**Maths Coverage**

**Year 6 2022-2023**

AUTUMN Term

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|  | **Term 1** | **Term 2** |
|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** |
| **NC Focus** | **Number: Place value** | **Number: Addition, Subtraction, Multiplication and Division** | **Fractions A** | **Fractions B** | **Converting Units** |
| **NC Objectives** | * Read, write, order and compare numbers up to 10.000.000 and determine the value of each digit.
* Round any whole number to a required degree of accuracy.
* Use negative numbers in context, and calculate intervals across zero.
* Solve number and practical problems that involve the above.
 | * Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
* Multiply multi-digit number up to 4-digits by a 2-digit number using the formal written method of long multiplication.
* Divide numbers up to 4-digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context.
* Divide numbers up to 4-digits by a 2-digit number using the formal written method of short division, interpreting remainders according to context.
* Perform mental calculations, including with mixed operations and large numbers.
* Identify common factors, common multiples and prime numbers.
* Use their knowledge of the order of operations to carry out calculations involving the four operations.
* Solve problems involving addition, subtraction, multiplication and division.
* Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.
 | * Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
* Compare and order fractions, including fractions > 1.
* Generate and describe linear number sequences (with fractions).
* Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.
 | * Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example ¼ x ½ = 1/8 ]
* Divide proper fractions by whole numbers.
* Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
 | * Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
* Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3dp.

Convert between miles and kilometres* .
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| **Ready To Progress Criteria** | * 6NPV–2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.
* 6NPV–3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.
 | * 6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
* 6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
* 6AS/MD–1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
* 6AS/MD–2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
 | * 6F–1 Recognise when fractions can be simplified, and use common factors to simplify fractions.
* 6F–2 Express fractions in a common denomination and use this to compare fractions that are similar in value.
* 6F–3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.
 | * 6F–1 Recognise when fractions can be simplified, and use common factors to simplify fractions.
* 6F–2 Express fractions in a common denomination and use this to compare fractions that are similar in value.
 | 6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).  |
| **White Rose Small Steps** | Step 1 Numbers to 1,000,000Step 2 Numbers to 10,000,000Step 3 Read and write numbers to 10,000,000Step 4 Powers of 10Step 5 Number line to 10,000,000Step 6 Compare and order any integersStep 7 Round any integerStep 8 Negative numbers | Step 1 Add and subtract integersStep 2 Common factorsStep 3 Common multiplesStep 4 Rules of divisibilityStep 5 Primes to 100Step 6 Square and cube numbersStep 7 Multiply up to a 4-digit number by a 2-digit numberStep 8 Solve problems with multiplicationStep 9 Short divisionStep 10 Division using factorsStep 11 Introduction to long divisionStep 12 Long division with remaindersStep 13 Solve problems with divisionStep 14 Solve multi-step problemsStep 15 Order of operationsStep 16 Mental calculations and estimationStep 17 Reason from known facts | Step 1 Equivalent fractions and simplifyingStep 2 Equivalent fractions on a number lineStep 3 Compare and order (denominator)Step 4 Compare and order (numerator)Step 5 Add and subtract simple fractionsStep 6 Add and subtract any two fractionsStep 7 Add mixed numbersStep 8 Subtract mixed numbersStep 9 Multi-step problems | Step 1 Multiply fractions by integersStep 2 Multiply fractions by fractionsStep 3 Divide a fraction by an integerStep 4 Divide any fraction by an integerStep 5 Mixed questions with fractionsStep 6 Fraction of an amountStep 7 Fraction of an amount – find the whole | Step 1 Metric measuresStep 2 Convert metric measuresStep 3 Calculate with metric measuresStep 4 Miles and kilometresStep 5 Imperial measures |  |
| **Yr 5 Revisit**(potential gaps in learning from previous year)  |  |  |  |  |  |  |
| **Consolidation Required**(based on End of Block Assessments) |  |  |  |  |  |  |

**Maths Coverage**

**Year 6 2022-2023**

SPRING Term

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|  | **Term 3** | **Term 4** |
|  | **Week 1****(4 days)** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| **NC Focus** | Ratio | **Algebra**  | **Decimals** | **Fractions, Decimals and Percentages** | **Area Perimeter, Volume** | **Statistics** | **Shape** |
| **NC Objectives** | * Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
* Solve problems involving similar shapes where the scale factor is known or can be found.
* Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
 | * Use simple formulae
* Generate and describe linear number sequences.
* Express missing number problems algebraically
* Find pairs of numbers that satisfy an equation with two unknowns.
* Enumerate possibilities of combinations of two variables.
 | * Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1000, giving answers up to 3 decimal places.
* Multiply one-digit numbers with up to 2 decimal places by whole numbers.
* Use written division methods in cases where the answer has up to 2 decimal places.
* Solve problems which require answers to be rounded to specified degrees of accuracy.
 | * Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.
* Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.
 | * Recognise that shapes with the same areas can have different perimeters and vice versa.
* Recognise when it is possible to use formulae for area and volume of shapes.
* Calculate the area of parallelograms and triangles.
* Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3)
* .
 | * Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
* Interpret and construct pie charts and line graphs and use these to solve problems.
* Calculate the mean as an average
 | * Draw 2-D shapes using given dimensions and angles.
* Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.
* Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
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| **Ready to Progress Criteria** | * 6AS/MD–3 Solve problems involving ratio relationships
 | * 6AS/MD–4 Solve problems with 2 unknowns.
 | * 6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000
* 6NPV–2 Recognise the place value of each digit in numbers up to 10 million**, including decimal fractions**, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.
* 6NPV–3 Reason about the location of any number up to 10 million, **including decimal fractions**, in the linear number system, and round numbers, as appropriate, including in contexts.
 |  | * 6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000
* 6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
 |  | * . 6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems
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| **White Rose Small Steps** | Step 1 Add or multiply?Step 2 Use ratio languageStep 3 Introduction to the ratio symbolStep 4 Ratio and fractionsStep 5 Scale drawingStep 6 Use scale factorsStep 7 Similar shapesStep 8 Ratio problemsStep 9 Proportion problemsStep 10 Recipes | Step 1 1-step function machinesStep 2 2-step function machinesStep 3 Form expressionsdownloadStep 4 SubstitutiondownloadStep 5 FormulaeStep 6 Form equationsStep 7 Solve 1-step equationsStep 8 Solve 2-step equationsStep 9 Find pairs of valuesStep 10 Solve problems with two unknowns | Step 1 Place value within 1Step 2 Place value – integers and decimalsStep 3 Round decimalsStep 4 Add and subtract decimalsStep 5 Multiply by 10, 100 and 1,000Step 6 Divide by 10, 100 and 1,000Step 7 Multiply decimals by integersStep 8 Divide decimals by integersStep 9 Multiply and divide decimals in context | Step 1 Decimal and fraction equivalentsStep 2 Fractions as divisionStep 3 Understand percentagesStep 4 Fractions to percentagesStep 5 Equivalent fractions, decimals and percentagesStep 6 Order fractions, decimals and percentagesStep 7 Percentage of an amount – one stepStep 8 Percentage of an amount – multi-stepStep 9 Percentages – missing values | Step 1 Shapes - same areaStep 2 Area and perimeterStep 3 Area of a triangle – counting squaresStep 4 Area of a right-angled triangleStep 5 Area of any triangleStep 6 Area of a parallelogramStep 7 Volume - counting cubesStep 8 Volume of a cuboid | Step 1 Line graphsStep 2 Dual bar chartsStep 3 Read and interpret pie chartsStep 4 Pie charts with percentagesStep 5 Draw pie chartsStep 6 The mean | * Measure with a protractor.
* Introduce angles.
* Calculate angles.
* Vertically opposite angles.
* Angles in a triangle.
* Angles in a triangle – special cases.
* Angles in a triangle – missing angles.
* Angles in special quadrilaterals.
* Angles in regular polygons.
* Draw shapes accurately.

Nets of 3D shapes. |
| **Yr 5 Revisit**(potential gaps in learning from previous year)  |  |  |  |  |  |  |
| **Consolidation Required**(based on End of Block Assessments) |  |  |  |  |  |  |

**Maths Coverage**

**Year 6 2021-2022**

SUMMER Term

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|  | **Term 5** | **Term 6** |
|  | **Week 1****(4 days)** | **Week 2** | **Week 3****(4 days)** | **Week 4****SATS WEEK** | **Week 5****Residential** | **Week 6** | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7****(3 days)** |
| **NC Focus** | **Geometry: Properties of Shapes** | **Geometry: Position and Direction** |  |  | **Consolidation and themed investigations** |
| **NC Objectives** | * Draw 2-D shapes using given dimensions and angles.
* Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.
* Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
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| **Ready to Progress Criteria** | * 6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
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| **White Rose Small Steps** | * Measure with a protractor.
* Introduce angles.
* Calculate angles.
* Vertically opposite angles.
* Angles in a triangle.
* Angles in a triangle – special cases.
* Angles in a triangle – missing angles.
* Angles in special quadrilaterals.
* Angles in regular polygons.
* Draw shapes accurately.
* Nets of 3D shapes.
 | * Coordinates in the first quadrant.
* Coordinate in four quadrants.
* Translations
* Reflections.
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| **Yr 5 Revisit**(potential gaps in learning from previous year)  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Consolidation Required**(based on End of Block Assessments) |  |  |  |  |  |  |  |  |  |  |  |