

Year 5 Mathematics Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Unit 1 Place value	Unit 6 Multiplication and Division				
Week 2						
Week 3	Unit 2 Addition and Subtraction	Unit 7 Fractions				
Week 4		Unit 8 Multiplication and Area				
Week 5		Unit 3 Statistics		Unit 9 Time		
	Unit 4 Geometry – angles					
Week 6	Unit 5 Geometry and measures	Assess and review week		Assess and review week		Assess and review week

Year 5 Expectations – Sequence of Learning

Autumn 1 – 6 weeks

Starters	
<ul style="list-style-type: none"> Count forwards in fractional thousandths ($\frac{1}{1000}$) including where hundredths boundaries are crossed, e.g. $\frac{167}{1000}, \frac{168}{1000}, \frac{169}{1000}, \frac{170}{1000}, \frac{171}{1000}, \dots$ Count backwards in fractional thousandths ($\frac{1}{1000}$) including where hundredths boundaries are crossed, e.g. $\frac{171}{1000}, \frac{170}{1000}, \frac{169}{1000}, \frac{168}{1000}, \frac{167}{1000}, \dots$ Multiply/divide whole numbers and decimals by 10 where 0 is not used as a place holder, e.g. 3.24×10 or $729 \div 10$ Multiply/divide whole numbers and decimals by 10 where 0 is used as a place holder, e.g. 2.04×10 or $806 \div 10$ Recognise that the numbers in addition calculations can be reordered to make calculating more efficient e.g. $1.7 + 2.8 + 0.3$ becomes $1.7 + 0.3 + 2.8$ or $58 + 47 - 38$ becomes $58 - 38 + 47$ and use this strategy where appropriate Recognise and solve calculations that involve known or related facts e.g. $1.2 + 0.8$ Recall and use addition and subtraction facts for 1 (with decimal numbers to one decimal place) Recall and use addition and subtraction facts for 10 (with decimal numbers to one decimal place) Use practical apparatus (e.g. place value counters, a 10 by 10 grid, a 100 bead string) and known facts (e.g. $42 + 58 = 100$) to create addition and subtraction facts for 1 with decimal numbers to two decimal places (e.g. $0.42 + 0.58 = 1$) Create generalisations based on addition and subtraction facts for 1 (e.g. the hundredths digits sum to 0.1 and the tenths digits sum to 0.9 and these add to give a total of 1) Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places) Add and subtract a whole number to/from a number with two decimal places, e.g. $4.32 + 4$ Add a four-digit number to another four-digit number where no boundaries are crossed e.g. $5124 + 1352$ Add a number with two decimal places to another where the tenths boundary is not crossed, e.g. $6.34 + 2.53$ Subtract a four-digit number from another four-digit number where no boundaries are crossed e.g. $7859 - 3427$ Subtract a number with two decimal places from another where the tenths boundary is not crossed, e.g. $5.45 - 2.33$ Interpret information in a variety of sorting diagrams Complete a variety of sorting diagrams with given information Identify the properties used to sort a set of numbers or shapes in a completed diagram Read and interpret information in a range of tables with different contexts Complete tables by identifying missing information (context for +–) Read and interpret information in a range of timetables with different contexts (context for +–) 	
Number and Place Value	
Weeks 1 and 2	
Lesson	Lesson Focus
1	Exchange 10 thousands for 1 ten thousand and vice versa using place value counters Exchange 10 ten thousands for 1 hundred thousand and vice versa using place value counters Identify and represent numbers up to 100,000 using place value counters and a place value chart Partition a five-digit number into ten thousands, thousands, hundreds, tens and ones
2	Exchange 10 ten thousands for 1 hundred thousand and vice versa using place value counters Exchange 10 hundred thousands for 1 million and vice versa using place value counters Identify and represent numbers up to 1,000,000 using place value counters and a place value chart Partition a six-digit number into hundred thousands, ten thousands, thousands, hundreds, tens and ones
3	Exchange 1 tenth for 10 hundredths and vice versa using place value counters Exchange 1 hundredth for 10 thousandths and vice versa using place value counters Identify and represent numbers up to three decimal places using place value counters

	Partition a number with up to three decimal places into tens, ones, tenths, hundredths and thousandths Use a place value chart or place value counters to support with identifying the value of each digit to three decimal places
4	Compare numbers to 1,000,000 Compare numbers up to three decimal places where 0 is not used as a place holder
5	Order numbers to 1,000,000 Order numbers up to three decimal places where 0 is not used as a place holder
6	Identify, represent and estimate numbers on a number line from 0 to 100,000 where the number line has ten demarcations Identify, represent and estimate numbers on a number line from 0 to 1,000,000 where the number line has ten demarcations
7	Round any number up to 100,000 (Year 5 number) to the nearest 10, 100 or 1000 (Year 4 rounding) Round any number up to 1,000,000 (Year 5 number) to the nearest 10, 100 or 1000 (Year 4 rounding) Round any number up to 100,000 to the nearest 10,000
8	Find 0.01, 0.1, 1, 10, 100, 1000 more or less than a given number up to 1,000,000 including crossing boundaries Find 10,000 more or less than a given number up to 1,000,000 including crossing 100,000 boundaries Find 100,000 more or less than a given number up to 1,000,000
9	Count forwards and backwards in steps of 10, 100 or 1,000 (Year 4 steps) for any given number up to 100,000 (Year 5 number) Count forwards and backwards in steps of 10, 100 or 1,000 (Year 4 steps) for any given number up to 1,000,000 (Year 5 number) Count forwards and backwards in steps of 10,000 for any given number up to 1,000,000
10	Describe and extend number sequences where the step size is in multiples of tenths, e.g. 1.4, 1.7, 2.0, 2.3 (step size 0.3) Describe and extend number sequences where the step size is in multiples of hundredths less than a tenth, e.g. 2.31, 2.37, 2.43, 2.49 (step size 0.06) Describe and extend number sequences where the step size is in multiples of hundredths greater than a tenth, e.g. 2.42, 2.57, 2.72, 2.87 (step size 0.15)

Addition and Subtraction Weeks 3 and 4

Lesson	Lesson Focus
1	Recognise calculations that require mental partitioning e.g. $4300 + 1400$ or $424 - 250$ or $6.32 - 3.5$ and use this strategy where appropriate (This could be supported by jottings)
2	Recognise calculations that require counting on or back mentally, bridging through a multiple of 10 efficiently e.g. $1995 + 278$ becomes $1995 + 5 + 273$ or $703 - 128$ becomes $703 - 3 - 125$ and use this strategy where appropriate (This could be supported by pictures or jottings)
3	Recognise calculations that require counting on mentally to find the difference e.g. $5003 - 1960$ (counting efficiently between the two numbers) and use this strategy where appropriate (This could be supported by a number line)
4	Recognise calculations that require a mental compensation method e.g. $325 + 298$ becomes $325 + 300 - 2$ and use this strategy where appropriate (This could be supported by pictures or jottings)
5	Choose an appropriate mental strategy to solve a calculation based upon the numbers involved
6	Add whole numbers with more than 4 digits including combinations of numbers with different amounts of digits using a column method e.g. $4689 + 67,302 + 785 =$ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
7	Add decimals with two decimal places using a column method, e.g. $53.67 + 26.54 =$ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

8	Subtract whole numbers with more than 4 digits including pairs of numbers with different amounts of digits, e.g. 54 368 – 9279 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
9	Subtract decimals with two decimal places, e.g. 206.04 – 72.36 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
10	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
Statistics Week 5	
Lesson	Lesson Focus
1	Discrete data Answer questions which ask 'How many/much more...?' or 'How many fewer/much less...?' when comparing two categories in a data set Answer questions which ask 'How many in total...?' for different data readings Solve question where the answer has to be inferred from a given data set e.g. few ice creams were sold on Tuesday because it was raining Understand the purpose of different types of graph and identify which is best suited for a particular data set
2	Continuous data Answer questions which ask 'How many/much more...?' or 'How many fewer/much less...?' when comparing two categories in a data set Answer questions which ask 'How many in total...?' for different data readings Solve question where the answer has to be inferred from a given data set e.g. few ice creams were sold on Tuesday because it was raining Understand the purpose of different types of graph and identify which is best suited for a particular data set
Geometry (Angles) Week 5	
Lesson	Lesson Focus
1	Know that angles are measured in degrees ° Identify reflex angles as those greater than 180° where two lines meet Compare all types of angles including reflex angles
2	Measure acute angles to the nearest degree Measure obtuse angles to the nearest degree
3	Draw acute angles to the nearest degree Draw obtuse angles to the nearest degree
Geometry Week 6	
Measures	
1	Measure and draw lines to the nearest mm Draw shapes with some given side dimensions, for example draw a triangle with side lengths of 67mm and 4.3cm. What is the length of the other side? Is there more than one possibility?
2	Identify the perimeter of composite rectilinear shapes through accurate measuring to the nearest mm
3	Calculate/identify the length of missing sides of composite rectilinear shapes (lengths in mm and decimal cm)
4	Calculate the perimeter of a composite rectilinear shape where the lengths of some sides are not given (lengths in mm and decimal cm)
Learning Check Up To This Point	

Autumn 2 – 5 weeks

Starters	
<ul style="list-style-type: none"> • Use partitioning to double any decimal number to two decimal places • Use partitioning to halve any decimal number to two decimal places where all the digits are even, e.g. halve 4.68 • Use partitioning to halve any decimal number to two decimal places where not all the digits are even, e.g. halve 6.74 • Use knowledge of place value and multiplication facts to multiply multiples of 100 and 1000 by a one-digit number e.g. $3000 \times 8 = 24\ 000$ • Use knowledge of place value and multiplication facts to divide related larger numbers e.g. $6300 \div 9 = 700$ • Use knowledge of place value and multiplication facts to decimals by a one-digit number e.g. $0.7 \times 6 = 4.2$ • Multiply a two-digit number by a one-digit number using a partitioning strategy • Read and write decimal numbers as fractions in tenths or hundredths, e.g. $0.9 = \frac{9}{10}$, $0.71 = \frac{71}{100}$ • Multiply T0 x T0 using knowledge of factorising and tables facts e.g. $60 \times 40 = 6 \times 4 \times 10 \times 10 = 2400$ • Use knowledge of place value and multiplication facts to multiply multiples of 100 and 1000 by a one-digit number e.g. $3000 \times 8 = 24\ 000$ • Multiply T0 x T0 using knowledge of factorising and tables facts e.g. $60 \times 40 = 6 \times 4 \times 10 \times 10 = 2400$ • Use compensation strategy to multiply H99 x U 	
Multiplication and Division Weeks 1 and 2	
Lesson	Lesson Focus
1	Understand the term 'multiple' and identify multiples within known tables or counting patterns in hundreds and thousands Identify multiples of 2, 5, 10, 25, 50 and 100 using rules of divisibility
2	Use and derive multiplication and division facts to identify factors within known tables Recognise that a square number is the product of two equal integers and can be written using ² notation, e.g. $7 \times 7 = 7^2$ Recognise and use square numbers up to 12^2
3	Use known facts to derive factors of multiples of 10 and 100, e.g. 240 could be factorised to 6×40
4	Use a list strategy to identify common factors of two numbers within known tables
5	Multiply a two-digit number by a one-digit number using a partitioning strategy Multiply a U.t number by a one-digit number using a partitioning strategy
6	Divide a 4-digit number by a 1-digit number Estimate division by rounding to the nearest multiple of 10, 100 or 1,000 of the divisor and using related facts e.g. $3452 \div 6 \approx 3600 \div 6$
7	Divide a 4-digit number by a 1-digit number and interpret remainders appropriately for the context Estimate division by rounding to the nearest multiple of 10, 100 or 1,000 of the divisor and using related facts e.g. $3452 \div 6 \approx 3600 \div 6$
8	Divide a 4-digit number by a 1-digit number and interpret remainders appropriately for the context Estimate division by rounding to the nearest multiple of 10, 100 or 1,000 of the divisor and using related facts e.g. $3452 \div 6 \approx 3600 \div 6$
9	Divide a three-digit number by a one-digit number using a partitioning strategy e.g. $942 \div 6$ becomes $(600 \div 6) + (300 \div 6) + (42 \div 6)$
10	Choose an appropriate strategy to solve a division calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)

Fractions Week 3	
Lesson	Lesson Focus
1	Identify, name and write equivalent fractions of a given fraction by using multiplication and division facts, e.g. $\frac{5}{7} = \frac{40}{56}$
2	Compare two fractions where the denominator of one fraction is a multiple of the denominator of the other fraction, e.g. compare $\frac{2}{3}$ and $\frac{7}{9}$ Compare two fractions whose denominators are both multiples of the same number, e.g. compare $\frac{24}{32}$ and $\frac{32}{56}$ (only where the numerator allows a conversion to the common denominator)
3	Order more than two fractions whose denominators are all multiples of the same number (only where the numerator allows a conversion to the common denominator)
4	Recognise and use thousandths, e.g. $\frac{3}{1000} = 0.003$ and vice-versa Relate thousandths to tenths and hundredths, e.g. $\frac{70}{1000} = \frac{7}{100} = 0.07$, $\frac{900}{1000} = \frac{9}{10} = 0.9$
5	Read and write decimal numbers as fractions, e.g. $0.8 = \frac{8}{10} = \frac{4}{5}$, $0.85 = \frac{85}{1000} = \frac{17}{200}$ Identify, name and write equivalent fractions for tenths and hundredths, e.g. $\frac{85}{100} = \frac{17}{20}$
Multiplication Week 4	
Lesson	Lesson Focus
1	Use compensation strategy to multiply $H99 \times U$
2	Multiply a 4 digit by a 1-digit number using a formal written method Estimate multiplication by rounding to the nearest multiple of 10, 100 or 1,000 and using related facts e.g. $3842 \times 6 \approx 4000 \times 6$
3	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
4	Solve problems involving multiplication and division, including understanding the meaning of the equals sign (bar modelling)
5	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates (bar modelling)
6	Use knowledge of arrays to understand why the area of rectangles can be calculated using length multiplied by width Calculate the area of rectangles (see progression in mental and written multiplication)
7	Compare rectangles by area
Measures (Time) Week 5	
Lesson	Lesson Focus
1	Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks
2	Complete timetables by identifying missing information
3	Read and interpret information in a range of timetables with different contexts
Learning Check Up To This Point	