Forton Primary School
Mathematics Overview – Pendle (Year 5 & 6)

	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2	
	Year 5	Year 6	Year 5	Year 6	Year 5	Year 6	Year 5	Year 6	Year 5	Year 6	Year 5	Year 6
Week 1	Place Value **Unit 1**	Place Value **Unit 1**	Multiplication & Division **Unit 6**	Multiplication & Division **Unit 3 & 4**	Place Value & Negative Numbers **Unit 10**	Place Value, Negative Numbers & Number Sequences **Unit 9**	Fractions **Unit 15**	Fractions **Unit 12**	Place Value **Unit 20**	Revision	Division **Unit 25**	Division **Unit 22**
Week 2					Addition & Subtraction **Unit 11**	Calculations **Unit 11**	Learning Check	Ratio & Proportion **Unit 13**			Fractions **Unit 26**	Applied Maths **Unit 23**
Week 3	Addition & Subtraction **Unit 2**	Addition & Subtraction **Unit 2**	Fractions **Unit 7**	Fractions, Decimals & Percentages **Unit 5**	Multiplication **Unit 12**	Learning Check	Geometry **Unit 16**	Geometry **Unit 15**	Measurement & Statistics **Unit 21**	Applied Maths **Unit 19**	Percentages **Unit 27**	
Week 4			Multiplication & Area **Unit 8**	Algebra & Sequences **Unit 6**	Measures **Unit 13**	Learning Check	Measurement **Unit 17**	Measurement **Unit 16**	Geometry **Unit 22**		Statistics **Unit 28**	
Week 5	Statistics **Unit 3**	Statistics **Unit 8**			Geometry **Unit 14**	Coordinates & Geometry **Unit 10**	Statistics **Unit 18**	Statistics **Unit 14**	Addition & Subtraction **Unit 23**	Addition & Subtraction **Unit 20**	Measurement **Unit 29**	
Week 6	Geometry & Measures **Unit 4 & 5**	Geometry & Area **Unit 7**	Time **Unit 9**	Learning Check		Algebra **Unit 17**	Problem Solving including Bar Modelling **Unit 19**	Learning Check	Multiplication **Unit 24**	Multiplication **Unit 21**		

Pendle – Year 5 & 6

Autumn Term 1

Place Value

	Starter ideas	Year 5 Focus – Unit 1	Year 6 Focus – Unit 1
Lesson 1	Count on and back in ones, tens, hundreds and thousands from any number up to four digits Count on in powers of 10from any number up to six digits	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 represent and estimate numbers using place value counters and a place value chart Partition a five-digit number into ten thousands, thousands, hundreds, tens and ones	Identify and represent numbers up to 10,000,000 using place value counters and a place value chart Partition a seven-digit number into millions, hundred thousands, ten thousands, thousands, hundreds, tens and ones
Lesson 2	Count on in tens and hundreds from any number up to four digits (crossing the 100and1,000boundaries) Count back in powers of10 from any number up to six digits	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 represent and estimate numbers using place value counters and a place value chart Partition a six-digit number into hundred thousands, ten thousands, thousands, hundreds, tens and ones	Identify and represent numbers with up to three decimal places using place value counters and a place value chart Partition a number with up to three decimal places into tens, ones, tenths, hundredths and thousandths
Lesson 3	Count back in tens and hundreds from any number up to four digits (crossing the 100and1,000boundaries) Recognise and write decimal equivalents of any number of fractional tenths, hundredths or thousandths	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	Compare and order numbers up to 10,000,000 Compare and order numbers with up to three decimal places
Lesson 4	Match multiplication and division number sentences to arrays and vice-versa for any multiplication table Manipulate the parts in an addition equation to make the calculation more efficient	Compare numbers to 1,000,000 Compare numbers up to three decimal places where 0 is not used as a place holder	Identify, represent and estimate numbers on a number line from 0 to 10,000,000 where the number line has ten demarcations Identify, represent and estimate numbers on a number line from 0 to 1 where the number line has ten demarcations
Lesson 5	Exchange 10 thousands for 1 ten thousand and vice versa Exchange 10 ten thousands for 1 hundred thousand and vice versa	Order numbers to 1,000,000 Order numbers up to three decimal places where 0 is not used as a placeholder	Round any number up to 10,000,000 to the nearest 10, 100,1,000, 10,000,100,000 or 1,000,000

	Manipulate the whole and one of the parts in a subtraction equation to make the calculation more efficient		
Lesson 6	Correctly place any multiple of 100on a number line with multiples of 1,000markedbut not labelled with start and end labelled 0 and 10,000 Recall multiplication and division facts up to12×12	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 from0 to 1,000,000 where the number line has ten demarcations	Round decimals with three decimal places to the nearest whole number e.g. 327.702 rounds to 328 Round decimals with three decimal places to the nearest tenth e.g. 327.702 rounds to 327.7
Lesson 7	Recall multiplication and division facts for all the multiplication tables Multiply whole numbers and numbers with up to three decimal places by10, 100 or 1,000	Round any number up to 100,000 (Year 5number) to the nearest 10, 100 or 1,000 (Year 4 rounding) Round any number up to 1,000,000 (Year 5 number) to the nearest 10, 100 or 1,000 (Year 4 rounding) Round any number up to 100,000 to the nearest 10,000	Find 1, 10, 100, 1,000, 10,000 or 100,000 more/less than a given number up to 10,000,000 including crossing any boundaries Find 0.001 more/less than a given number including crossing any boundaries
Lesson 8	Recognise and solve calculations that involve known or related facts Divide whole numbers by10, 100 or 1,000 and numbers with up to two decimal places by 10 and numbers with up to one decimal place by 100	Find 0.01, 0.1, 1, 10, 100, 1000 more or less than a given number up to1,000,000 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	Count forwards or backwards in steps of powers of 10 from any number up to 10,000,000
Lesson 9	Identify and describe 2-Dshapes (sides, parallel and perpendicular sides, vertices, angles and symmetry)	Count forwards and backwards in steps of 10, 100 or 1,000(Year 4 steps) for any given number up to 100,000 (Year 5number) 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 5number) Count forwards and backwards in steps of 10,000 for any given number up to 1,000,000	
Lesson 10	Multiply/divide whole numbers by 10	Describe and extend number sequences where the step size is in multiples of tenths Describe and extend number sequences where the step size is in multiples of hundredths less than a tenth Describe and extend number sequences where the step size is in multiples of hundredths greater than a tenth	

Addition and Subtraction

	Starter ideas	Year 5 Focus – Unit 2	Year 6 Focus – Unit 2
Lesson 1	Recognise and write decimal equivalents of any number of fractional tenths Multiply H00 × T0 andTh000 × T0 using knowledge of factorising and tables facts	Recognise calculations that require mental and use this strategy where appropriate	Recognise calculations that require mental partitioning e.g.6,584–2,360 or 873 + 350 and use this strategy where appropriate
Lesson 2	Recognise and write decimal equivalents of any number of fractional hundredths Use knowledge of place value and multiplication facts to divide related larger numbers	Recognise calculations that require counting on or back mentally, bridging through a multiple of 10 efficiently and use this strategy where appropriate	Recognise calculations that require counting on or back mentally, bridging efficiently e.g. 0.7 + 0.56 becomes 0.7 + 0.3+ 0.26 and use this strategy where appropriate
Lesson 3	Recall and use addition and subtraction facts for 1 (to 1 decimal place) Recall and use addition and subtraction facts for 10 (to 1 decimal place) Multiply a 0.th number by a one-digit number using a partitioning strategy	Recognise calculations that require counting on mentally to find the difference and use this strategy where appropriate	Recognise calculations that require a mental compensation method e.g. 5.6 + 3.9 becomes 5.6 + 4–0.1 and use this strategy where appropriate
Lesson 4	Recognise and solve calculations that involve known or related facts Identify related facts from known multiplication and division facts	Recognise calculations that require a mental compensation method and use this strategy where appropriate	Recognise calculations that require counting on mentally to find the difference e.g. 4.1–3.46 and use this strategy where appropriate (This should be supported by a number line)
Lesson 5	Recognise that the numbers in addition calculations can be reordered to make calculating more efficient and use this strategy where appropriate Recognise and solve calculations that involve known or related facts	Choose an appropriate mental strategy to solve a calculation based upon the numbers involved	Add whole numbers up to 10,000,000 Add numbers with up to three decimal places e.g. 2.65 +354.682 + 64.7 + 24 Round numbers to an appropriate power of 10to estimate a calculation
Lesson 6	Multiply/divide whole numbers and decimals by 10 where 0 is not used as a place holder, and where 0 is used as a place holder Recognise that the numbers in calculations can be reordered to make calculating more efficient e.g. 54–65 + 39becomes 54 + 39–	Add whole numbers with more than 4 digits including combinations of numbers with different amounts of digits using a column method Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Subtract whole numbers up to 10,000,000 Subtract numbers with up to three decimal places e.g. 834.2–58.829 Round numbers to an appropriate power of 10to estimate a calculation

	65and use this strategy where appropriate		
Lesson 7	Add a four-digit number to another four-digit number where no boundaries are crossed Compare/classify geometric shapes based on the properties and sizes	Add decimals with two decimal places using a column method	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
Lesson 8	Add a number with two decimal places to another where the tenths boundary is not crossed	Subtract whole numbers with more than 4 digits including pairs of numbers with different amounts of digits Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	
Lesson 9	Subtract a four-digit number from another four-digit number where no boundaries are crossed	Subtract decimals with two decimal places	
Lesson 10	Subtract a number with two decimal places from another where the tenths boundary is not crossed	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

	Starter ideas	Year 5 Focus – Unit 3	Year 6 Focus – Unit 8
Lesson 1	Read and interpret information in a range of tables with different contexts Complete tables by identifying missing information Multiply three single-digit numbers	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	Interpret pie charts by directly comparing the size of the segments Identify halves, quarters and thirds of a circle including indifferent orientations Relate the proportion of the circle to the proportion of the total where the segments are halves, thirds and quarters
Lesson 2	Interpret information in a variety of sorting diagrams Identify and position negative numbers on a number line	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 (Misconception to address in teaching. E.g. rainfall on different days with a day's data missing. It can't be inferred from previous and subsequent data)	Identify sixths and eighths of a circle, including different orientations, by comparing them to halves, quarters and thirds Relate the proportion of the circle to the proportion of the total where the segments are sixths and eighths Estimate proportions of the circle using fractions
Lesson 3	Add and subtract two fractions by converting both into fractions with a common denominator		Solve comparison, sum and difference problems using information presented in all types of graph Understand and use approximate equivalences between miles and kilometres when given the conversion graph or conversion fact that 5 miles ≈ 8km

Geometry and Area

	Starter ideas	Year 5 Focus – Unit 4 and 5	Year 6 Focus – Unit 7
Lesson 1	Add and subtract a whole number to/from a number with two decimal places Identify, represent and estimate numbers on a number line from 0 to 1where the number line has ten demarcations	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	Draw given angles, and measure them in degrees (°)
Lesson 2	Use practical apparatus and known facts to create addition and subtraction facts for 1with decimal numbers to two decimal places Find 1, 10, 100, 1,000,10,000 or 100,000more/less than a given number up to 10,000,000including crossing any boundaries	Measure acute angles to the nearest degree Measure obtuse angles to the nearest degree	Complete a given shape by drawing one angle of a given size and one side of a given length
Lesson 3	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 Find 0.001 more/less than a given number including crossing any boundaries	Draw acute angles to the nearest degree Draw obtuse angles to the nearest degree	Calculate missing angles where two straight lines cross and one angle is given Recognise that vertically opposite angles are equal
Lesson 4	Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places) Create generalisations based on addition and subtraction facts for 1 Choose an appropriate strategy to solve an addition or subtraction calculation based upon the numbers involved(recall a known fact, calculate mentally, use a jotting, written method)	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? lengths and angles be?	Find missing angles in triangles where two angles are given Find missing angles in isosceles triangles where one angle is given
Lesson 5	Read and interpret information in a range of timetables with different contexts	Identify the perimeter of composite rectilinear shapes through accurate measuring to the nearest mm	Compare/classify geometric shapes based on the properties and sizes

	Use compensation strategy to multiply U.9 x U and U.99×U		
Lesson 6	Convert between different units of measure e.g. km to m; hour to minute Choose an appropriate strategy to solve a multiplication calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	Calculate/identify the length of missing sides of composite rectilinear shapes(lengths in mm and decimal cm)	Derive the area of a parallelogram by relating it to a rectangle with the same width and vertical height Calculate the area of parallelograms Know the formulae for the area of rectangles (including squares) is length×width and how this relates to the area of parallelograms as base×height
Lesson 7	Recall multiplication and division facts for all the multiplication tables 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)	Calculate the perimeter of a composite rectilinear shape where the lengths of some sides are not given(lengths in mm and decimal cm)	Know the formulae for the area of rectangles (including squares) is length×width and how this relates to the area of triangles as 12(base×height) Calculate the area of triangles

Autumn Term 2

Multiplication and Division

	Starter ideas	Year 5 Focus – Unit 6	Year 6 Focus – Unit 3
Lesson 1	Order whole numbers up to 1,000,000 and decimals with 3 decimal places Identify related facts from known multiplication and division facts	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	Use partitioning to double any number, including decimals to three decimal places Use partitioning to multiply a number with one decimal place by a single digit e.g. 4.3×8
Lesson 2	Identify and describe 2-D shapes(sides, parallel and perpendicular sides, vertices, angles and symmetry) Multiply HT0 × U using a partitioning strategy	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 ²notation, e.g. 7×7 = 7² Recognise and use square numbers up to 12²	Multiply whole numbers up to four digits by a one-digit number
Lesson 3	Use knowledge of place value and multiplication facts to multiply multiples of 100 and 1000 by a one-digit number Use knowledge of place value and multiplication facts to divide related larger numbers Multiply three single-digit numbers	Use known facts to derive factors of multiples of 10 and 100	Multiply a number with two decimal places by a single digit Round numbers to an appropriate power of 10 to estimate a calculation
Lesson 4	Solve addition calculations that require mental partitioning Multiply H00 × T0 and using knowledge of factorising and tables facts	Use a list strategy to identify common factors of two numbers within known tables	Multiply two-digit and three-digit whole numbers by a two-digit whole number using the formal written method of long multiplication Round numbers to an appropriate power of 10to estimate a calculation
Lesson 5	Use partitioning to double any decimal number to two decimal places Multiply Th000 × T0using knowledge of factorising and tables facts	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	Multiply multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication
Lesson 6	Position numbers up to 1,000,000 on a number line Multiply a U.th number by a one-digit number using a partitioning strategy	Divide a 4-digitnumber 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	Use compensation strategy to multiply U.9×U Use compensation strategy to multiply U.99×U

Lesson 7	Round numbers up to 1,000,000 to the nearest 10,000,1,000, 100 and 10 Complete and interpret information in a variety of sorting diagrams	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	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
Lesson 8	Identify and describe 3-D shapes (faces, curved surfaces, parallel and perpendicular faces, vertices, edges and symmetry)	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, 100or 1,000 of the divisor and using related facts	
Lesson 9	Order all types of angles including measuring where appropriate	Divide a three-digit number by a one-digit number using a partitioning strategy	
Lesson 10	Use partitioning to halve any decimal number to two decimal places where all the digits are even and then not all even	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)	

Division

	Starter ideas	Year 5 Focus – Continued from last week	Year 6 Focus – Unit 4
Lesson 1	Identify related facts from known multiplication and division facts		Use partitioning to halve any number, including decimals to three decimal places
Lesson 2	Identify common multiples of two numbers		Divide a 4-digit number by a 1-digit number and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
Lesson 3	Identify missing numbers in addition equations		Divide a 3-digit number by a 2-digit number
Lesson 4	Identify missing numbers in subtraction equations		Divide a 4-digit number by a 2-digit number
Lesson 5	Position numbers on a number line within the range 0 to 10,000,000where the number line has ten demarcations		Divide a 3-digitor 4-digitnumber by a 2-digit number and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
Lesson 6	Position numbers on a number line from 0 to 1where the number line has ten demarcations		Divide a four-digit number by a one-digit number using a partitioning strategy
Lesson 7	Identify and position negative numbers on a number line		Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)

Fractions, Decimals and Percentages

	Starter ideas	Year 5 Focus – Unit 7	Year 6 Focus – Unit 5
Lesson 1	Use knowledge of place value and multiplication facts to multiply decimals by a one-digit number Recall multiplication and division facts up to12×12	Identify, name and write equivalent fractions of a given fraction by using multiplication and division facts	Identify common multiples of two or more numbers Use common multiples to express fractions in the same denomination
Lesson 2	Multiply a two-digit number by a one-digit number using a partitioning strategy Compare and order numbers up to 10,000,000	Compare two fractions where the denominator of one fraction is a multiple of the denominator of the other fraction Compare two fractions whose denominators are both multiples of the same number (where the numerator allows a conversion to the common denominator)	Identify common factors of two or more numbers Understand and use the term 'simplify' and use common factors to simplify fractions
Lesson 3	Solve calculations that require a mental compensation method Compare and order numbers with up to three decimal places	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)	Compare two fractions or mixed numbers by using common factors or multiples to express the fractions in the same denomination
Lesson 4	Find powers of 10 more and less than a given number Use common multiples to express fractions in the same denomination	Recognise and use thousandths Relate thousandths to tenths and hundredths	Add two fractions by converting both into fractions with a common denominator
Lesson 5	Read and write decimal numbers as fractions in tenths or hundredths Understand and calculate fraction and decimal equivalence by expressing fractions in tenths or hundredths	Identify, name and write equivalent fractions for tenths and hundredths	Subtract two fractions by converting both into fractions with a common denominator
Lesson 6	Identify related facts from known multiplication and division facts		Find fractions of amounts
Lesson 7	Understand and calculate fraction and percentage equivalence by expressing fractions in hundredths		Find 10% of an amount by dividing it by 10 Find 1% of an amount by dividing by 100 or bydividing 10% ofthe amount by 10 Find 5% of an amount by dividing 10% by 2 Find any percentage by combining 10%, 5% and 1%

Multiplication and Area/Algebra and Sequences

	Starter ideas	Year 5 Focus – Unit 8	Year 6 Focus – Unit 6
Lesson 1	Multiply T0×T0 using knowledge of factorising and tables facts Identify missing numbers in addition equations	Use compensation strategy to multiply H99×U	Calculate missing values by identifying similarities and differences
Lesson 2	Use knowledge of place value and multiplication facts to multiply multiples of 100 and 1000 by a one-digit number Identify missing numbers in subtraction equations	Multiply a 4-digit by a1-digitnumber using grid method Estimate multiplication by rounding to the nearest multiple of 10, 100 or 1,000 and using related facts	Understand and use algebraic convention e.g. 6×l = 6l(because it is l + l + l + l + l + l) and a + a = 2a Describe simple rules using words e.g. perimeter of a regular hexagon is one length multiplied by 6 Write simple rules using symbols e.g. p = l×6 where p is the perimeter of a regular hexagon and l is the length of one side
Lesson 3	Multiply T0×T0 using knowledge of factorising and tables facts Round any number up to10,000,000 to the nearest 10, 100, 1,000, 10,000,100,000 or 1,000,000	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	Express a given one-step word problem algebraically e.g. I think of a number and subtract 15. My answer is 12. What is my number? a–15 = 12 Express a given two-step word problem algebraically e.g. Megan has two boxes. There are m counters in each box. She puts all her counters together in a pile and then removes five of them. Write an expression for the number of counters that are in the pile now 2m–5 or m + m–5 Understand and use algebraic convention for combining like terms e.g. a + 4 + a + 8 = 2a + 12
Lesson 4	Count forwards and backwards in fractional thousandths (11000) including where hundredths boundaries are crossed Round decimals with three decimal places to the nearest whole number	Solve problems involving multiplication, including understanding the meaning of the equals sign Solve problems involving multiplication, including understanding the meaning of the equals sign	Substitute variables(letters)for a given value in simple formulae e.g. 3t + 4 = ? where t is 5Find the value of a variable (letter) from a given formula e.g. 3t + 4 = 16
Lesson 5	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 Round decimals with three decimal places to the nearest tenth	Solve problems involving multiplication, including scaling by simple fractions and problems involving simple rates (bar modelling)	Find pairs of missing numbers to complete an equation with addition and/or subtraction e.g. 10 + ? = ! + 2 Describe the relationship between the pairs of numbers used to solve the equation e.g. 10 + ? = ! + 2 the missing numbers have a difference of 8 which is the same difference between 10and 2 Find pairs of missing numbers to complete an equation with multiplication and/or division e.g. ?×6 = 18×!Describe the relationship between the pairs of numbers used to solve the equation e.g. ?×6 = 18×! the missing number on the left of the = sign is 3 times greater than the missing number on the right of the= because 18 is 3 times greater than 6
Lesson 6	Convert between different units of measure Multiply whole numbers and numbers with up to three decimal places by10, 100 or 1,000Divide whole numbers by10, 100 or	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)	Find pairs of missing numbers to complete an equation where a total is given e.g. 2g + w = 10

	1,000 and numbers with up to two decimal places by 10		
Lesson 7	Count forwards and backwards in fractional thousandths (11000) including where hundredths boundaries are crossed Multiply H00 × T0andTh000 × T0 using knowledge of factorising and tables facts	Compare rectangles by area	Generate a linear number sequence when given the rule for each term e.g. complete the sequence using the rule: multiply the term by 3 and subtract1 Describe the rule for a linear sequence algebraically e.g. 3 times the term plus 1 can be represented as 3n + 1 where n is the term number
Lesson 8	Use knowledge of place value and multiplication facts to divide related larger numbers		Describe the relationship between the values in a linear sequence and their position (term) where the relationship is a single step e.g. the value is 3 times the term Describe the relationship between the values in a linear sequence and their position (term) where the relationship is two steps e.g. the value is 3 times the term plus 1 Describe the rule for a linear sequence algebraically e.g. 3 times the term plus 1 can be represented as 3n + 1 where n is the term number

Time

	Starter ideas	Year 5 Focus – Unit 9	Year 6 Focus – N/A
Lesson 1	Compare two fractions where the denominator of one fraction is a multiple of the denominator of the other fraction	Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks	
Lesson 2	Read and write decimal numbers as fractions	Read and interpret information in a range of timetables with different contexts	
Lesson 3	Solve subtraction calculations that require counting on mentally to find the difference	Complete timetables by identifying missing information	

Spring Term 1

Place Value and Negative Numbers

	Starter ideas	Year 5 Focus – Unit 10	Year 6 Focus – Unit 9
Lesson 1	Read and interpret information in a range of timetables with different contexts Partitioning	Identify and represent numbers with up to three decimal places Read numbers up to three decimal places where 0 is used as a place holder in any position Write numbers up to three decimal places where 0 is used as a place holder in any position	Identify and represent numbers up to 10,000,000anddecimals up to three decimal places Partition a number with up to seven-digits or to three decimal places
Lesson 2	Recognise and write decimal equivalents of any number of fractional hundredths Mental addition and subtraction (whole number partitioning)	Identify the value of each digit to three decimal places in a variety of ways	Round any whole number to a required degree of accuracy
Lesson 3	Multiply/divide whole numbers by 10, 100 and1,000 Mental addition and subtraction (decimal number partitioning)	Compare numbers with three decimal places where 0 is used as a place holder in any position Order numbers with three decimal places where 0 is used as a place holder in any position	Round decimals with three decimal places to the nearest whole number or one or two decimal places
Lesson 4	Correctly place multiples of one hundredth on a number line with multiples of 0.1 marked but not labelled (on number lines that start and end with 0 and 1) Mental addition and subtraction (whole number bridging)	Round decimals with two decimal places to the nearest whole number	Compare negative numbers including in a variety of contexts Order negative numbers in a variety of contexts
Lesson 5	Interpret line graphs Mental addition and subtraction (decimal number bridging)	Explain the meaning of a negative number in a variety of real-life contexts Count on and back with positive and negative whole numbers through zero Order temperatures including those below 0°C(consolidation of previous year)	Add a positive number to a negative number, including crossing zero Subtract a positive number from a positive number crossing zero Subtract a positive number from a negative number
Lesson 6	Mental addition and subtraction (whole number compensation)		Calculate the difference between a positive and a negative number Calculate the difference between two negative numbers Calculate the difference between a positive and a negative Temperature Calculate the difference between two negative temperatures
Lesson 7	Mental addition and subtraction (decimal number compensation)		Count forwards or backwards in steps of integers from any number up to 10,000,000 and through zero Count forwards or backwards in decimal steps from any number Identify the rule of a counting sequence

Addition and Subtraction

	Starter ideas	Year 5 Focus – Unit 11	Year 6 Focus – Unit 11
Lesson 1	Count forwards and backwards in fractional thousandths (11000) including where tenths and ones boundaries are crossed Doubling and halving	Recognise calculations that require counting on or back mentally, bridging through a multiple of 10 efficiently and use this strategy where appropriate Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Choose an appropriate strategy to solve an addition or subtraction calculation based upon the numbers involved(recall a known fact, calculate mentally, use a jotting, written method)
Lesson 2	Interpret bar charts Mental multiplication(whole numbers)	Recognise calculations that require counting on mentally to find the difference and use this strategy where appropriate Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Multiply a number with one decimal place by using doubling, halving and related facts etc Multiply a number with up to two decimal places by a single-digit number
Lesson 3	Multiply T0×T0 using knowledge of factorising and tables facts Mental multiplication(decimal numbers)	Recognise calculations that require a mental compensation method and use this strategy where appropriate Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Use knowledge of place value and multiplication facts to divide related decimal numbers where the divisor is scaled down Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend and the divisor are scaled down by different powers of 10
Lesson 4	Compare two fractions where the denominator of one fraction is a multiple of the denominator of the other fraction Mental division (wholenumbers)	Add and subtract whole numbers with more than 4 digits using formal written methods Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Divide a 4-digit number by a 2-digit number Round numbers to an appropriate power of 10to estimate a calculation, e.g. 4,268 ÷ 56 rounds to 4,200 ÷ 60 or 3,758 ÷ 24rounds to 3,800 ÷ 20 or 4,000 ÷ 20
Lesson 5	Continue to read, write and convert time between analogue and digital 12 and 24-hourclocks Written multiplication(single-digit)	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	Divide a 4-digit number by a 2-digit number and, where appropriate, interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
Lesson 6	Written multiplication(two-digit)		Use rules of divisibility and mental chunking to identify whether a number is prime or composite up to 144(multiplication tables knowledge)
Lesson 7	Written division (single-digit)		Choose an appropriate strategy to solve multiplication and division calculations based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
Lesson 8	Written division (two-digit)		Solve problems involving all four operations, including those with missing numbers
Lesson 9	Written division (two-digit)		Know that calculations within brackets are performed first

Multiplication

	Starter ideas	Year 5 Focus – Unit 12	Year 6 Focus – N/A
Lesson 1	Identify and describe 2-Dshapes (sides, parallel and perpendicular sides, vertices, angles and symmetry)	Identify multiples of 3, 4, 6, 9, 20, using rules of divisibility	
Lesson 2	Correctly place multiples of one thousandth on a number line with multiples of 0.1 marked but not labelled	Identify factors of numbers beyond known tables (e.g. 91)Use a list strategy to identify common factors of two numbers beyond known tables	
Lesson 3	Count forwards and backwards in decimal thousandths (0.001) including where hundredths or tenths boundaries are crossed Use knowledge of equivalence to refine the sequence	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers Establish whether a number up to 100 is prime Recall prime numbers up to 19	
Lesson 4	Use knowledge of place value and multiplication facts to multiply multiples of 100 and1000 by a one-digit number	Multiply a 2 digit by a 2-digit number using grid method	
Lesson 5	Use knowledge of place value and multiplication facts to divide related larger numbers	Multiply a 3digit by a 2-digit number using grid method	

Measures

	Starter ideas	Year 5 Focus – Unit 13	Year 6 Focus – N/A
Lesson 1	Choose an appropriate mental strategy to solve a calculation based upon the numbers involved	Multiply/divide whole numbers and decimals by 100 where 0 is not used as a place holder Multiply/divide whole numbers and decimals by 100 where 0 is used as a place holder	
Lesson 2	Multiply a 4-digit by a1-digit number using grid method	Multiply/divide whole numbers and decimals by 1,000 where 0is not used as a place holder Multiply/divide whole numbers and decimals by 1,000 where 0is used as a place holder	
Lesson 3	Divide a 4-digit number by a 1-digit number and interpret remainders appropriately for the context	Convert km to m, kg to g, l to ml and vice versa	
Lesson 4	Order more than two fractions whose denominators are all multiples of the same number	Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend is scaled down Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend and divisor are scaled down	
Lesson 5	Compare all types of angles including reflex angles	Use all four operations to solve problems involving measure using decimal notation, including scaling	

Geometry

	Starter ideas	Year 5 Focus – Unit 14	Year 6 Focus – Unit 10
Lesson 1	Use partitioning to double numbers including decimal numbers to two decimal places Mental subtraction(whole number difference)	Identify, describe and represent the position of a rectilinear shape following a reflection in a horizontal or vertical mirror line when all/some/no sides are parallel or perpendicular to the mirror line and when the shape is not touching the mirror line.	Describe positions in the first two quadrants of a coordinate grid(the x-axis only is extended into negative numbers)Describe positions on the full coordinate grid (all four quadrants)
Lesson 2	Multiply whole numbers and decimals by 10, 100 or 1,000 including where 0 is used as a placeholder Mental subtraction(decimal number difference)	Identify, describe and represent the position of a rectilinear shape following a reflection in a horizontal or vertical mirror line when all/some/no sides are parallel or perpendicular to the mirror line and when the shape is touching the mirror line.	Solve problems involving coordinates including completing shapes (four quadrants)
Lesson 3	Divide whole numbers and decimals by 10, 100 or 1,000 including where 0 is used as a placeholder Written addition (whole numbers and decimals)	Describe positions on a 2-D grid as coordinates in the first quadrant Plot specified points and draw sides to complete a given polygon	Solve problems involving coordinates with blank axes
Lesson 4	Order numbers including with up to three decimal places and where 0 is used as a place holder in any position Written subtraction (whole numbers and decimals)	Represent the position of a shape following a translation in one or two directions Describe the translation for a shape that moves in one or two directions	Translate a single point then a simple shape in one direction on a coordinate grid within the first quadrant identifying the coordinates of the vertices after translation Translate a single point then a simple shape in one direction on a coordinate grid where one axis is crossed identifying the coordinates of the vertices after translation
Lesson 5	Use partitioning to halve numbers including decimal numbers to two decimal places ×/÷ 10,100,1000	Identify the position of a shape following a translation in one or two directions	Translate a single point and a simple shape in two directions on a coordinate grid within the first quadrant identifying the coordinates of the vertices after translation Translate a single point and a simple shape in two directions on a coordinate grid where one axis is crossed identifying the coordinates of the vertices after translation Translate a single point and a simple shape in two directions on a coordinate grid where both axes are crossed identifying the coordinates of the vertices after translation
Lesson 6	Choose an appropriate mental strategy to solve a calculation based upon the numbers involved Times table knowledge(including × 0 and 1)	Measure acute and obtuse angles to the nearest degree using a 180° protractor Calculate reflex angles by measuring acute or obtuse angles to the nearest degreeusinga180° protractor	Reflect a shape in one axis, including when the shape is touching an axis and has no sides parallel or perpendicular to the axis, identifying the coordinates of the vertices after reflection
Lesson 7	Multiply a 2-digit by a 2-digit number using grid method Related facts	Draw acute and obtuse angles to the nearest degree using a180° protractor	Reflect a shape in a mirror line, including where the mirror line is represented on a range of grid shapes

		Use the understanding of the relationship between acute/obtuse angles and reflex angles to draw reflex angles to the nearest degree using a180° protractor	
Lesson 8	Find a fraction of an a mount with a range of numerators and denominators	Estimate acute, obtuse and reflex angles using knowledge of a right angle and fractions of a right angle and adding these to90° (obtuse), and 180° or 270° (reflex)	
Lesson 9	Identify angles that are other multiples of 90°	Use information given to calculate missing angles at a point on a straight line and half a turn (total 180°)Use information given to calculate missing angles at a point and one whole turn (total 360°)	

Algebra

	Starter ideas	Year 5 Focus – Continued from last week	Year 6 Focus – Unit 17
Lesson 1	Mixed Arithmetic Questions		Express missing number problems algebraically
Lesson 2	Mixed Arithmetic Questions		Find pairs of numbers that satisfy an equation with two unknowns
Lesson 3	Mixed Arithmetic Questions		Use concrete materials or pictorial representations to systematically find all the combinations of two variables Identify and use the relationship between the number of options for each variable and the number of possible combinations of the two variables

Spring Term 2

Fractions

	Starter ideas	Year 5 Focus – Unit 15	Year 6 Focus – Unit 12
Lesson 1	Fraction of amounts Order numbers including with up to three decimal places and where 0 is used as a place holder in any position	Use concrete materials or pictorial representations to demonstrate conversion from an improper fraction to a mixed number	Add a fraction to a mixed number by converting both fractional parts into fractions with a common denominator Subtract a fraction from a mixed number by converting both fractional parts into fractions with a common denominator
Lesson 2	Percentages of amounts Choose an appropriate mental strategy to solve a calculation based upon the numbers involved	Use multiples of the denominator to identify how many whole ones can be made from the improper fraction and how many fractional parts remain	Use pictorial representations to show multiplication of a non-unit fraction by a unit fraction where the denominator is linked to the numerator of the non-unit fraction Use pictorial representations to show multiplication of a non-unit fraction by another non-unit fraction
Lesson 3	Addition and subtraction of fraction Derive multiplication facts from known facts e.g. 1×,2×,5× and10×	Identify, name and write equivalent fractions of a given fraction by using multiplication and division facts	Use pictorial representations to show multiplication of one unit fraction by another
Lesson 4	Multiplication of mixed numbers by whole Compare two fractions where the denominator of one fraction is a multiple of the denominator of the other fraction	Add fractions with denominators that are multiples of the same number where the answer is less than 1 Add fractions with denominators that are multiples of the same number where the answer is greater than 1	Use pictorial representations to show division of a non-unit fraction by a whole number where the numerator is the same as the divisor Use pictorial representations to show division of a non-unit fraction by a whole number where the numerator is a multiple of the divisor
Lesson 5	Multiplication of fractions Use partitioning to double numbers including decimal numbers to two decimal places	Subtract fractions with denominators that are multiples of the same number Subtract fractions with denominators that are multiples of the same number that involve mixed numbers	Use pictorial representations to show division of a non-unit fraction by a whole number where the numerator is not related to the divisor
Lesson 6	Division of fractions Continue to read, write and convert time between analogue and digital 12-and 24-hourclocks	Add and subtract fractions with denominators that are multiples of the same number where the answer is >1 and that involve mixed numbers	Solve problems involving fractions
Lesson 7	Identify common factors of two numbers including beyond known tables	Solve problems involving fractions	

Ratio and Proportion

	Starter ideas	Year 5 Focus – N/A	Year 6 Focus – Unit 13
Lesson 1	Mixed Arithmetic Questions		Use concrete materials or pictorial representations to show scaling up or down to find missing values Use a direct proportion diagram to solve problems when finding missing values
Lesson 2	Mixed Arithmetic Questions		Use concrete materials or pictorial representations to share a single digit to a given ratio Use concrete materials or pictorial representations to share amounts to a given ratio where the total is a multiple of the sum of the parts (a ratio of 2:3 has 5 parts)
Lesson 3	Mixed Arithmetic Questions		Use concrete materials or pictorial representations to share amounts to a given ratio where the value of one of the parts is given and the value of the other part is calculated Use concrete materials or pictorial representations to share amounts to a given ratio where the value of one of the parts is given and the total is calculated
Lesson 4	Mixed Arithmetic Questions		Identify the ratio for a given set
Lesson 5	Mixed Arithmetic Questions		Solve problems involving ratio and proportion including using a bar model
Lesson 6	Mixed Arithmetic Questions		Identify and use equivalences between simple fractions, decimals and percentages and ratio
Lesson 7	Mixed Arithmetic Questions		Find percentages of amounts that are multiples of 10% of the amount added to multiples of 1% of the amount Find percentages of amounts that require a compensation strategy

Geometry

	Starter ideas	Year 5 Focus – Unit 16	Year 6 Focus – Unit 15
Lesson 1	Mixed Arithmetic Questions Derive multiplication facts from known facts e.g. 1×, 2×, 5× and 10×	Identify whether a shape is regular or irregular by measuring its side lengths and angles Measure lengths to the nearest millimetre (from Year 3) Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Know that the perimeter of a circle is called the circumference Know that a straight line from one point on the edge of a circle to another point on the edge that passes through the centre is called the diameter Know that a straight line from the centre of a circle to the edge is called a radius Identify that the radius is half of the diameter or that the diameter is double the radius
Lesson 2	Mixed Arithmetic Questions Divide a 4-digit number by a 1-digit number and interpret remainders appropriately for the context	Use the properties of rectangles to deduce related facts and find missing angles at a vertex when diagonals have been drawn and one angle is given Use the properties of rectangles to deduce related facts and find missing angles where the diagonals bisect when one angle is given	Find missing angles in a triangle, quadrilateral, on a straight line and around a point
Lesson 3	Mixed Arithmetic Questions Identify cubes and cuboids from 2-D pictures of them Identify other 3-D shapes from 2-D pictures of them	Know that a 'net' is a flat shape that can be folded into a 3-D shape Identify a net of a cube from a range of nets Identify a net of other cuboids from a range of nets Identify a net of other prisms and pyramids from a range of nets	Calculate interior angles in regular polygons by relating them to triangles Use properties of regular polygons to find missing angles when given an appropriate amount of information
Lesson 4	Mixed Arithmetic Questions		Identify nets that create 3-D shapes and ones that do not Draw the net of simple 3-D shapes including cubes, cuboids, pyramids and prisms
Lesson 5	Mixed Arithmetic Questions		Solve problems involving shape (2-D and 3-D shape) Solve problems involving similar shapes where the scale factor is known or can be found

Measurement

	Starter ideas	Year 5 Focus – Unit 17	Year 6 Focus – Unit 16
Lesson 1	Multiply a 4 digit by a 1- digit number using grid method Mixed Arithmetic Questions	Measure and record liquid volume	Recognise that shapes with the same areas can have different perimeters and vice versa
Lesson 2	Multiply a 3 digit by a 2- digit number using grid method Mixed Arithmetic Questions	Calculate the area of rectangles	Calculate the area of composite shapes e.g. a shape made up of a square rectangle and a triangle
Lesson 3	Estimate the capacity of different containers Estimate the volume of liquid in a container Mixed Arithmetic Questions	Understand that the units of liquid volume ml and units of solid volume cm3 have the same value	Know the formulae for the volume of cuboids (including cubes) is length × width × depth Calculate and compare the volumes of different cuboids (including cubes) where the dimensions of the cuboids are in the same unit and when they are not
Lesson 4	Solve addition and subtraction calculations with missing numbers Mixed Arithmetic Questions	Find the volume of different cuboids by counting cubes efficiently Recognise that a cube number is the product of three equal integers and can be written using ^{3} notation	Convert between standard units, converting measurements of length, mass and volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places
Lesson 5	Derive multiplication facts from known facts e.g. 1×, 2×, 5× and 10× Mixed Arithmetic Questions	Use all four operations to solve problems involving volume using decimal notation, including scaling	Solve problems involving measure
Lesson 6			Solve problems involving time

Statistics

	Starter ideas	Year 5 Focus – Unit 18	Year 6 Focus – Unit 14
Lesson 1	Mixed Arithmetic Questions Derive related facts from a given multiplication fact	Solve comparison, sum and difference problems using information presented in all types of graph including a line graph Complete, read and interpret information in tables	Interpret pie charts and use these to solve problems
Lesson 2	Mixed Arithmetic Questions Multiply T0 × T0 using knowledge of factorising and tables facts	Complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes)	Calculate the mean as an average and understand that it is the mathematical representation of the typical value of a series of numbers Interpret the mean as an average including when it is appropriate to be used.
Lesson 3	Mixed Arithmetic Questions Convert between metric units of measurement	Calculate the mode of a set of values Calculate the range of a set of values	Solve problems involving statistics.
Lesson 4	Derive multiplication facts from known facts e.g. 1×, 2×, 5× and 10×	Calculate the median for an odd number of values Calculate the median for an even number of values	
Lesson 5	Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend is scaled down	Solve problems involving mode, median and range	

Problem Solving including Bar Modelling

	Starter ideas	Year 5 Focus – Unit 19	Year 6 Focus – N/A
Lesson 1	Solve multiplication and division calculations with missing numbers	Solve missing number problems involving all four operations	
Lesson 2	Add and subtract numbers with decimals using written methods	Solve missing number problems involving all four operations	
Lesson 3	Measure, draw and extend lines to the nearest mm	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
Lesson 4	Measure and draw angles to the nearest degree	Solve problems involving fractions	
Lesson 5	Use partitioning to halve numbers including decimal numbers to two decimal places	Solve problems involving fractions	

Summer Term 1

Place Value

	Starter ideas	Year 5 Focus – Unit 20	Year 6 Focus – Revision
Lesson 1	dentify and describe 2-D shapes (sides, parallel and perpendicular sides, vertices, angles and symmetry)	Read, write, compare and order numbers to 1,000,000 and determine the value of each digit	
Lesson 2	Recall and use multiplication facts up to 12 × 12 and related division facts	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	
Lesson 3	Use partitioning to double or halve any number, including decimals to two decimal places	Identify, represent and estimate numbers on a number line from 0 to 100,000 where the number line has no demarcations Identify, represent and estimate numbers on a number line from 0 to 1,000,000 where the number line has no demarcations	
Lesson 4	Use knowledge of place value and multiplication facts to multiply multiples of 100 and 1000 by a one-digit number Use knowledge of place value and multiplication facts to divide related larger numbers	Identify, represent and estimate numbers up to 100,000 on a number line where the starting point is a number other than 0 Identify, represent and estimate numbers up to 1,000,000 on a number line where the starting point is a number other than 0	
Lesson 5	Recall and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)	Round any number up to 1,000,000 to the nearest 10,000 Round any number up to 1,000,000 to the nearest 100,000	
Lesson 6	Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places)	Interpret negative numbers in context, count on and back with positive and negative whole numbers, including through zero Continue to order temperatures including those below 0°C	
Lesson 7	Multiply/divide whole numbers by 10, 100 and 1,000	Read Roman numerals using the symbols I, V, X, L, C, D, M where subtracting of the symbols (e.g. a lower value symbol in front of a higher	

		value one such as IX, CM) is not required Read Roman numerals using the symbols I, V, X, L, C, D, M in any order Read Roman numerals to 1,000 (M); recognise years written as such	
Lesson 8	Identify the value of each digit to three decimal places	Count forwards and backwards in decimal thousandths (0.001) including where ones boundaries are crossed, e.g. 5.998, 5.999, 6, 6.001, 6.002 Describe and extend number sequences where the step size is in thousandths, e.g. 5.742, 5.747, 5.752 (step size 0.005)	
Lesson 9	Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number	Compare and order numbers with up to 3 decimal places	
Lesson 10	Recognise and write decimal equivalents of any number of fractional hundredths	Correctly place multiples of one thousandth on a number line where hundredths are marked but not labelled	
Lesson 11	Convert mixed numbers to improper fractions and vice versa	Round decimals with two decimal places to the nearest whole number and to one decimal place	
Lesson 12	Add fractions with denominators that are multiples of the same number where the answer is >1 and that involve mixed numbers	Multiply/divide whole numbers and decimals by 10, 100 and 1,000	

Measurement and Statistics (Year 6 Applied Maths)

	Starter ideas	Year 5 Focus – Unit 21	Year 6 Focus – Unit 19
Lesson 1	Convert between different units of metric measure	Convert between different units of time using an appropriate strategy	Gameshow maths and Islamic patterns
Lesson 2	Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000	Understand and use approximate equivalences between metric and imperial measures using a conversion graph: 1 inch ≈ 2.54cm 1 foot ≈ 30cm 1 yard ≈ 90cm 1 lb ≈ 500g 1 oz ≈ 30g 1 pint ≈ 0.6 litres 1 gallon ≈ 4.5 litres	Always, sometimes or never true and magic squares
Lesson 3	Use partitioning to double or halve any number, including decimals to two decimal places	Understand and use approximate equivalences between metric and imperial measures using conversion facts: 1 inch ≈ 2.54cm 1 foot ≈ 30cm 1 yard ≈ 90cm 1 lb ≈ 500g 1 oz ≈ 30g 1 pint ≈ 0.6 litres 1 gallon ≈ 4.5 litres	Origami angles and stacking cups
Lesson 4			magic maths and Japanese logic puzzles
Lesson 5			Calculators and fractals

Geometry

	Starter ideas	Year 5 Focus – Unit 22	Year 6 Focus – N/A
Lesson 1	Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks	Know angles are measured in degrees: estimate (and measure) and compare acute, obtuse and reflex angles	
Lesson 2	Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend is scaled down	Draw given angles, and measure them in degrees (°)	
Lesson 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)	Identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and half a turn (total 180°) - other multiples of 90°	
Lesson 4	Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number	Use the properties of rectangles to deduce related facts and find missing lengths and angles	
Lesson 5	Use knowledge of place value and multiplication facts to multiply multiples of 100 and 1000 by a one-digit number Use knowledge of place value and multiplication facts to divide related larger numbers	Plot points to complete shapes on the first quadrant of the coordinate grid Identify, describe and represent the position of a shape following a reflection, using the appropriate language, and know that the shape has not changed	

Addition and Subtraction

	Starter ideas	Year 5 Focus – Unit 23	Year 6 Focus – Unit 20
Lesson 1	Round decimals with two decimal places within a calculation to an appropriate power of 10	Add decimals with up to two decimal places including pairs of numbers with different amounts of digits Subtract decimals with up to two decimal places including pairs of numbers with different amounts of digits	Mental strategies for addition
Lesson 2	Subtract fractions with denominators that are multiples of the same number where the answer is >1 and that involve mixed numbers	Choose an appropriate strategy to solve addition calculations based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) Select a mental strategy appropriate for the numbers involved in the calculation	Mental strategies for subtraction
Lesson 3	Recall and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)	Choose an appropriate strategy to solve subtraction calculations based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) Select a mental strategy appropriate for the numbers involved in the calculation	Written strategies for addition
Lesson 4	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Measure/calculate the perimeter of composite rectilinear shapes (context)	Written strategies for subtraction
Lesson 5	Multiply/divide whole numbers by 10, 100 and 1,000	Solve addition and subtraction problems involving missing numbers	Select an appropriate strategy – addition and subtraction

Multiplication

	Starter ideas	Year 5 Focus – Unit 24	Year 6 Focus – Unit 21
Lesson 1	Use partitioning to double or halve any number, including decimals to two decimal places	Multiply a 4 digit by a two-digit number using a formal written method Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	Multiply up to ThHTU by TU grid method
Lesson 2	Recall and use multiplication facts up to 12 × 12 and related division facts	Choose an appropriate strategy to solve multiplication calculations based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	Multiply up to ThHTU by U column method
Lesson 3	Recognise and use square (2) and cube (3) numbers, and notation	Use estimation/inverse to check answers to calculations; determine, in the context of a problem, an appropriate degree of accuracy	Multiply up to HTU by TU column method
Lesson 4	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	Solve problems involving multiplication including using their knowledge of factors and multiples, squares and cubes Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Multiply up to ThHTU by TU column method
Lesson 5			Choose an appropriate strategy – multiplication

Summer Term 2

Division

	Starter ideas	Year 5 Focus – Unit 25	Year 6 Focus – Unit 22
Lesson 1	Recall and use multiplication facts up to 12 × 12 and related division facts	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	**Divide up to 4-digits using written chunking**
Lesson 2	Use knowledge of place value and multiplication facts to divide related larger numbers	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division 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	**Divide up to 4-digits using traditional method**
Lesson 3	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders as fractions	Traditional division with fraction decimal remainder
Lesson 4	Identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and half a turn (total 180°) - other multiples of 90°	Divide a three-digit number by a one-digit number using a partitioning strategy	Division by mental partitioning
Lesson 5	Read, write and convert time between analogue and digital 12 and 24- hour clocks	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	Choose an appropriate strategy for division

Fractions

	Starter ideas	Year 5 Focus – Unit 26	Year 6 Focus – N/A
Lesson 1	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	
Lesson 2	Count forwards and backwards in decimal thousandths (0.001) including where ones boundaries are crossed	Compare and order fractions whose denominators are all multiples of the same number (including on a number line)	
Lesson 3	Identify and describe 2-D shapes (sides, parallel and perpendicular sides, vertices, angles and symmetry)	Recognise mixed numbers and improper fractions and convert from one form to the other	
Lesson 4	Add and subtract fractions with denominators that are the same	Use concrete materials or pictorial representations to multiply proper fractions by whole numbers where the answer is less than 1 Use concrete materials or pictorial representations to multiply proper fractions by whole numbers where the answer is greater than 1	
Lesson 5	Identify, represent and estimate numbers up to 100,000 on a number line where the starting point is a number other than 0	Use partitioning to multiply mixed numbers by whole numbers where the fractional part of the answer is less than 1 Use partitioning to multiply mixed numbers by whole numbers where the fractional part of the answer is greater than 1	

Percentages

	Starter ideas	Year 5 Focus – Unit 27	Year 6 Focus – Unit 23
Lesson 1	Recognise and write decimal equivalents of any number of fractional hundredths	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	Introduction to spirals
Lesson 2	Use partitioning to double or halve any number, including decimals to two decimal places	For halves, quarters, fifths and tenths give the equivalent percentage and vice versa Solve problems which require knowing percentage and decimal equivalents of 1 2 , 1 4 , 1 5 , 2 5 , 3 5 , 4 5 and fractions with a denominator of a multiple of 10 or 25	Drawing spirals using circles
Lesson 3	Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places)	For fractions with a denominator of a multiple of 10 or 25, give the equivalent percentage and vice versa Solve problems which require knowing percentage and decimal equivalents of 1 2 , 1 4 , 1 5 , 2 5 , 3 5 , 4 5 and fractions with a denominator of a multiple of 10 or 25	Drawing spirals using squares
Lesson 4	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)	Find percentages of amounts where they are equivalent to the fractions 1 2 , 1 4 , 1 5 , 2 5 , 3 5 , 4 5 and fractions with a denominator of a multiple of 10 or 2 Solve problems which require knowing percentage and decimal equivalents of 1 2 , 1 4 , 1 5 , 2 5 , 3 5 , 4 5 and fractions with a denominator of a multiple of 10 or 25	Fibonacci spirals
Lesson 5	Write statements > 1 as a mixed number	Solve problems involving fractions and percentages	Calculating the golden number
Lesson 6			The golden rectangle
Lesson 7			The golden triangle
Lesson 8			Investigating golden triangles
Lesson 9 and 10			Pentagrams

Statistics

	Starter ideas	Year 5 Focus – Unit 28	Year 6 Focus – N/A
Lesson 1	Add fractions with denominators that are the same and multiples of the same number	Complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes)	
Lesson 2	Subtract fractions with denominators that are the same and multiples of the same number	Complete, read and interpret information in timetables Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks	
Lesson 3	Round any number up to 1,000,000 to the nearest 10, 100, 1,000 or 10,000	Complete, read and interpret information in tables	
Lesson 4	Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number	Complete, read and interpret information in tables Solve comparison, sum and difference problems using information presented in all types of graph including a line graph	
Lesson 5	Identify and describe 3-D shapes (sides, parallel and perpendicular sides, vertices, angles and symmetry)	Calculate and interpret the mode, median and range	

Measurement

	Starter ideas	Year 5 Focus – Unit 29	Year 6 Focus – N/A
Lesson 1	Multiply/divide whole numbers and decimals by 10, 100 and 1,000	Use, read and write standard units of mass Solve problems involving decimals to three places (converting between units of metric measure)	
Lesson 2	Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend is scaled down	Use, read and write standard units of length Solve problems involving decimals to three places (converting between units of metric measure)	
Lesson 3	Use knowledge of place value and multiplication facts to divide related decimal numbers where the dividend and divisor are scaled down	Use all four operations to solve problems involving measure using decimal notation, including scaling	
Lesson 4	Choose an appropriate strategy to solve addition and subtraction calculations based upon the numbers involved	Calculate and compare the area of rectangle, use standard units square centimetres (cm2) and square metres (m2)	
Lesson 5	Choose an appropriate strategy to solve multiplication and division calculations based upon the numbers involved	Estimate (and calculate) volume (e.g. using 1 cm3 blocks to build cuboids (including cubes)) and capacity (e.g. using water)	