# Medium-term plan: autumn term 1st half Year 5

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| **Sequence and Theme** | **Weeks** | **Pages** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.1****NUMBER** **SENSE** | 1–3 | *Planning Framework* p44 | **Number and place value*** read, write, order and compare numbers to at least1 000 000 and determine the value of each digit **5.1.b.1 5.1.c.1)**
* count forwards or backwards in steps of powers of 10 forany given number up to 1 000 000 **(5.1.a.2)**
* round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 **(5.1.e.1)**
* solve number problems and practical problems that involve all of the above **(5.1.d.1)**

**Multiplication and division*** multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000 **(5.2.b.4)**

**Fractions (including decimals and percentages)*** read and write decimal numbers as fractions [for example, 0.71 = 71∕100] **(5.3.b.4)**
* recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents **(5.3.a.3 5.3.b.3)**
* round decimals with two decimal places to the nearestwhole number and to one decimal place **(5.3.c.4)**
* read, write, order and compare numbers with up to threedecimal places **(5.3.c.5)**
* solve problems involving number up to three decimal places **(5.3.d.2)**

**Measurement*** convert between different units of metric measure (forexample, kilometre and metre; centimetre and metre;centimetre and millimetre; gram and kilogram; litre andmillilitre) **(5.1.4)**
* solve problems involving converting between units oftime.**(5.3.1)**
 | *Fluency With Fractions, Decimals and Percentages 5*, pp 10–11, 2 ‘Counting in fraction steps’*Picture Maths 5*, pp 4–5, 1 ‘Lunar holidays’*Picture Maths 5*, pp 8–9, 3 ‘Jet pack jump’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 26–7, ‘Decimal notation’*Learn, Practise and Revise 5*, pp 36–9, 10 ‘Multiplying and dividing by 10, 100, 1000’*Learn, Practise and Revise 5*, pp 30–2, 8 ‘Fractions and decimals’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 8–9, ‘Fraction notation’*Fluency With Fractions, Decimals and Percentages 5*, pp 20–21, 7 ‘Recognising and using thousandths’*Fluency With Fractions, Decimals and Percentages 5*, pp 38–9, 16 ‘Rounding decimals’*Fluency With Fractions, Decimals and Percentages 5*, pp 40–1, 17 ‘Comparing and ordering numbers with up to three decimal places’*Picture Maths 5*, pp 26–7, 12 ‘Knit-a-thon’*Problem Solving and Reasoning 5*, pp 68–9, 13 ‘How many chairs?’*Picture Maths 5*, pp 34–5, 16 ‘Waiting room’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 6–9, Autumn Tests 1 and 2 |
| **5.2** **ADDITIVE REASONING** | 4–6 | *Planning Framework* p45 | **Addition and subtraction*** add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) **(5.2.e.1)**
* add and subtract numbers mentally with increasingly large numbers **(5.2.b.1)**
* use rounding to check answers to calculations and

determine, in the context of a problem, levels of accuracy **(5.2.f.1)*** solve addition and subtraction multi-step problems in

contexts, deciding which operations and methods to use and why **(5.2.c.1)****Measurement*** use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling **(5.3.4)**

**Statistics*** solve comparison, sum and difference problems using information presented in a line graph **(5.3.1)**
* complete, read and interpret information in tables including timetables. **(5.1.2 5.2.2)**
 | *Skills Builders: Fractions, Decimals and Percentages 5*, pp 18–19, ‘Add and subtract fractions with the same denominators’*Learn, Practise and Revise 5*, pp 6–9, 1 ‘Addition and subtraction with whole numbers and decimals’*Problem Solving and Reasoning 5*, pp 48–9, 3 ‘Chicken nuggets’*Picture Maths 5*, pp 12–13, 5 ‘Train talk’*Picture Maths 5*, pp 38–9, 18 ‘The mysterious mirror’*Learn, Practise and Revise 5*, pp 76–9, 22 ‘Graphs and tables’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 10–15, Autumn Tests 3, 4 and 5 |

# Medium-term plan: autumn term 2nd half Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.3****MULTIPLICATIVE REASONING** | 7–9 | *Planning Framework* p46 | **Multiplication and division*** identify multiples and factors, including finding all factorpairs of a number, and common factors of two numbers **(5.2.d.1)**
* multiply numbers up to 4 digits by a one-digit numberusing a formal written method **(5.2.e.2)**
* multiply and divide numbers mentally drawing upon known facts **(5.2.b.3)**
* 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 **(5.2.e.3)**
* *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**
* solve problems involving multiplication and divisionincluding using their knowledge of factors and multiples **(5.2.c.3)**
* solve problems involving addition, subtraction,multiplication and division and a combination of these,including understanding the meaning of the equals sign **(5.2.c.2 5.2.a.2)**

**Measurement*** *use all four operations to solve problems involvingmeasure [for example, length, mass, volume, money]using decimal notation including scaling.***(5.3.4)**
 | *Skills Builders: Times Tables 3*, pp 24–5, ‘Mixed multiplication practice (11 and 12)’*Skills Builders: Times Tables 3*, pp 28–9, ‘Mixed division practice (11 and 12)’*Picture Maths 5*, pp 14–15, 6 ‘Multiple maze’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 24–5, ‘Solving ratio and proportion problems’*Learn, Practise and Revise 5*, pp 44–7, 12 ‘Factors and multiples’*Problem Solving and Reasoning 5*, pp 46–7, 2 ‘The maths factor’*Skills Builders: Times Tables 3*, pp 34–5, ‘Problem solving (7 and 9 times tables)’*Skills Builders: Times Tables 3*, pp 36–7, ‘Problem solving (7 and 9 division facts)’*Learn, Practise and Revise 5*, pp 40–3, 11 ‘Multiplication and division’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 16–19, Autumn Tests 6 and 7 |
| **5.4** **GEOMETRIC****REASONING** | 10–11 | *Planning Framework* p46 | **Geometry: properties of shapes*** identify 3-D shapes, including cubes and other cuboids,from 2-D representations **(5.1.3)**
* know angles are measured in degrees: estimate andcompare acute, obtuse and reflex angles **(5.3.2)**
* draw given angles, and measure them in degrees (°) **(5.1.1)**
* identify:

– angles at a point and one whole turn (total 360°)– angles at a point on a straight line and 1∕2 a turn (total 180°)– other multiples of 90° **(5.3.1)*** use the properties of rectangles to deduce related factsand find missing lengths and angles **(5.3.3)**
* distinguish between regular and irregular polygons based on reasoning about equal sides and angles. **(5.2.1)**
 | *Problem Solving and Reasoning 5*, pp 66–7, 12 ‘Angles add up’*Problem Solving and Reasoning 5*, pp 76–7, 17 ‘Diagonally speaking’*Learn, Practise and Revise 5*, pp 52–5, 15 ‘Estimating and drawing angles’*Picture Maths 5*, pp 36–7, 17 ‘The locked box’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 20–3, Autumn Tests 8 and 9 |

# Medium-term plan: autumn term 2nd half (cont.) Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.5****NUMBER****SENSE** | 12–13 | *Planning Framework* p47 | **Number and place value*** *read, write, order and compare numbers to at least1 000 000 and determine the value of each digit* **(5.1.b.1 5.1.c.1)**
* *count forwards or backwards in steps of powers of 10 forany given number up to 1 000 000* **(5.1.a.2)**
* interpret negative numbers in context, count forwardsand backwards with positive and negative whole numbers including through zero **(5.1.b.3 5.1.a.1)**
* *round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000* **(5.1.e.1)**
* *solve number problems and practical problems that involve all of the above* **(5.1.d.1)**
* read Roman numerals to 1000 (M) and recognise yearswritten in Roman numerals **(5.1.b.2)**

**Multiplication and division*** *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**

**Fractions (including decimals and percentages)*** *read and write decimal numbers as fractions [for example, 0.71 = 71∕100]* **(5.3.b.4)**
* *recognise and use thousandths and relate them totenths, hundredths and decimal equivalents* **(5.3.b.3 5.3.a.3)**
* *round decimals with two decimal places to the nearestwhole number and to one decimal place* **(5.3.c.4)**
* *read, write, order and compare numbers with up to threedecimal places* **(5.3.c.5)**
* *solve problems involving number up to three decimal places* **(5.3.d.2)**

**Measurement*** *convert between different units of measure (e.g.kilometre and metre; metre and centimetre; centimeterand millimetre; kilogram and gram; litre and millilitre)* **(5.1.4)**
* *solve problems involving converting between units of time.* **(5.3.1)**
 |  *Learn, Practise and Revise 5*, pp 18–21, 5 ‘Place value, rounding and ordering numbers’*Picture Maths 5*, pp 6–7, 2 ‘Penguin point’*Learn, Practise and Revise 5*, pp 10–13, 2 ‘Negative numbers’*Problem Solving and Reasoning 5*, pp 44–5, 1 ‘Stringy numbers’*Picture Maths 5*, pp 10–11, 4 ‘Roman adventure’*Learn, Practise and Revise 5*, pp 14–15, 3 ‘Roman numerals’*Picture Maths 5*, pp 22–3, 10 ‘Lifting logs’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 20–1, ‘Add and subtract related fractions’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 28–9, ‘Rounding fractions to 2 decimal places’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 30–1, ‘Read and write decimal numbers as fractions’*Problem Solving and Reasoning 5*, pp 50–1, 4 ‘Tricky triangles’*Picture Maths 5*, pp 28–9, 13 ‘The ultimate prize’*Learn, Practise and Revise 5*, pp 70–3, 20 ‘Time and length, weight and capacity with metric units’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 24–5, Autumn Test 10 |

# Medium-term plan: spring term 1st half Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.6****ADDITIVE REASONING** | 14–16 | *Planning Framework* p47 | **Addition and subtraction*** *add and subtract whole numbers with more than 4 digits,including using formal written methods (columnar addition and subtraction)* **(5.2.e.1)**
* *add and subtract numbers mentally with increasingly large numbers* **(5.2.b.1)**
* *use rounding to check answers to calculations anddetermine, in the context of a problem, levels of accuracy* **(5.2.f.1)**
* *solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why* **(5.2.c.1)**

**Fractions (including decimals and percentages)*** *solve problems involving number up to three decimal places* **(5.3.d.2)**

**Measurement*** *use all four operations to solve problems involvingmeasure [for example, length, mass, volume, money]using decimal notation including scaling* **(5.3.4)**
* *measure and calculate the perimeter* **(5.2.4)**

**Statistics*** *solve comparison, sum and difference problems usinginformation presented in a line graph* **(5.3.1 5.3.5)**
* *complete, read and interpret information in tables, including timetables.* **(5.1.2 5.2.2)**
 |  *Problem Solving and Reasoning 5*, pp 60–1, 9 ‘Dinosaurs’*Problem Solving and Reasoning 5*, pp 62–3, 10 ‘Ice-cream!’*Fluency With Fractions, Decimals and Percentages 5*, pp 42–3, 18 ‘Solving problems about numbers with up to three decimal places’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 34–5, ‘Add and subtract numbers with up to 3 decimal places’*Picture Maths 5*, pp 40–1, 19 ‘The tournament’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 26–9,SpringTests 1 and 2 |
| **5.7** **NUMBER** **SENSE** | 17–18 | *Planning Framework* p48 | **Multiplication and division*** *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**

**Fractions (including decimals and percentages**)* compare and order fractions whose denominators are allmultiples of the same number **(5.3.b.6)**
* recognise mixed numbers and improper fractions andconvert from one form to the other and write mathematical statements >1 as a mixed number [for example, 2∕5 + 4∕5 = 6∕5 = 11∕5] **(5.3.b.2 5.3.a.1)**
* *read and write decimal numbers as fractions [for example, 0.71 = 71∕100]* **(5.3.b.4)**
* *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* **(5.3.a.3 5.3.b.3)**
* 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 **(5.3.a.4 5.3.b.5)**
* identify, name and write equivalent fractions of a givenfraction, represented visually including tenths andhundredths. **(5.3.b.1)**
 | *Skills Builders: Fractions, Decimals and Percentages 5*, pp 10–11, ‘Recognise mixed numbers and improper fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 12–13, 3 ‘Comparing and ordering fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 14–15, 4 ‘Solving problems using equivalent fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 22–23, 8 ‘Mixed numbers and improper fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 16–17, 5 ‘Decimal numbers as fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 18–19, 6 ‘Understanding and writing percentages in different ways’*Fluency With Fractions, Decimals and Percentages 5*, pp 8–9, 1 ‘Equivalent fractions’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 30–5,SpringTests 3, 4 and 5 |

# Medium-term plan: spring term 2nd half Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.8****MULTIPLICATIVE****REASONING** | 19-21 | *Planning Framework* p49 | **Multiplication and division*** *identify multiples and factors, including finding all factor pairs* **(5.2.d.1)**
* know and use the vocabulary of prime numbers, primefactors and composite (non-prime) numbers **(5.2.a.4)**
* *solve problems involving multiplication and division,including scaling by simple fractions and problemsinvolving simple rates* **(5.2.c.3)**
* establish whether a number up to 100 is prime and recallprime numbers up to 19 **(5.2.a.3 5.2.d.3)**
* *multiply numbers up to 4 digits by a one-digit numberusing a formal written method* **(5.2.e.2)**
* *multiply and divide numbers mentally drawing upon known facts* **(5.2.b.3)**
* *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* **(5.2.e.3)**
* *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**
* recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) **(5.2.d.2)**
* *solve problems involving multiplication and divisionincluding using their knowledge of factors and multiples,*squares and cubes **(5.2.c.3)**
* solve problems involving addition, subtraction,multiplication and division and a combination of these,including understanding the meaning of the equals sign

**(5.2.a.2 5.2.c.2)****Fractions (including decimals and percentages)*** solve problems which require knowing percentage anddecimal equivalents of 1∕2 , 1∕4 , 1∕5, 2∕5, 4∕5 and those with adenominator of a multiple of 10 or 25 **(5.3.b.6 5.3.d.3)**

**Measurement*** *use all four operations to solve problems involvingmeasure [for example, length, mass, volume, money]using decimal notation including scaling.* **(5.3.4)**
 | *Skills Builders: Fractions, Decimals and Percentages 5*, pp 16–17, ‘Fractions and division’*Skills Builders: Times Tables 3*, pp 30–1, ‘Mixed multiplication practice (7, 9, 11 and 12)’*Skills Builders: Times Tables 3*, pp 32–3, ‘Mixed division practice (7, 9, 11 and 12)’*Picture Maths 5*, pp 16–17, 7 ‘Playing the game’*Learn, Practise and Revise 5*, pp 50–1, 14 ‘Prime numbers’*Skills Builders: Times Tables 3*, pp 38–9, ‘Problem solving (11 and 12 times tables)’*Skills Builders: Times Tables 3*, pp 40–1, ‘Problem solving (11 and 12 division facts)’*Picture Maths 5*, pp 18–19, 8 ‘Eat me, drink me’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 36–7, ‘Decimal word problems’*Learn, Practise and Revise 5*, pp 48–9, 13 ‘Squares and cubes’*Problem Solving and Reasoning 5*, pp 70–1, 14 ‘Equivalence’*Learn, Practise and Revise 5*, pp 33–5, 9 ‘Understanding percentages’*Fluency With Fractions, Decimals and Percentages 5*, pp 46–7, 20 ‘Solving problems about percentage, fraction and decimal equivalents’*Picture Maths 5*, pp 24–5, 11 ‘100 aliens!’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 38–9, ‘Percentages’ |
| **MENTAL MATHS TESTS** |  | *Mental Maths Tests 5*, pp 36–9,SpringTests 6 and 7 |
| **5.9** **GEOMETRIC REASONING** | 22–23 | *Planning Framework* p49 | **Geometry: properties of shapes*** *identify 3-D shapes, including cubes and other cuboids,from 2-D representations* **(5.1.3)**
* *know angles are measured in degrees: estimate andcompare acute, obtuse and reflex angles* **(5.3.2)**
* *draw given angles, and measure them in degrees (°)* **(5.1.5)**
* *Identify:*

*– angles at a point and one whole turn (total 360°)**– angles at a point on a straight line and ½ a turn (total 180°)**– other multiples of 90°* **(5.3.1)*** *use the properties of rectangles to deduce related factsand find missing lengths and angles* **(5.3.3)**
* *distinguish between regular and irregular polygonsbased on reasoning about equal sides and angles* **(5.2.1)**

**Geometry: position and direction*** identify, describe and represent the position of a shapefollowing a reflection or translation, using the appropriatelanguage, and know that the shape has not changed. **(5.5.1)**
 | *Learn, Practise and Revise 5*, pp 56–9, 16 ‘Properties of shape’*Learn, Practise and Revise 5*, pp 60–3, 17 ‘Drawing shapes’*Learn, Practise and Revise 5*, pp 64–7, 18 ‘Reflecting shapes’*Problem Solving and Reasoning 5*, pp 52–3, 5 ‘It’s all reflecting’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 40–3,SpringTests 8 and 9 |

Medium-term plan: spring term 2nd half (cont.) Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.10****NUMBER****SENSE** | 24–25 | *Planning Framework* p50 | **Number and place value*** *read, write, order and compare numbers to at least1 000 000 and determine the value of each digit* **(5.1.c.1)**
* *count forwards or backwards in steps of powers of 10 forany given number up to 1 000 000* **(5.1.a.2)**
* *interpret negative numbers in context, count forwardsand backwards with positive and negative whole numbers including through zero* **(5.1.a.1 5.1.b.3)**
* *round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000* **(5.1.e.1)**
* *solve number problems and practical problems that involve all of the above* **(5.1.d.1)**

**Multiplication and division*** *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**

**Fractions (including decimals and percentages)*** *compare and order fractions whose denominators are allmultiples of the same number* **(5.3.c.1)**
* *recognise mixed numbers and improper fractions andconvert from one form to the other and write mathematical statements >1 as a mixed number [for example, 2∕5 + 4∕5 = 6∕5 = 11∕5]*  **(5.3.b.2 5.3.a.1)**
* *read and write decimal numbers as fractions [for example, 0.71 = 71∕100]* **(5.3.b.4)**
* *recognise and use thousandths and relate them totenths, hundredths and decimal equivalents* **(5.3.a.3 5.3.b.3)**
* *round decimals with two decimal places to the nearestwhole number and to one decimal place* **(5.3.c.4)**
* *read, write, order and compare numbers with up to threedecimal places* **(5.3.c.5)**
* *solve problems involving number up to three decimalplaces* **(5.3.d.2)**

**Measurement*** *convert between different units of measure (e.g.kilometre and metre; metre and centimetre; centimeterand millimetre; kilogram and gram; litre and millilitre)* **(5.1.4)**
* *solve problems involving converting between units oftime.***(5.3.1)**
 | *Problem Solving and Reasoning 5*, pp 56–7, 7 ‘Twenty-three’*Problem Solving and Reasoning 5*, pp 58–9, 8 ‘Tablet problems’*Problem Solving and Reasoning 5*, pp 64–5, 11 ‘Place value guess who’*Fluency With Fractions, Decimals and Percentages 5*, pp 44–5, 19 ‘Linear sequences involving fractions and decimals’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 14–15, ‘Ordering fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 48–9, 21 ‘Solving problems using percentages, decimals and fractions’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 12–13, ‘Recognise equivalent fractions’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 32–3, ‘Ordering numbers to 3 decimal places’ |
| **MENTAL MATHS TESTS** |  | *Mental Maths Tests 5*, pp 44–5,SpringTest 10 |

# Medium-term plan: summer term 1st half Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.11****ADDITIVE REASONING** | 26–28 | *Planning Framework* p51 | **Addition and subtraction*** *add and subtract whole numbers with more than 4 digits,including using formal written methods (columnar addition and subtraction)* **(5.2.e.1)**
* *add and subtract numbers mentally with increasingly large numbers* **(5.2.b.1)**
* *use rounding to check answers to calculations anddetermine, in the context of a problem, levels of accuracy* **(5.2.f.1)**
* *solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why* **(5.2.c.1)**

**Fractions (including decimals and percentages)*** *recognise mixed numbers and improper fractions andconvert from one form to the other and write mathematical statements >1 as a mixed number [for example, 2∕5 + 4∕5 = 6∕5 = 11∕5]* **(5.3.b.2 5.3.a.1)**
* add and subtract fractions with the same denominator and denominators that are multiples of the same number **(5.3.c.2)**
* *solve problems involving number up to three decimalplaces* **(5.3.d.2)**

**Measurement*** *use all four operations to solve problems involvingmeasure [for example, length, mass, volume, money]using decimal notation including scaling***(5.3.3)**
* *solve problems involving converting between units oftime* **(5.3.1)**

**Statistics*** *solve comparison, sum and difference problems usinginformation presented in a line graph* **(5.3.1)**
* *complete, read and interpret information in tables,including timetables.***(5.2.2 5.1.2 5.3.2)**
 | *Fluency With Fractions, Decimals and Percentages 5*, pp 30–1, 12 ‘Adding and subtracting decimals’*Problem Solving and Reasoning 5*, pp 72–3, 15 ‘Fraction pairs’*Fluency With Fractions, Decimals and Percentages 5*, pp 24–5, 9 ‘Adding fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 26–7, 10 ‘Subtracting fractions’*Picture Maths 5*, pp 42–3, 20 ‘The laboratory’*Problem Solving and Reasoning 5*, pp 78–9, 18 ‘Body proportions’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5,* pp 46–9,SummerTests 1 and 2 |
| **5.12** **NUMBER****SENSE** | 29–30 | *Planning Framework* p51 | **Multiplication and division*** *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**

**Fractions (including decimals and percentages)*** *compare and order fractions whose denominators are allmultiples of the same number* **(5.3.c.1)**
* *recognise mixed numbers and improper fractions andconvert from one form to the other and write mathematical statements >1 as a mixed number [for example, 2∕5 + 4∕5 =6∕5 = 11∕5]* **(5.3.b.2 5.3.a.1)**
* *read and write decimal numbers as fractions [for example, 0.71 = 71∕100]* **(5.3.b.4)**
* *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* **(5.3.a.3 5.3.b.3)**
* *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.* **(5.3.a.4 5.3.b.5)**

**Measurement*** *convert between different units of metric measure [forexample, kilometre and metre; centimetre and metre;centimetre and millimetre; gram and kilogram; litre andmillilitre].* **(5.1.4)**
 | *Fluency With Fractions, Decimals and Percentages 5*, pp 28–9, 11 ‘Counting in decimal steps’*Picture Maths 5*, pp 20–1, 9 ‘Big hotdogs’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 40–1, ‘Finding percentages’*Learn, Practise and Revise 5*, pp 22–5, 6 ‘Fractions’*Learn, Practise and Revise 5*, pp 26–9, 7 ‘Calculating with fractions’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 50–5,SummerTests 3, 4 and 5 |

# Medium-term plan: summer term 2nd half Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.13****MULTIPLICATIVE REASONING** | 31–33 | *Planning Framework* p52 | **Multiplication and division*** *identify multiples and factors, including finding all factor pairs, and common factors of two numbers* **(5.2.d.1)**
* *know and use the vocabulary of prime numbers, primefactors and composite (non-prime) numbers* **(5.2.a.4)**
* *establish whether a number up to 100 is prime and recallprime numbers up to 19* **(5.2.a.3 5.2.d.3)**
* *multiply numbers up to 4 digits by a one-* or two-digit*number using a formal written method* including longmultiplication for two-digit numbers **(5.2.e.2)**
* *multiply and divide numbers mentally drawing upon known facts* **(5.2.b.3)**
* *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* **(5.2.e.3)**
* *multiply and divide whole numbers and those involvingdecimals by 10, 100 and 1000* **(5.2.b.4)**
* *recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)* **(5.2.c.3)**
* *solve problems involving multiplication and divisionincluding using their knowledge of factors and multiples,squares and cubes* **(5.2.c.3)**
* *solve problems involving addition, subtraction,multiplication and division and a combination of these,including understanding the meaning of the equals sign* **(5.2.c.2 5.2.a.2)**
* *solve problems involving multiplication and division,including scaling by simple fractions and problemsinvolving simple rates.***(5.2.c.3 5.2.c.4)**

**Fractions (including decimals and percentages)*** *identify, name and write equivalent fractions of a givenfraction, represented visually including tenths andhundredths* **(5.3.b.1)**
* multiply proper fractions and mixed numbers by wholenumbers, supported by materials and diagrams **(5.3.c.3)**
* *solve problems which require knowing percentage anddecimal equivalents of 1∕2 , 1∕4 , 1∕5, 2∕5, 4∕5 and those with adenominator of a multiple of 10 or 25* **(5.3.d.3)**

**Measurement*** *use all four operations to solve problems involvingmeasure [for example, length, mass, volume, money]using decimal notation including scaling* **(5.3.4)**
* understand and use approximate equivalences betweenmetric units and common imperial units such as inches,pounds and pints **(5.1.5)**
* *solve problems involving converting between units of time.***(5.3.1)**
 | *Skills Builders: Times Tables 3*, pp 42–3, ‘Problem solving (7, 9, 11 and 12 times tables)’*Skills Builders: Times Tables 3*, pp 44–5, ‘Problem solving (7, 9, 11 and 12 division facts)’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 42–3, ‘Mixed bag’*Fluency With Fractions, Decimals and Percentages 5*, pp 32–3, 13 ‘Multiplying proper fractions and mixed fractions’*Fluency With Fractions, Decimals and Percentages 5*, pp 34–5, 14 ‘Problems about multiplying fractions’*Skills Builders: Fractions, Decimals and Percentages 5*, pp 22–3, ‘Multiply proper fractions and mixed numbers by whole numbers’*Fluency With Fractions, Decimals and Percentages 5*, pp 36–7, 15 ‘Fractions of amounts and remainders’*Fluency With Fractions, Decimals and Percentages 5*, pp 50–1, 22 ’Solving problems about fractions, decimals and percentages’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 56–9,SummerTests 6 and 7 |

# Medium-term plan: summer term 2nd half (cont.) Year 5

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| **Sequence and Theme** | **Weeks** | **Page** | **Learning objectives**  Pupils should be taught to: | **Notes/Resources/Teaching Activities** |
| **5.14****GEOMETRIC REASONING** | 34–36 | *Planning Framework* p53 | **Geometry: properties of shapes*** *use the properties of rectangles to deduce related factsand find missing lengths and angles* **(5.3.3)**
* *distinguish between regular and irregular polygonsbased on reasoning about equal sides and angles* **(5.2.1)**

**Geometry: position and direction*** *identify, describe and represent the position of a shapefollowing a reflection or translation, using the appropriatelanguage, and know that the shape has not changed* **(5.5.1)**

**Measurement*** measure and calculate the perimeter of compositerectilinear shapes in centimetres and metres **(5.2.4 5.3.5)**
* calculate and compare the area of rectangles (includingsquares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimatethe area of irregular shapes **(5.3.6 5.2.5)**
* estimate volume [for example, using 1 cm3 blocksto build cuboids (including cubes)] and capacity [forexample, using water]. **(5.2.5)**
 | *Learn, Practise and Revise 5*, pp 68–9, 19 ‘Translating shapes’*Problem Solving and Reasoning 5*, pp 74–5, 16 ‘The flood’*Problem Solving and Reasoning 5*, pp 54–5, 6 ‘Meerkat madness’*Picture Maths 5*, pp 30–1, 14 ‘Playground winners’*Learn, Practise and Revise 5*, pp 74–5, 21 ‘Area and perimeter’*Picture Maths 5*, pp 32–3, 15 ‘Sandcastle style’*Learn, Practise and Revise 5*, pp 16–17, 4 ‘Volume’ |
| **MENTAL MATHS TESTS** |  |  | *Mental Maths Tests 5*, pp 60–65,SummerTests 8, 9 and 10 |