# 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 least 1 000 000 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 for any 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 involving decimals 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 nearest whole number and to one decimal place **(5.3.c.4)** * read, write, order and compare numbers with up to three decimal 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 (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) **(5.1.4)** * solve problems involving converting between units of time.**(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 factor pairs of a number, and common factors of two numbers **(5.2.d.1)** * multiply numbers up to 4 digits by a one-digit number using 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 involving decimals by 10, 100 and 1000* **(5.2.b.4)** * solve problems involving multiplication and division including 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 involving measure [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 and compare 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 facts and 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 least 1 000 000 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 for any given number up to 1 000 000* **(5.1.a.2)** * interpret negative numbers in context, count forwards and 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 years written in Roman numerals **(5.1.b.2)**   **Multiplication and division**   * *multiply and divide whole numbers and those involving decimals 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.b.3 5.3.a.3)** * *round decimals with two decimal places to the nearest whole number and to one decimal place* **(5.3.c.4)** * *read, write, order and compare numbers with up to three decimal 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; centimeter and 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 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)**   **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 involving measure [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 using information 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 involving decimals by 10, 100 and 1000* **(5.2.b.4)**   **Fractions (including decimals and percentages**)   * compare and order fractions whose denominators are all multiples of the same number **(5.3.b.6)** * 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, 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 given fraction, represented visually including tenths and hundredths. **(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, prime factors and composite (non-prime) numbers **(5.2.a.4)** * *solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates* **(5.2.c.3)** * establish whether a number up to 100 is prime and recall prime numbers up to 19 **(5.2.a.3 5.2.d.3)** * *multiply numbers up to 4 digits by a one-digit number using 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 involving decimals 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 division including 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 and decimal equivalents of 1∕2 , 1∕4 , 1∕5, 2∕5, 4∕5 and those with a denominator of a multiple of 10 or 25 **(5.3.b.6 5.3.d.3)**   **Measurement**   * *use all four operations to solve problems involving measure [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 and compare 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 facts and 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)**   **Geometry: position and direction**   * identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, 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 least 1 000 000 and determine the value of each digit* **(5.1.c.1)** * *count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* **(5.1.a.2)** * *interpret negative numbers in context, count forwards and 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 involving decimals by 10, 100 and 1000* **(5.2.b.4)**   **Fractions (including decimals and percentages)**   * *compare and order fractions whose denominators are all multiples of the same number* **(5.3.c.1)** * *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, 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)** * *round decimals with two decimal places to the nearest whole number and to one decimal place* **(5.3.c.4)** * *read, write, order and compare numbers with up to three decimal 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; centimeter and millimetre; kilogram and gram; litre and millilitre)* **(5.1.4)** * *solve problems involving converting between units of time.***(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 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)**   **Fractions (including decimals and percentages)**   * *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, 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 decimal places* **(5.3.d.2)**   **Measurement**   * *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling***(5.3.3)** * *solve problems involving converting between units of time* **(5.3.1)**   **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.***(5.2.2 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 involving decimals by 10, 100 and 1000* **(5.2.b.4)**   **Fractions (including decimals and percentages)**   * *compare and order fractions whose denominators are all multiples of the same number* **(5.3.c.1)** * *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, 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 [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre].* **(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, prime factors and composite (non-prime) numbers* **(5.2.a.4)** * *establish whether a number up to 100 is prime and recall prime 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 long multiplication 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 involving decimals 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 division including 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 problems involving simple rates.***(5.2.c.3 5.2.c.4)**   **Fractions (including decimals and percentages)**   * *identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths* **(5.3.b.1)** * multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams **(5.3.c.3)** * *solve problems which require knowing percentage and decimal equivalents of 1∕2 , 1∕4 , 1∕5, 2∕5, 4∕5 and those with a denominator of a multiple of 10 or 25* **(5.3.d.3)**   **Measurement**   * *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling* **(5.3.4)** * understand and use approximate equivalences between metric 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 facts and 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)**   **Geometry: position and direction**   * *identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed* **(5.5.1)**   **Measurement**   * measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres **(5.2.4 5.3.5)** * calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes **(5.3.6 5.2.5)** * estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, 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 |