back.

Find a difference between a 3-digit and a 2-digit number by counting up.

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Mentally add and subtract any pair of 2-digit numbers or 3-digit multiples of 10.

Mentally +/- any pair of 2-digit numbers.

Subtract numbers from 2-digit and 3-digit numbers using counting up (Frog).

Mentally +/- any pair of 2-digit numbers or 3-digit multiples of 10.

Subtract numbers from 2-digit and 3-digit numbers using 'Frog'/counting up, and subtract numbers from 3-digit numbers using 'Frog'/counting up e.g. 426–278, 321-87.

Estimate and use inverse operations to check answers to a calculation.

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Week 5 Multiplication and Division (A)

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Understand that multiplication is commutative and write mathematical statements for multiplication and division.

Understand that division is the inverse of multiplication.

Know the 2x, 5x and 10x times tables, including division facts.

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	Partition to double and halve numbers. Know and recite times tables, including division facts, up to 12 × 12; multiply by 0 and multiply and divide by 1. Multiply 1-digit numbers by 2-digit or 'friendly' 3-digit numbers mentally or using grid method (i.e. using the distributive law). **Weeks 6-7 Fractions** Partition to double and halve numbers. Recognise and show using diagrams, equivalent fractions for ½, ¼, ¾, 1/3, e/g ¼ = 3/12 Recognise, find and write unit and non-unit fractions of convenient amounts, e.g. 1/10 of 100 or 1/3 of 60. Solve problems involving fractions. Know and recite times tables, including division facts, up to 12 × 12; multiply by 0 and multiply and divide by 1. Use known facts, place value, factors & commutativity to multiply & divide mentally, including multiplying three numbers together. Write the equivalent fraction for fractions with given denominators or numerators. Use times tables to find unit and non-unit fractions of amounts, e.g. 1/6 of 48, 3/8 of 64.		
Autumn 2	**Week-1 Multiplication and Division (B)** Understand that division is the inverse of multiplication. Know the 2x, 3x, 4x, 5x, 8x and 10x times tables, including division facts.	Multiply, divide, chunking, place value, expanded addition, compact addition, subtract, estimate, inverse, 2D, 3D, orientation, right angle,	History – Roman numerals, Population change, deaths, births, no of years people lived,

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	Know how to use 'efficient chunking' for division above the range of the tables facts, e.g. 84 ÷ 6 = ? Begin to extend this to 3-digit numbers. **Weeks 2-4 Addition and Subtraction** Solve number problems and practical problems involving place value Mentally add and subtract multiples of 1s, 10s and 100s to/from 3-digit numbers. Mentally add any pair of 2-digit numbers, e.g. 75 + 58. Add numbers with 3-digits using column addition, first expanded then compact method. Add numbers with 3-digits using column addition, first expanded then compact method. Subtract larger numbers with confidence, using 'Frog' for counting up, e.g. 302 - 288. Estimate answers & use addition to check subtraction, understanding that +/- are inverse operations. Add multiples of 1, 10, 100, 1000 without difficulty. Solve number and practical problems involving place value. Use column addition to add 3-digit & 4-digit numbers: first expanded, then compact method. Subtract numbers from 3-digit numbers using 'Frog'/counting up, e.g. 426–278, 321-87. Use column subtraction to subtract 3-digit & 4-digit numbers: first expanded, then compact method.	symmetrical, quadrilateral, triangle, properties, polygon, right, left, up, down, translation	numbers. in armies etc. Science – representing numbers in different orientations Art – Understanding of fractions and proportions within artwork

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	Weeks 5-7 Shape Draw 2-D and make 3-D shapes, recognising both in different orientations, and describe them. Identify right angles as 90° in shapes Draw 2-D and make 3-D shapes, recognising both in different orientations, and describe them. Draw 2-D and describe them. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2-D shapes presented in different orientations; complete a simple symmetric figure with respect to one line of symmetry. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Describe positions on a 2-D grid as coordinates in the first quadrant, plot specified points and draw sides to complete a given polygon. Describe movements between positions as translations of a given unit to left/right, up/down.		
Spring 1	**Weeks 1-2 Place value and Fractions** Solve number problems and practical problems involving place value. Recognise, find and write unit and non-unit fractions of convenient amounts, e.g. 1/10 of 100 or 1/3 of 60.	Unit and non-unit fractions, place value, tenths, equivalent, half, quarter, third, number line, temperature, negative, positive, numerator, simplest form, estimate, compare, decimal, length,	Science – Calculating differences and different units of measurements in investigations. Computer Science – Coding

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	Count up and down in fractional steps, e.g. counting in 1/2s, 1/4s or 1/3s; hence recognise fractions as numbers. Recognise and show equivalent fractions using diagrams, for 1/2, 1/4, 3/4, 1/3. Add or subtract fractions with the same denominator. Recognise negative numbers in relation to number lines and temperature. Use times tables to find unit and non-unit fractions of amounts, e.g. 1/6 of 48, 3/8 of 64. Write the equivalent fraction for fractions with given denominators or numerators, e.g. 1/2 = ?/8; write a fraction in its simplest form. Add and subtract fractions with the same denominator. **Weeks 3-4 Addition and Subtraction (A)** Mentally add or subtract any pair of 2-digit numbers. Recognise that there are two ways of completing subtractions, either by counting up or by counting back. Know securely number pairs for all the numbers up to and including 20, e.g. pairs which make 15 Mentally add and subtract. Solve problems, including missing number problems. Mentally add and subtract any pair of 2-digit numbers or 3-digit multiples of 10. Subtract numbers from 3-digit numbers using counting up (Frog). Solve simple money problems involving decimals to two decimal places. Estimate, compare and calculate money in pounds and pence.	millimetre, metre, centimetre, data, pictogram, table, bar chart, graph.	Geography – Rainforests, calculating rainfall and temperatures. RE - Dates AD and BC Calendar years / Dates of origin of other faiths.

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	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. **Week 5 Measures** Measure, compare, add and subtract lengths. Know that there are 100cm in a metre and that there are 10mm in a centimetre. Use a ruler to measure lines. Interpret and represent data on scaled bar charts and tables; solve problems using these. Measure, compare, add and subtract weights. Interpret and represent data on scaled bar charts and tables; solve problems using these. Convert between units of measurement, e.g. cm to m. Estimate, compare and calculate different measures. Interpret and present discrete data using bar charts, pictograms and tables, and continuous data on time graphs. Answer questions about data. **Weeks 6-7 Decimals and Money** Multiply 2-digit numbers by 10 or 1-digit numbers by 100; divide multiples of 10 or 100 by 10 or 100. Understand the effect of x or ÷ by 10 or 100. Read, write and locate any 3-digit number on a landmarked line from 0–1000 and use this to order and compare numbers. Round to the nearest ten and hundred. Know that one-place decimal numbers represent ones and tenths.		

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	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.		
Spring 2	**Weeks 1-2 Multiplication** Understand that division is the inverse of multiplication, e.g. ? × 3 = 21 ≡ 21 ÷ 3 = ? Know the 2, 3, 4, 5, 8 and 10 times tables, including division facts. Partition to double and halve numbers. Know and recite times tables, including division facts, up to 12 × 12. Use known facts, place value, factors and commutativity to multiply and divide mentally. Multiply 1-digit numbers by 2-digit or 'friendly' 3-digit numbers mentally or using grid method. **Weeks 3-4 Addition and Subtraction (B)** Add numbers with 3-digits using column addition, first expanded then compact method. Solve problems, including missing number problems. Add and subtract amounts of money; use both £ and p in practical contexts. Subtract larger numbers with confidence, using 'Frog' for counting up. Estimate answers and use addition to check subtraction, understanding that addition and subtraction are inverse operations.	Multiplication, division, partition, double, halve, place value, factors, commutative, unit and non-unit fractions, division, chucking, represent, data, convert, seconds, minutes, hours, days, months, years.	Design Technology – food recipes, doubling and halving. Science – calculating differences in results/measurements. Recording results in tables/charts. R.E – Statistics linked to the key religions

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	Use column addition to add 3-digit and 4-digit numbers: first expanded, then compact method. Estimate and use inverse operations to check answers to a calculation. Solve simple money problems involving decimals to 2 decimal places. Estimate, compare and calculate money in pounds and pence. Subtract numbers from 3-digit numbers using 'Frog'/counting up, e.g. 426 – 278, 321 – 87. Use column subtraction to subtract 3-digit and 4-digit numbers: first expanded, then compact method. **Weeks 5 Division** Know the 2, 3, 4, 5, 8 and 10 times tables, including division facts. Recognise, find and write unit and non-unit fractions of 'convenient' amounts, e.g. 1/10 of 100 or 1/3 of 60. Know how to use 'efficient chunking' for division above the range of the tables facts, e.g. 84 ÷ 6 = ? Begin to extend this to 3-digit numbers. Use times tables to find unit and non-unit fractions of amounts, e.g. 1/6 of 48, 3/8 of 64. **Weeks 6-7 Time** Tell and write the time on digital and analogue clocks (incl. those with Roman numerals). Record times in seconds, minutes, hours, days, weeks, months, years including leap years, converting from one unit to another.		

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	Compare durations of events using analogue/digital times & vocabulary such as am and pm. Interpret and represent data on scaled bar charts, pictograms and tables, and solve problems using these. Convert between units of time, analogue/digital times, and between 12-hour & 24-hour times. Interpret and present discrete data using bar charts, answer questions re-data.		
Summer 1	**Week 1 Number and Place Value** Read, write and locate any 3-digit number on a landmarked line from 0-1000 and use this to order and compare numbers. Understand place value in 3-digit numbers; add/subtract 1, 10, 100 without difficulty. Round to the nearest ten and hundred, e.g. 34 to nearest 10 is 30, 276 to nearest hundred is 300. Count from 0 in 2s, 4s, 8s, 10s, 100s, and 50s. Solve number problems and practical problems involving place value. Read, write and locate any 3-digit number on a landmarked line from 0-1000 and use this to order and compare numbers. Round to ten, a hundred and a thousand. Solve number and practical problems involving place value. Count in multiples of 6, 7, 9, 25 and 1000. Read Roman numerals to 100 (I to C). **Week 2-3 Addition and Subtraction (A)** Add numbers with 3-digits using column addition, first expanded then compact method.	Order, compare, round, 10s, 100s, 1000s, place value, multiple, round, add, subtract, multiples, roman numerals, multiplication, division, commutative, inverse, chunking,	History – timelines, ordering numbers. Design Technology – Designing products, converting measurements in design, food recipes, metric and imperial units, costings. English – line graphs, charting emotional responses Science – recording data Computing – presenting data

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	Recognise that there are two ways of completing subtractions, either by counting up or by counting back. Subtract larger numbers with confidence, using 'Frog' for counting up, e.g. 302 – 288. Use column addition to add 3-digit & 4-digit numbers: first expanded, then compact method Use column subtraction to subtract 3 and 4-digit numbers: first expanded, then compact method. Subtract numbers from 3-digit numbers using 'Frog'/counting up, e.g. 426–278, 321-87. **Week 4-5 Multiplication and Division (A)** Understand that multiplication is commutative, and write mathematical statements for multiplication and division. Understand that division is the inverse of multiplication, e.g. ? x 3 = 21 ≡ 21 ÷ 3 = ? . Know the 2x, 3x, 4x, 5x, 8x and 10x times tables, including division facts. Know and recite times tables, including division facts, up to 12 × 12; multiply by 0 and multiply and divide by 1. Use known facts, place value, factors and commutativity to multiply and divide mentally, including multiplying three numbers together. Know how to use 'efficient chunking' for division above the range of the tables facts, e.g. 84 ÷ 6 = ?. Begin to extend this to 3-digit numbers. **Week 6-7 Decimals** Solve number problems and practical problems involving place value.		

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	Subtract larger numbers with confidence, using 'Frog' for counting up, e.g. 302 – 288. Add and subtract amounts of money; give change by counting up. Use both £ and p in practical contexts. Measure, compare, add and subtract lengths, weights and capacities. Know that there are 100cm in a metre and that there are 10mm in a centimetre. Know that one-place decimal numbers represent ones and tenths Round decimals with one decimal place to the nearest whole number. Find the effect of dividing a 1 or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. Count on and back in hundredths. Compare numbers with the same number of decimal places up to 2 decimal places.		
Summer 2	**Week 1-2 Measures and Data** Measure, compare, add and subtract lengths, weights and capacities. Know that there are 100cm in a metre and that there are 10mm in a centimetre. Use a ruler to measure lines. Interpret and represent data on scaled bar charts, pictograms and tables, and solve problems using these. Convert between units of measurement, e.g. cm to m, g to Kg, ml to L; units of time.	length, weight, centimetre, metre, measure, capacity, decimal, whole number, bar chart, data, pictogram, co-ordinates, translation, position, left, right, up, down, fraction, tenth, numerator, denominator	R.E – Significance of direction within religions e.g. praying in a particular direction. Music - note values/beats in a bar English – Beats and syllables in poetry

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	Estimate, compare and calculate different measures, including money in pounds and pence.		
	Interpret and present discreet data using bar charts, pictograms and tables, and continuous data on time graphs; answer questions re-data.		
	Weeks 3-4 Shape		
	Interpret and present discreet data using bar charts, pictograms and tables, and continuous data on time graphs; answer questions re-data.		
	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.		
	Convert between units of time, analogue/digital times, and between 12-hour & 24-hour times.		
	Compare and classify geometric shapes.		
	Identify acute and obtuse angles, compare and order angles.		
	Identify lines of symmetry in 2-D shapes presented in different orientations.		
	Describe positions on a 2-D grid as coordinates in the first quadrant, plot specified points and draw sides to complete a given polygon.		
	Describe movements between positions as translations of a given unit to left/right, up/down.		
	Weeks 5-6 Addition and Subtraction (B)		
	Subtract larger numbers with confidence, using 'Frog' for counting up, e.g. 302 – 288.		

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	Estimate answers and use addition to check subtraction, understanding that addition and subtraction are inverse operations.		
	Solve problems, including missing number problems.		
	Mentally add and subtract multiples of 1s, 10s and 100s to/from 3-digit numbers.		
	Add numbers with 3-digits using column addition, first expanded then compact method.		
	Subtract numbers from 3-digit numbers using 'Frog'/counting up, e.g. 426–278, 321-87.		
	Use column subtraction to subtract 3 and 4-digit numbers: first expanded, then compact method.		
	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.		
	Week 7 Multiplication and Division (B)		
	Multiply a 1-digit number by a 2-digit number using partitioning.		
	Partition to double and halve numbers.		
	Know the 2x, 3x, 4x, 5x, 8x and 10x times tables, including division facts.		
	Solve problems, including missing number and scaling problems.		
	Multiply 1-digit numbers by 2-digit or 'friendly' 3-digit numbers mentally or using grid method (i.e. using the distributive law).		

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	Know and recite times tables, including division facts, up to 12 × 12; multiply by 0 and multiply and divide by 1. Solve scaling & harder correspondence problems: n objects are connected to m objects. **Week 8 Fractions** Recognise, find and write unit and non-unit fractions of convenient amounts, e.g. 1/10 of 100 or 1/3 of 60. Count on and back in tenths and understand that tenths are the result of dividing an object or quantity into 10 equal parts. Compare and order unit fractions and fractions with the same denominator; add or subtract fractions with the same denominator. Solve problems involving fractions. Write the equivalent fraction for fractions with given denominators or numerators, e.g. ½ = ?/8; reduce a fraction to its simplest form, e.g. 6/12 ≡ ½. Use times tables to find unit and non-unit fractions of amounts, e.g. 1/6 of 48, 3/8 of 64. Add and subtract fractions with the same denominator. Recognise and write decimal equivalents of any number of tenths or hundredths and decimal equivalents to ¼, ½, ¾.		