Maths Medium Term Planning – Mixed Age

Year Groups: Years 4 and 5 Term: Autumn

Week	Maths Topic	Year 4	Year 5
1 and 2	Place Value	• To recognise the place value of 4 digit numbers (make it, draw it, write it) • To partition and combine 4 digit numbers and know what each number represents • To partition and combine 4 digit numbers in different ways • To order and compare numbers to 1000 • Round to the nearest 10, 100, 1000 • Count in multiples of 25 and 1000 • Know roman numerals to 100	• To recognise the place value of 5 digit numbers (make it, draw it, write it) • To partition and combine 5 digit numbers and know what each number represents • To partition and combine 5 digit numbers in different ways • To order and compare numbers to 10,000 • To count forwards and backwards in steps of powers of ten from any given number • Round numbers to the nearest 10, 100, 1000, 10000, 100000 • Know roman numerals to 1000
3 and 4	Addition	• To add in -1s, 10s, 100s and 1000s • Add 4 digit numbers – no exchange • Add 2 four digit numbers – one exchange • Add 2 four digit numbers more than one exchange • Solve 4 digit addition problems including missing number boxes	• To add in -1s, 10s, 100s and 1000s • Add 5 digit numbers – no exchange • Add 2 five digit numbers – one exchange • Add 2 five digit numbers more than one exchange • Solve 5 digit addition problems including missing number boxes

5 and 6	Subtraction	• Subtract 1s, 10s, 100s and 1000s • Subtract a 4 digit number from a 4 digit number no exchange • Subtract a 4 digit number from a 4 digit number with 1 exchange • Subtract across two columns of value of zero	• Subtract 1s, 10s, 100s and 1000s • Subtract a 5 digit number from a 5 digit number no exchange • Subtract a 5 digit number from a 5 digit number with 1 exchange • Subtract across two columns of value of zero
7	Measurement	• Convert between different units of measure cm-m, mm-cm, m-km and vice versa • Convert between cl – l, kg – g, l – ml and vice versa	• Convert between different units of measure cm-m, mm-cm, m-km and vice versa • Convert between cl – l, kg – g, l – ml and vice versa
8	Area & Perimeter	• Measure and calculate perimeter of rectilinear figures in metres and cm • Know formula is length x width x2 • Find area of rectilinear shapes by counting squares • Solve problems involving area and perimeter	• Measure and calculate the perimeter of composite rectilinear shapes • Calculate and compare area of rectangles including squares, using standard units • Estimate areas of irregular shapes
9 & 10	Division and Multiplication	• Recall multiplication facts • Identify patterns in times tables e.g 6 is double 3 and pattern in 9s • To multiply and divide by 10, 100 including decimals • Multiply 3 numbers • To use known multiplication and division facts to multiply and divide mentally e.g 600 divided 3 = 200 from 6 divided by 3 =2	• Multiply and divide numbers mentally drawing upon known facts • To multiply and divide by 10, 100, 1000 including decimals • Solve problems involving multiplication and division including scaling

11 & 12	Fractions	• Know common equivalent fractions – unit and no-unit • Know fractions of quantities • Add and subtract fractions with the same denominator (that go beyond 1 whole) • To count up and down in hundredths and know that hundredths is dividing into 100 equal pieces and tenths is 10 equal pieces	• Compare and order fractions whose denominators are multiples of the same number • Identify, write and name a given fraction represented visually including 10ths and 100ths • Know improper fractions and mixed numbers • Add and subtract fractions with the same denominator and multiples of the same number e.g 2/7 + 3 /14 • Multiply improper fractions and mixed numbers by whole numbers, supported by materials and diagrams
13 & 14	Assessment and Revision		

ONGOING
• To know and rapidly recall multiplication tables for 2,3,4,5,8,10,11 • Roman numerals to 100 • Using money • Using decimals and negative numbers • **Ensure all calculation involves dienes, pv counters before formal methods of partitioning then columnar**

Maths Medium Term Planning – Mixed Age

Year Groups: Years 4 and 5 Term: Spring

Week	Maths Topic	Year 4	Year 5
1 and 2	Place Value	• To compare and order numbers beyond 1000 • To recognise the value of each digit in a 5 digit number (write it, draw it, make it) • To count forwards and backwards through zero to include negative numbers • To position 5 digit numbers on a numberline	• To order and compare numbers to at least 1,000,000 • To recognise the value of each digit in a 6 digit number • To interpret negative numbers in context • To count forwards and backwards through zero including negative numbers • To position 6 digit numbers on a numberline
3 and 4	Addition and subtraction	• To add and subtract 4 digit numbers including passing through ten, using a fluent method • Add and subtract mentally with increasingly large numbers e.g 4791 – 600 • Use inverse to check answers to a calculation • To solve multi-step problems involving and/ or subtraction	• To add and subtract 5 digit numbers including passing through ten, using a fluent method • Add and subtract mentally with increasingly large numbers e.g 12462 – 2300 • Use inverse to check answers to a calculation • To solve multi-step problems involving and/ or subtraction
5 and 6	Shape and angles	• Compare and classify types of triangles including right angle, isosceles, equilateral, scalene	• Identify regular and irregular polygons based on reasoning of different sides and angles • Know angles are measured in degrees

		• Know the properties of different quadrilaterals including square, parallelogram, rectangle, kite, rhombus, trapezium • Identify acute and obtuse angles • To compare and order angles up to 180 degrees	• Identify if an angle is acute, obtuse or reflex • Draw angles up to 360 degrees • Know half turn is 180 degrees
7 , 8 and 9	Multiplication and division	• To know factor pairs and multiples • To know square numbers • Multiply 2 and 3 digit numbers by a 1 digit number using formal written layout, including partitioning and grid method	• To know factors and multiples and identify common factors • To identify prime numbers, prime factors and composite numbers • To recall prime numbers to 19 • To know whether 100 is a prime number • To know square and cube numbers • Multiply numbers up to 4 digits by a 1 or 2 digit number • Divide numbers up to 4 digits by a 1 digit number using short division including remainders where appropriate
10 and 11	Fractions	• To know fractions of quantities – unit and non unit • To solve measure and money problems involving fractions • Find the effect of dividing a 1 or 2 digit number by 10 or 100 • Recognise and write decimal equivalents of any number of 10ths and 100ths • Know decimal equivalents of ½, ¼. 3/4	• Read and write decimal numbers as fractions • Recognise and use 1000ths • Read, write, order and compare numbers with up to 3 decimal places

12	Assessment and Revision week		

ONGOING
• Know a full turn is 360 degrees and half turn is 180 degrees and quarter turn is 90 degrees • To know times tables 6,7,9 repaid recall • Roman numerals to 100 • Count in decimals/ fractions on a numberline in 10ths and 100ths • To tell the time in 12 and 24 hour clock – analogue/ digital • Using decimals and negative numbers • **Ensure all calculation involves dienes, pv counters before formal methods of partitioning then columnar**

Maths Medium Term Planning – Mixed Age

Year Groups: Years 4 and 5 Term: Summer

Week	Maths Topic	Year 4	Year 5
1	Place Value	• To solve number and practical problems involving place value	
2	Addition & Subtraction	• To solve problems using addition and subtraction using the most efficient methods, up to 4 digits • To calculate addition and subtraction using decimals e.g money	• To solve problems using addition and subtraction using the most efficient methods, up to 5 digits • To calculate addition and subtraction using decimals e.g money
3	Position & direction	• Describe position on a 2d grid as co-ordinates in the first quadrant • Describe movements between positions as translations of a given unit to the left, right, up and down • Plot specific points and draw sides to complete a polygon	• Identify, describe and represent the position of a shape following a reflection or translations (reflections should be lines parallel to axis)
4	Statistics	• Interpret and draw discrete and continuous data using appropriate graphical methods (bar charts/ line graphs) • Solve comparison sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• Complete, read and interpret information in tables including timetables • Make decisions about the most appropriate data representations and say why • Solve comparison sum and difference problems using information presented in line graphs

5 and 6	Fractions	• Solve measure and money problems involving fractions and decimals • Round decimals to 1 decimal place • Compare and order numbers with the same number of decimal places up to 2 d.p.	• Round decimals with 2 decimal places to the nearest whole number and 1 d.p. • To know % means parts of 100 • To write % as a fraction of 100 and as a decimal. • Solve problems which require knowing decimal and percentage equivalence of ½, ¼, 1/5, 2/5, 4/5 and fractions with a denominator of 10 or 25
7 and 8	Multiplication & Division	• To solve problems involving multiplication and division such as correspondence questions (combinations) • Multiply 2 and 3 digit numbers by a 1 digit number using formal written layout, including partitioning and grid method	• Understand that = means balancing in an equation • To solve problems involving multiplication and division such as correspondence questions (combinations) • Multiply numbers up to 4 digits by a 1 or 2 digit number • Divide numbers up to 4 digits by a 1 digit number using short division including remainders where appropriate
9	Volume and Capacity	• To convert litres to millilitres and vice versa • Reading scales with various intervals	• Estimate volume and capacity • Reading scales with various intervals
10	Symmetry	• Identify lines of symmetry in 2d shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry including where the line of symmetry does not dissect the original shape	• Identify lines of symmetry in 2d shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry including where the line of symmetry does not dissect the original shape

11	Time	• Read, write and convert time between digital and analogue 12 and 24 hour clocks • Solve problems involving converting hours to minutes, minutes to seconds, years to months, weeks to days	• Read, write and convert time between digital and analogue 12 and 24 hour clocks • Solve problems involving converting hours to minutes, minutes to seconds, years to months, weeks to days
12	Angles	• To compare and order angles in preparation for using a protractor • Introduce how to use a protractor to measure angles	• To calculate missing angles using known facts • To measure and record angles
			• Understand and use equivalences between metric units and imperial units incl. inches, pounds, pints, miles

ONGOING
• To know all times tables facts for rapid recall up to 12 x 12 • To order fractions and decimal numbers on a numberline • To tell the time in 12 and 24 hour clock – analogue and digital

Maths Medium Term Planning – Mixed Age

Year Groups: Years 5 and 6 Term: Autumn

Week	Maths Topic	Year 5	Year 6
1 & 2	Place value	• To recognise the place value of 5 digit numbers (make it, draw it, write it) • To partition and combine 5 digit numbers and know what each number represents • To partition and combine 5 digit numbers in different ways • To order and compare numbers to 10,000 • To count forwards and backwards in steps of powers of ten from any given number • Round numbers to the nearest 10, 100, 1000, 10000, 100000 • Know roman numerals to 1000	• Read, write, order and compare numbers up to 10 million and determine the value of each digit • Round any whole number to a required degree of accuracy. • Solve numbers and practical problems using place value skills already taught • Identify the value of each digit in numbers given to 3 decimal places
3 and 4	Addition	• To add in -1s, 10s, 100s and 1000s • Add 5 digit numbers – no exchange • Add 2 five digit numbers – one exchange • Add 2 five digit numbers more than one exchange	• Add 6 digit numbers – no exchange • Add 2 six digit numbers – one exchange • Add 2 six digit numbers more than one exchange • Solve 6 digit addition problems including missing number boxes

		• Solve 5 digit addition problems including missing number boxes	• Express missing number problems algebraically • Find pairs of numbers that satisfy an equation of 2 unknowns
5 and 6	subtraction	• Subtract 1s, 10s, 100s and 1000s • Subtract a 5 digit number from a 5 digit number no exchange • Subtract a 5 digit number from a 5 digit number with 1 exchange • Subtract across two columns of value of zero	• Subtract a 6 digit number from a 6 digit number no exchange • Subtract a 6 digit number from a 6 digit number with 1 exchange • Subtract across two columns of value of zero • Express missing number problems algebraically • Find pairs of numbers that satisfy an equation of 2 unknowns
7	Measurement	• Convert between different units of measure cm-m, mm-cm, m-km and vice versa • Convert between cl – l, kg – g, l – ml and vice versa	• Use, read, write and convert between standard units converting measurements of length, mass and time from a smaller unit of measure to a larger unit using decimal notation up to 3 decimal places
8	Area and perimeter	• Measure and calculate the perimeter of composite rectilinear shapes • Calculate and compare area of rectangles including squares, using standard units • Estimate areas of irregular shapes	• Recognise that shapes with the same area can have different perimeters and vice versa • Calculate the area of triangles and parallelograms • Recognise when it is possible to use a formula for the area of shapes
9 & 10	Division & multiplication	• Multiply and divide numbers mentally drawing upon known facts • To multiply and divide by 10, 100, 1000 including decimals	• Multiply multi digit numbers up to 4 digits by a 2 digit whole number using the formal written method of long multiplication

		• Solve problems involving multiplication and division including scaling	• Divide numbers up to 4 digits by a 2 digit number using the formal method of short division where appropriate and interpret remainders according to the context
11 & 12	Fractions	• Compare and order fractions whose denominators are multiples of the same number • Identify, write and name a given fraction represented visually including 10ths and 100ths • Know improper fractions and mixed numbers • Add and subtract fractions with the same denominator and multiples of the same number e.g 2/7 + 3 /14 • Multiply improper fractions and mixed numbers by whole numbers, supported by materials and diagrams	• Simplify fractions using common factors • Use common multiples to express fractions in the same denomination • Compare and order fractions including fractions greater than one • Add and subtract fractions with different denominations and mixed numbers using the concept of equivalent fractions • Multiply simple pairs of proper fractions, writing the answer in the simplest form • Divide proper fractions by whole numbers
13 & 14	Assessment & Revision		

ONGOING
• Mental addition and subtraction strategies • Recall of times tables and division facts • Calculate and interpret the mean as an average • Teach a +b = b + a

Maths Medium Term Planning – Mixed Age

Year Groups: Years 5 and 6 Term: Spring

Week	Maths Topic	Year 5	Year 6
1& 2	Place Value	• To order and compare numbers to at least 1,000,000 • To recognise the value of each digit in a 6 digit number • To interpret negative numbers in context • To count forwards and backwards through zero including negative numbers • To position 6 digit numbers on a numberline	Circles – • Illustrate and name parts of circles (radius, diameter, circumference) • Know that diameter is twice the radius d=2 x r • Use negative numbers in context and calculate intervals across zero • Solve number and practical problems using place value skills already taught • To multiply and divide by 10, 100, 1000 giving answers up to 3 decimal places
3 & 4	Addition and subtraction	• To add and subtract 5 digit numbers including passing through ten, using a fluent method • Add and subtract mentally with increasingly large numbers e.g 12462 – 2300 • Use inverse to check answers to a calculation • To solve multi-step problems involving and/ or subtraction	• To add and subtract 6 digit numbers including passing through ten, using a fluent method • Add and subtract mentally with increasingly large numbers e.g 12462 – 2300 • Use inverse to check answers to a calculation • To solve multi-step problems involving and/ or subtraction

5 & 6	Shape and angles	• Identify regular and irregular polygons based on reasoning of different sides and angles • Know angles are measured in degrees • Identify if an angle is acute, obtuse or reflex • Draw angles up to 360 degrees Know half turn is 180 degrees	• Draw 2d shapes given dimensions and angles • Find unknown angles in triangles, quadrilaterals and regular polygons • Recognise angles where they meet at a point or on a straight line and are vertically opposite and find missing angles • Recognise, describe and build 3d shapes including making nets
7,8,9	Multiplication & Division	• To know factors and multiples and identify common factors • To identify prime numbers, prime factors and composite numbers • To recall prime numbers to 19 • To know whether 100 is a prime number • To know square and cube numbers • Multiply numbers up to 4 digits by a 1 or 2 digit number • Divide numbers up to 4 digits by a 1 digit number using short division including remainders where appropriate	• Divide numbers up to 4 digits by a 2 digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions or by rounding as appropriate to the context • Identify common factors, common multiples and prime numbers • Enumerate all possibilities of combinations of 2 variables (e.g. 48 = a x b) • Use knowledge of order of operations to carry out calculations involving 4 operations (BODMAS)
10 & 11	Fractions	• Read and write decimal numbers as fractions • Recognise and use 1000ths • Read, write, order and compare numbers with up to 3 decimal places	• Associate a fraction with division and calculate decimal fraction equivalence for a simple fraction (e.g 0.375 = 3/8) • Multiply 1 digit numbers with up to 2 decimal places by whole numbers • Use written division methods in cases where the answer has up to 2 decimal places

			• Recall and use equivalence between simple fractions, decimals and percentages including in different contexts • Solve problems that require answers to be rounded to specified degrees of accuracy.
		• To order and compare numbers to at least 1,000,000 • To recognise the value of each digit in a 6 digit number • To interpret negative numbers in context • To count forwards and backwards through zero including negative numbers • To position 6 digit numbers on a numberline	
12	Assessment & Revision		

ONGOING
• Mental addition and subtraction strategies • Recall of times tables and division facts • Calculate and interpret the mean as an average • Teach a +b = b + a

Maths Medium Term Planning – Mixed Age

Year Groups: Years 5 and 6 Term: Summer

Week	Maths Topic	Year 5	Year 6
1	Place Value	• To solve number and practical problems involving place value	
2	Volume and Capacity	• Estimate volume and capacity • Reading scales with various intervals	• Calculate, estimate and compare volume of cubes and cuboids using standard units including cm cubed and cubic metres and extending to other units such as mm cubed and km cubed
3	Addition & Subtraction	• To solve problems using addition and subtraction using the most efficient methods, up to 5 digits • To calculate addition and subtraction using decimals e.g money	• Perform mental calculations including with mixed operations and large numbers • To calculate and subtract using decimals including multi step problems e.g. money
4	Position & Direction	• Identify, describe and represent the position of a shape following a reflection or translations (reflections should be lines parallel to axis)	• Describe positions on the 4 co-ordinate grid (all 4 quadrants) • Draw and translate simple shapes (rectangles, squares, parallelograms and rhombus) on a co-ordinate plain and reflect them in the axis
5	Statistics	• Complete, read and interpret information in tables including timetables	• Interpret and construct pie charts and line graphs and use these to solve problems • Calculate and interpret the mean as an average

		• Make decisions about the most appropriate data representations and say why • Solve comparison sum and difference problems using information presented in line graphs	
6 & 7	Fractions, ratio and proportion	• Round decimals with 2 decimal places to the nearest whole number and 1 d.p. • To know % means parts of 100 • To write % as a fraction of 100 and as a decimal. • Solve problems which require knowing decimal and percentage equivalence of ½, ¼, 1/5, 2/5, 4/5 and fractions with a denominator of 10 or 25	• Solve problems involving the relative sizes of 2 quantities when missing values can be found by using integer, multiplication and division facts • Solve problems involving calculation of percentages and use percentages for comparison • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples • Solve problems involving scale factors where the scale factor is known or can be found
8& 9	Multiplication & Division	• Understand that = means balancing in an equation • To solve problems involving multiplication and division such as correspondence questions (combinations) • Multiply numbers up to 4 digits by a 1 or 2 digit number • Divide numbers up to 4 digits by a 1 digit number using short division including remainders where appropriate	• Solve problems involving addition, subtraction, multiplication and division • Use estimation to check answers to calculations and determine in the context of a problem an appropriate degree of accuracy

10	Symmetry	• Identify lines of symmetry in 2d shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry including where the line of symmetry does not dissect the original shape	
11	Time	• Read, write and convert time between digital and analogue 12 and 24 hour clocks • Solve problems involving converting hours to minutes, minutes to seconds, years to months, weeks to days	Year 6 Project
12	Angles	• To calculate missing angles using known facts • To measure and record angles	
	Assessment & review		

ONGOING
• Mental addition and subtraction strategies • Recall of times tables and division facts • Calculate and interpret the mean as an average • Teach a +b = b + a