Year 5 Mathematics Planning

Year 5 High Level Planning

Unit 1

Number -

Number & place value

Addition & subtraction

Geometry -

Properties of shapes

Unit 2

Number -

Multiplication & division

Fractions

Geometry -

Position & direction

Unit 3

Number-

Addition & subtraction

Decimals

Measurement (mass)

Unit 4

Number -

Multiplication & division

Multiplication & division

Measurement (time)

Unit 5

Number -

Number & place value

Addition & subtraction

Geometry -

Properties of shapes

Unit 6

Number -

Multiplication & division

Fractions

Measurement (length)

Unit 1
Number – Number and place value
Number – Addition and subtraction
Geometry – Properties of shapes

Unit 7

Number-

Decimals

Addition & subtraction

Statistics

Unit 8

Number -

Multiplication & division

Percentages (including fractions and decimals)

Measurement (perimeter & area)

Unit 9

Number -

Number & place value

Addition & subtraction

Geometry-

Properties of shapes

Unit 10

Number

Multiplication & division including *Measurement* (money)

Fractions

Measurement (volume & capacity)

Unit 11

Number -

Addition & subtraction including *Measurement* (money)

Percentages (including fractions and decimals)

Geometry-

Position & direction

Unit 12

Number -

Multiplication & division including *Measurement* (money)

Multiplication & division including *Measurement* (money)

Statistics

Year 5 Medium-Term Plans

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Number and place value	**Week 1**	
• read, write, order and compare numbers to at least 1 000000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1000000 • round any number up to 1000000 to the nearest 10, 100 and 1000	• Read and write numbers to 100 000 and determine the value of each digit	1
	• Order and compare numbers to 100 000 and determine the value of each digit	2
	• Count forwards and backwards in steps 10 and 100	3
	• Round numbers up to 100 000 to the nearest 10, 100 and 1000	4
Number – Addition and subtraction	**Week 2**	
• add and subtract numbers mentally with increasingly large numbers • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	• Add numbers mentally	1
	• Subtract numbers mentally	2
	• Subtract numbers mentally	3
	• Solve addition and subtraction multi-step problems, deciding which operations and methods to use and why	4
Geometry – Properties of shapes	**Week 3**	
• identify 3-D shapes, including cubes and other cuboids, from 2-D representations	• Identify 3-D shapes with parallel or perpendicular faces or edges	1
	• Use properties to identify 3-D shapes from 2-D representations	2
	• Visualise from the front, side and top 2-D representations of 3-D shapes made with interlocking cubes	3
	• Investigate and identify 3-D shapes which can be made using interlocking cubes	4

Unit 2 **Number – Multiplication and division**
Number – Fractions
Geometry – Position and direction

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• multiply and divide numbers mentally drawing upon known facts • multiply and divide whole numbers by 10, 100 and 1000	• Multiply numbers mentally drawing upon known facts	1
	• Multiply whole numbers by 10, 100 and 1000	2
	• Multiply numbers mentally drawing upon known facts	3
	• Multiply and divide numbers mentally drawing upon known facts • Multiply whole numbers by 10 and 100	4
Number – Fractions	**Week 2**	
• compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • develop their understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities * • practise counting forwards and backwards in simple fractions * • recognise and describe linear number sequences, including those involving fractions and find the term-to- term rule * [Domain: Number – Number and place value]	• Find fractions of numbers and quantities using fractions as operators	1
	• Practise counting forwards and backwards in simple fractions • Recognise fraction sequences and find the term to term rule	2
	• Identify, name and write equivalent fractions of a given fraction, represented visually	3
	• Compare and order fractions whose denominators are all multiples of the same number	4
Geometry – Position and direction	**Week 3**	
• identify, describe and represent the position of a shape following a translation, using the appropriate language, and know that the shape has not changed	• Recognise where a shape will be after a translation on a 2-D grid and know that the shape has not changed	1
	• Translate two or more shapes to make a tiling pattern on a 2-D grid	2
	• Create 2-D shapes which following translations to the left/right and up/down form a tiling pattern	3
	• Identify, describe and represent the position of a shape following a translation in the first quadrant of a coordinate grid and know that the shape has not changed	4

* Notes and guidance (non-statutory)

Unit 3 **Number – Addition and subtraction**
Number – Decimals
Measurement (mass)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**

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Number – Addition and subtraction	**Week 1**	
• add whole numbers with more than 4 digits, including using formal written methods (columnar addition) • add numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	• Add numbers mentally	1
	• Add whole numbers with five digits using the formal written method • Estimate and check the answer to a calculation	2
	• Add whole numbers with five digits using the formal written method • Estimate and check the answer to a calculation	3
	• Add whole numbers with five digits using the formal written method • Use rounding to check answers to calculations	4
Number – Decimals	**Week 2**	
• read and write decimal numbers as fractions [for example, 0·71 = $\frac{71}{100}$] • round decimals with two decimal places to the nearest whole number and to one decimal place • practise adding decimals, including complements of 1 (for example, 0·83 + 0·17 = 1) * •recognise and describe linear number sequences involving decimals, and find the term-to-term rule* [Domain: Number – Number and place value]	• Read and write decimal numbers as fractions	1
	• Round decimals with two decimal places to the nearest whole number • Add complements of 1	2
	• Round decimals with two decimal places to one decimal place	3
	• Recognise and describe linear number sequences involving decimals, and find the rule	4
Measurement (mass)	**Week 3**	
• convert between different units of metric measure (for example, gram and kilogram) • understand and use approximate equivalences between metric units and common imperial units such as pounds • use all four operations to solve problems involving measure [for example, mass] using decimal notation, including scaling	• Use knowledge of place value, multiplication and division to convert between units of mass (gram and kilogram)	1
	• Know and use approximate equivalences between metric units of mass (kilograms and grams) and common imperial units (pounds)	2
	• Use all four operations to solve problems involving mass using decimal notation	3
	• Use all four operations to solve problems involving mass using decimal notation, including scaling	4

* Notes and guidance (non-statutory)

Year 5 Medium-Term Plans

Unit 4	**Number – Multiplication and division** **Number – Multiplication and division** **Measurement (time)**	
National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • multiply numbers up to 4 digits by a one-digit number using a formal written method • multiply and divide numbers mentally drawing upon known facts • multiply whole numbers by 10, 100 and 1000 • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) • solve problems involving multiplication and division including using their knowledge of squares and cubes • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	1
	• Use the formal written method of short multiplication to calculate ThHTO x O • Estimate and check the answer to a calculation	2
	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	3
	• Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	4
Number – Multiplication and division	**Week 2**	
• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • divide numbers mentally drawing upon known facts • divide whole numbers by 10, 100 and 1000 • solve problems involving multiplication and division including using their knowledge of factors and multiples	• Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • Establish whether a number up to 100 is prime and recall prime numbers up to 19	1
	• Divide whole numbers by 10, 100 and 1000	2
	• Divide numbers mentally drawing upon known facts	3
	• Solve problems involving multiplication and division including using their knowledge of factors and multiples	4
Measurement (time)	**Week 3**	
• solve problems involving converting between units of time • use all four operations to solve problems involving measure, including scaling	• Solve problems involving converting between units of time	1
	• Solve problems involving converting between units of time to calculate durations of time	2
	• Use all four operations in problems involving time, including conversions (for example, days to weeks, expressing the answer as weeks and days)	3
	• Use all four operations to solve problems involving time, including scaling	4

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Unit 5	Number – Number and place value Number – Addition and subtraction Geometry – Properties of shapes	
National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Number and place value	**Week 1**	
• read, write, order and compare numbers to at least 1000000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1000000 • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 • solve number problems and practical problems that involve all of the above	• Read, write, order and compare numbers up to 1 000 000 and determine the value of each digit	1
	• Count forwards and backwards in steps of 10, 100 and 1000 • Round any number up to 1 000 000 to the nearest 10, 100 and 1000	2
	• Count backwards through zero with negative numbers • Interpret negative numbers in context	3
	• Solve negative number problems	4
Number – Addition and subtraction	**Week 2**	
• subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction) • subtract numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • practise adding and subtracting decimals, including a mix of whole numbers and decimals * [Domain: Number – Fractions (including decimals and percentages)]	• Subtract numbers mentally	1
	• Subtract whole numbers with five digits using the formal written method (decomposition) • Estimate and check the answer to a calculation	2
	• Subtract whole numbers with five and six digits using the formal written method (decomposition) • Use rounding to check answers	3
	• Add and subtract decimals to two decimal places using the formal written method	4
Geometry – Properties of shapes	**Week 3**	
• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees (°) • identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90°	• Know angles are measured in degrees: estimate, compare and measure with a protractor acute, obtuse and reflex angles	1
	• Use a protractor to measure and draw angles to the nearest 5°	2
	• Make accurate drawings of given angles, drawing lines with a ruler to the nearest millimetre and measuring angles to the nearest degree	3
	• Identify angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°), other multiples of 90°	4

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* Notes and guidance (non-statutory)

Year 5 Medium-Term Plans

Unit 6	Number – Multiplication and division Number – Fractions Measurement (length)	
National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• 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 • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• Use the formal written method of short division to calculate HTO ÷ O • Estimate and check the answer to a calculation	1
	• Use the formal written method of short division to calculate HTO ÷ O with a fraction remainder • Estimate and check the answer to a calculation	2
	• Use the formal written method of short division to calculate HTO ÷ O with a decimal remainder • Estimate and check the answer to a calculation	3
	• Solve division problems including answers that involve rounding remainders up or down	4
Number – Fractions	**Week 2**	
• compare and order fractions whose denominators are all multiples of the same number • add and subtract fractions with the same denominator and denominators that are multiples of the same number • recognise and use thousandths and relate them to tenths and hundredths	• Recognise and use thousandths and relate them to tenths and hundredths	1
	• Compare and order fractions whose denominators are all multiples of the same number	2
	• Add fractions with the same denominator and denominators that are multiples of the same number	3
	• Subtract fractions with the same denominator and denominators that are multiples of the same number	4
Measurement (length)	**Week 3**	
• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre) • understand and use approximate equivalences between metric units and common imperial units such as inches • use all four operations to solve problems involving measure [for example, length] using decimal notation, including scaling	• Use knowledge of place value, multiplication and division to convert between units of length (kilometre and metre; centimetre and metre; centimetre and millimetre)	1
	• Know and use approximate equivalences between metric units of length (centimetres) and common imperial units (inches)	2
	• Use all four operations to solve problems involving length using decimal notation	3
	• Use all four operations to solve problems involving length using decimal notation, including scaling	4

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Unit 7 **Number – Decimals**
Number – Addition and subtraction
Statistics

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Percentages, decimals and fractions	**Week 1**	
• read and write decimal numbers as fractions • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to three decimal places	• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	1
	• Read, write, order and compare numbers with up to three decimal places	2
	• Read, write, order and compare numbers with up to three decimal places • Round decimals with two decimal places to the nearest whole number and to one decimal place	3
	• Solve problems involving number up to three decimal places	4
Number – Addition and subtraction	**Week 2**	
• mentally add and subtract tenths, and one-digit whole numbers and tenths * • practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 [for example, 0·83 + 0·17 = 1]* * [Domain: Number – Fractions (including decimals and percentages)]	• Add decimals with one and two decimal places mentally	1
	• Subtract decimals with one and two decimal places mentally	2
	• Add and subtract a mix of whole numbers and decimals	3
	• Add and subtract decimals with different numbers of decimal places	4
Statistics	**Week 3**	
• solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables	• Solve comparison, sum and difference problems using information presented in a line graph	1
	• Solve comparison, sum and difference problems using information presented in a line graph	2
	• Complete, read and interpret information in tables, including timetables	3
	• Connect work on coordinates and scales to interpreting information in time graphs	4

Unit 8 **Number – Multiplication and division**
Number – Percentages (including fractions and decimals)
Measurement (perimeter and area)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• 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 • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• Use partitioning to calculate TO x TO • Estimate and check the answer to a calculation	1
	• Use partitioning and the grid method to calculate TO x TO • Estimate and check the answer to a calculation	2
	• Use the expanded written method of long multiplication to calculate TO x TO • Estimate and check the answer to a calculation	3
	• Solve problems involving addition, subtraction, multiplication and division	4
Number – Percentages (including fractions and decimals)	**Week 2**	
• 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 • solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 and 25 • make connections between percentages, fractions and decimals *	• Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred' • Write percentages as a fraction with a denominator of 100	1
	• Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred' • Write percentages as a decimal with two places	2
	• Know percentage equivalents of certain fractions	3
	• Solve problems involving percentages	4
Measurement (perimeter and area)	**Week 3**	

• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	• Measure and calculate the perimeter *P* of composite rectilinear shapes in centimetres and metres, including using the rule $P = 2(a + b)$ where a and b are the dimensions of the sides in the same unit	1
	• Calculate and compare the area *A* of rectangles (including squares), using standard units, square centimetres (cm^2) and square metres (m^2), and using the rule $A = a \times b$; and estimate the area of irregular shapes	2
	• Use the relations of perimeter or area to find unknown lengths	3
	• Calculate the area of irregular shapes formed from rectangles	4

* Notes and guidance (non-statutory)

Unit 9 **Number – Number and place value**
Number – Addition and subtraction
Geometry – Properties of shapes

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Number and place value	**Week 1**	
• read, write, order and compare numbers to at least 1 000000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1000000 • round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 • solve number problems and practical problems that involve all of the above • read Roman numerals to 1000 (M) and recognise years written in Roman numerals	• Read, write, order and compare numbers to 1 000 000 and determine the value of each digit	1
	• Count forwards and backwards in steps of 100, 1000, 10000 and 100 000 • Round any number up to 1 000 000 to the nearest 10 000 and 100 000	2
	• Solve number problems	3
	• Read Roman numerals to 1000 (M) • Recognise years written in Roman numerals	4
Number – Addition and subtraction	**Week 2**	
• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • practise adding and subtracting decimals, including a mix of whole numbers and decimals * [Domain: Number – Fractions (including decimals and percentages) • add and subtract numbers mentally with increasingly large numbers • 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	• Add and subtract mentally whole numbers and decimals	1
	• Add whole numbers with five and six digits using the formal written method • Use rounding to check answers to calculations	2
	• Subtract whole numbers with five and six digits using the formal written method (decomposition) • Use rounding to check answers to calculations	3
	• Solve multi-step problems involving number and money, including some multiplication and division, deciding which operations to use and why	4
Geometry – Properties of shapes	**Week 3**	
• use the properties of rectangles to deduce related facts and find missing lengths and angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles • use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems * • use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals* • use conventional markings for parallel lines and right angles *	• Use the properties of rectangles to deduce related facts and find missing lengths and angles	1
	• Use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals; use conventional markings for parallel lines and right angles	2
	• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	3
	• Use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems	4

* Notes and guidance (non-statutory)

Year 5 Mathematics Planning

Unit 10 **Number – Multiplication and division, including Measurement (money)**
Number – Fractions
Measurement (volume and capacity)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• multiply and divide numbers mentally drawing upon known facts • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	• Use the most efficient method to calculate ThHTO x O and ThHTO ÷ O • Estimate and check the answer to a calculation	1
	• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	2
	• Multiply numbers mentally drawing upon known facts • Multiply TO x TO using factors	3
Measurement (money)	• Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates • Use all four operations to solve problems involving money using decimal notation, including scaling	4
• use all four operations to solve problems involving measure [for example, money] using decimal notation, including scaling		
Number – Fractions	**Week 2**	
• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • connect equivalent fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders, using the number line and other models, and hence move from these to improper and mixed fractions *	• Recognise mixed numbers and improper fractions and convert from one form to the other • Write mathematical statements > 1 as a mixed number	1
	• Recognise mixed numbers and improper fractions and convert from one form to the other • Connect fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders	2
	• Multiply proper fractions by whole numbers	3
	• Multiply mixed numbers by whole numbers	4
Measurement (volume and capacity)	**Week 3**	
• convert between different units of metric measure (for example litre and millilitre) • understand and use approximate equivalences between metric units and common imperial units such as pints • estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] • use all four operations to solve problems involving measure [for example volume] using decimal notation, including scaling	• Use knowledge of place value, multiplication and division to convert between units of capacity (litre and millilitre)	1
	• Know and use approximate equivalences between metric units of capacity (litres) and common imperial units (pints), and estimate capacity	2
	• Estimate volume using 1 cm^3 blocks to build cuboids (including cubes)	3
	• Use all four operations to solve problems involving volume and capacity using decimal notation, including scaling	4

* Notes and guidance (non-statutory)

Year 5 Medium-Term Plans

Unit 11 **Number – Addition and subtraction, including Measurement (money)**
Number – Percentages (including fractions and decimals)
Geometry – Position and direction

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Addition and subtraction	**Week 1**	
• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • 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	• Add and subtract mentally whole numbers and decimals	1
	• Add whole numbers with up to six digits using the formal written method • Use rounding to check answers to calculations	2
	• Subtract whole numbers with up to six digits using the formal written method (decomposition) • Use rounding to check answers to calculations	3
Measurement (money)		
• use all four operations to solve problems involving measure [for example, money] using decimal notation, including scaling	• Solve multi step problems involving number and money, including some multiplication and division, deciding which operations to use and why	4
Number – Percentages (including fractions and decimals)	**Week 2**	
• 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 • solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$, and those fractions fractions with a denominator of a multiple of 10 or 25 • make connections between percentages, fractions and decimals *	• Know percentage and decimal equivalents of fractions	1
	• Find percentages of amounts • Solve problems involving percentages	2
	• Solve percentage problems • Solve problems involving percentages	3
	• Solve problems involving percentages	4
Geometry – Position and direction	**Week 3**	
• identify, describe and represent the position of a shape following a reflection, using the appropriate language, and know that the shape has not changed	• Recognise and use reflection in a variety of diagrams, including continuing to use a 2-D grid	1
	• Recognise where a shape will be after a reflection in given mirror lines and know that the shape has not changed	2
	• Reflect a 2-D shape using coordinates in the first quadrant and lines that are parallel to the axes	3
	• Identify, describe and represent the position of a shape following a reflection in two mirror lines at right angles and parallel to the axes in the first quadrant	4

* Notes and guidance (non-statutory)

Year 5 Mathematics Planning

Unit 12 Number – Multiplication and division, including Measurement (money) Statistics

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• multiply numbers up to 4 digits by a two-digit number using a formal written method, including long multiplication for two-digit 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 • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	• Use partitioning to calculate HTO x TO • Estimate and check the answer to a calculation	1
	• Use partitioning and the grid method to calculate HTO x TO • Estimate and check the answer to a calculation	2
	• Use the expanded written method of long multiplication to calculate HTO x TO • Estimate and check the answer to a calculation	3
	• Solve problems involving addition, subtraction, multiplication and division 4 and a combination of these, including understanding the meaning of the equals sign • Use all four operations to solve problems involving money using decimal notation, including scaling	4
Measurement (money)	**Week 2**	
• use all four operations to solve problems involving measure [for example money] using decimal notation, including scaling	• Use the formal written method of short division to calculate ThHTO ÷ O (decimal remainder) • Estimate and check the answer to a calculation	1
	• Use the formal written method of short division to calculate ThHTO ÷ O (fraction remainder) • Estimate and check the answer to a calculation	2
	• Use the formal written method of short division to calculate ThHTO ÷ O (rounding remainders) • Estimate and check the answer to a calculation	3
	• Use all four operations to solve problems involving money using decimal notation, including scaling	4
Statistics	**Week 3**	
• solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables	• Solve comparison, sum and difference problems using information presented in a line graph	1
	• Complete, read and interpret information in tables	2
	• Connect work on coordinates and scales to interpreting information in time graphs	3
	• Complete, read and interpret information in tables and begin to decide which representations of data are most appropriate and why	4