

Maths KS3 Curriculum Map 26-27  
KS3 Topic Areas

|               | Number                                              | Algebra                                         | Geometry and Measures                         | Ratio and Proportion                    | Statistics and Probability                                                                                  |
|---------------|-----------------------------------------------------|-------------------------------------------------|-----------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Year 7</b> | Place value and proportion<br>(Autumn 2)            | Algebraic thinking<br>(Autumn 1)                | Lines and angles<br>(Summer 1)                |                                         |                                                                                                             |
|               | Applications of number<br>(Spring 1)                |                                                 |                                               |                                         |                                                                                                             |
|               | Directed number / Fractional thinking<br>(Spring 2) |                                                 |                                               |                                         |                                                                                                             |
|               | Reasoning with number<br>(Summer 2)                 |                                                 |                                               |                                         |                                                                                                             |
| <b>Year 8</b> | Developing number<br>(Spring 2)                     | Representations - Cartesian plane<br>(Autumn 2) | Developing geometry<br>(Summer 1)             | Proportional reasoning<br>(Autumn 1)    | Representations - Data and probability<br>(Autumn 2)                                                        |
|               |                                                     | Algebraic techniques<br>(Spring 1)              |                                               |                                         | Reasoning with data<br>(Summer 2)                                                                           |
| <b>Year 9</b> | Reasoning with number<br>(Spring 1)                 | Reasoning with algebra<br>(Autumn 1)            | Construct in 2 and 3 dimensions<br>(Autumn 2) | Reasoning with proportion<br>(Summer 1) | Probability<br>(Summer 2)                                                                                   |
|               |                                                     | Algebraic representation<br>(Summer 2)          | Reasoning with geometry<br>(Spring 2)         |                                         | End of year review averages and data from<br>y8 / nth term of a linear sequence / lower<br>and upper bounds |

|        |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year 7 | <b>Autumn Term 1</b><br><b>Baseline and introduction to algebra</b>                                                                                                                                                                                                                                                                                                                                      | <b>Autumn Term 2</b><br><b>Place value and proportion</b>                                                                                                                                                                                                                                                          | <b>Spring Term 1</b><br><b>Applications of number</b>                                                                                                                                   | <b>Spring Term 2</b><br><b>Directed number and fractions</b>                                                                                                                                                                                    | <b>Summer Term 1</b><br><b>Lines and angles</b>                                                                                                                                                                                                                                                                                                                                   | <b>Summer Term 2</b><br><b>Reasoning with number</b>                                                                                                                                                                                                                                     |
|        | <b>New Learning Topic Overview</b><br>Year 7 pupils don't start at ACE.<br>If starting this half term pupils will recap and develop number sequences and missing number sentences before starting key number units after half term.                                                                                                                                                                      | <b>New Learning Topic Overview</b><br>*Recognise key place values of integers and decimals<br>*Compare and order integers (whole numbers) and decimals<br>*Understand and convert between key fractions, decimals and percentages                                                                                  | <b>New Learning Topic Overview</b><br>*Apply the four operations to problems such as financial maths, area and perimeter (integers and decimals)                                        | <b>New Learning Topic Overview</b><br>*Calculations that cross zero and the four operations with negative numbers<br>*Algebraic notation<br>*Express, order and equivalence of any fractions<br>*First steps with four operations and fractions | <b>New Learning Topic Overview</b><br>*Classify angles<br>*Draw and measure angles<br>*Name and construct triangles<br>*Understand and use basic angles facts around a point and in triangles<br><b>Due to the variable nature of when year 7 pupils join ACE this block can be incorporated into the year 8 geometry work to allow more teaching time for key number skills.</b> | <b>New Learning Topic Overview</b><br>*Mental calculation strategies (incl decimals, fractions, powers and roots)<br>*Record, describe and analyse outcomes of simple probability experiments<br>*Use probability scale and language<br>*Understand prime numbers, factors and multiples |
|        | <b>Mathematical</b> <b>Keywords</b><br><br>Place value/digit<br>Integer / decimal<br>Million / billion<br>Interval / scale<br>Round<br>Compare                                                                                                                                                                                                                                                           | <b>Mathematical</b> <b>Keywords</b><br>Fraction<br>Numerator / denominator<br>Percentage<br>Equivalent<br>Quarter / fifth / tenth / hundredth                                                                                                                                                                      | <b>Mathematical</b> <b>Keywords</b><br>Sum / Total<br>Difference<br>Inverse<br>Commutative<br>Placeholder<br>Carrying                                                                   | <b>Mathematical</b> <b>Keywords</b><br>Positive/negative<br>Symmetrical<br>Greater/less than<br>Minus<br>Equal parts<br>Notation                                                                                                                | <b>Mathematical</b> <b>Keywords</b><br>Line segment<br>Point<br>Angle / degrees<br>Protractor<br>Rotation<br>Acute/right/obtuse/reflex angles                                                                                                                                                                                                                                     | <b>Mathematical</b> <b>Keywords</b><br>Polygon<br>Construct<br>Pair of compasses<br>Equilateral/isosceles/right angled/scalene triangles<br>Associative<br>Commutative<br>Estimate<br>Set<br>Element / member<br>Venn diagram                                                            |
|        | <b>Prior learning and recall</b><br><br>*Times tables<br>*Read, write, compare and order numbers to 10,000,000<br>*Read numbers to 3 decimal places<br>*Calculate number intervals<br>*Round whole numbers<br>*Write equivalent fractions<br>*Recall and use simple equivalent fractions, decimals and percentages                                                                                       | <b>Prior learning and recall</b><br><br>*Times tables<br>*Read, write, compare and order numbers to 10,000,000<br>*Read numbers to 3 decimal places<br>*Calculate number intervals<br>*Round whole numbers<br>*Write equivalent fractions<br>*Recall and use simple equivalent fractions, decimals and percentages | <b>Prior learning and recall</b><br><br>*Number bonds<br>*Formal methods of the four operations (whole numbers)<br>*Place value<br>*Factors and multiples<br>*Perimeter / area<br>*Mean | <b>Prior learning and recall</b><br><br>*Builds on Autumn term<br>*Number line (including negatives)<br>*Order of operations<br>*Express missing number problems algebraically<br>*Key fractions, decimals and percentages                      | <b>Prior learning and recall</b><br><br>*Use of rulers and protractors to measure<br>*Addition and subtraction (incl. decimals)<br>*Recognise basic 2D shapes<br>*Forming and solving linear equations                                                                                                                                                                            | <b>Prior learning and recall</b><br><br>*Place value (integers)<br>*Order of operations<br>*Recognise number sequences<br>*FDP equivalence<br>*Add and subtract fractions<br>*Understand factors and multiples                                                                           |
|        | <b>A brief overview</b>                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | In year 7 students follow topics from the National Curriculum. Relevant, key learning from KS2 is revisited and built upon in year 7 developing more complex number and problem solving skills linking to other areas of the secondary curriculum such as algebra, median, range, bar charts, pie charts, perimeter, money, area and mean.                                                               |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | These skills will be revisited and built upon in subsequent years enabling pupils joining mid KS3 or pupils with long previous learning gaps to catch up by topic area in a structured way. Topics are introduced throughout the year linked to core skills to aid depth of understanding. This gives pupils key foundations with which to progress through KS3.                                         |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | In year 7 each class follows the same topics per half term with support or depth and extension given to pupils were appropriate.                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | <b>Key Assessments</b>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | Following a baseline assessment as the pupils join ACE topic quizzes, consolidation activities and key word exercises take place throughout year 7. Prior knowledge is checked and developed and maths specific and command vocabulary are introduced in the relevant lessons.                                                                                                                           |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | At the end of each term key skills from prior and new knowledge relevant to the topics covered that half term is revised and assessed.                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | Assessments and classwork is marked by the class teacher and detailed feedback given to pupils highlighting areas of strength and weakness. Pupils also review their own work and are involved in setting their own targets so that pupils can understand and acquire the relevant skills to progress into year 8.                                                                                       |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | <b>Useful Websites</b>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |
|        | MyMaths - <a href="https://www.mymaths.co.uk/">https://www.mymaths.co.uk/</a><br>(Passwords are available for MyMaths.)<br>Corbett Maths - <a href="https://corbettmaths.com/">https://corbettmaths.com/</a><br>Maths Genie - <a href="https://www.mathsgenie.co.uk/">https://www.mathsgenie.co.uk/</a><br>Oak Academy - <a href="https://www.thenational.academy/">https://www.thenational.academy/</a> |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                          |

| Year 8                                                                                                                                                                                                                                                                                                                                                                                                   | Autumn Term 1<br>Proportional reasoning                                                                                                                                                                                                                                                                                                                                                                                    | Autumn Term 2<br>Representations                                                                                                                                                                                                                          | Spring Term 1<br>Algebraic techniques                                                                                                                                                                                                                              | Spring Term 2<br>Developing number                                                                                                                                                                                                                                                                                                                                                                   | Summer Term 1<br>Developing geometry                                                                                                                                                                                                                                                                      | Summer Term 2<br>Reasoning with data                                                                                                                                                                                                                                                   |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                          | <b><u>New Learning Topic Overview</u></b><br>*Understand and use ratio notation<br>*Simplify ratio<br>*Understand and graph direct proportion<br>*Multiply and divide fractions                                                                                                                                                                                                                                            | <b><u>New Learning Topic Overview</u></b><br>*Coordinates in all four quadrants<br>*Recognise and use simple equations of lines<br>*Draw and interpret scatter graphs<br>*Read and interpret frequency tables<br>*Find probabilities from data and tables | <b><u>New Learning Topic Overview</u></b><br>*Expand a single bracket<br>*Collect like terms<br>*Solving equations with brackets<br>*Generate terms of a sequence from term-to-term and position-to-term rules<br>*Simplify algebraic expressions involving powers | <b><u>New Learning Topic Overview</u></b><br>*Use percentage and decimal equivalence to calculate percentage increase and decrease<br>*Express one number as a fraction and percentage of another<br>*Understand and calculate profit, loss and interest<br>*Work with numbers in standard form<br>*Multiply and divide by 10,100 and 1000<br>*Round numbers (decimal places or significant figures) | <b><u>New Learning Topic Overview</u></b><br>*Understand and use angles in parallel lines rules<br>*Extend angles in a triangle to deriving and using angles in any polygon<br>*Angle and line notation in shapes<br>*Calculate perimeter and area of 2-D shapes including circles<br>*Reflect 2-D shapes | <b><u>New Learning Topic Overview</u></b><br>*Data handling cycle<br>*Use charts to compare distributions<br>*Analyse graphs<br>*Construct and interpret pie charts<br>*Calculate and use measures of average (median, mean and mode)<br>*Calculate and use measures of spread (range) |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | <b><u>Mathematical</u></b><br>Ratio<br>Factors<br>Proportion<br>Scale factor<br>Exchange rate<br>Fraction                                                                                                                                                                                                                                                                                                                  | <b><u>Keywords</u></b><br>Numerator/denominator<br>Linear/<br>non-linear<br>Unit fraction<br>Reciprocal                                                                                                                                                   | <b><u>Mathematical</u></b><br>Coordinates<br>Axis/axes<br>Parallel<br>Equation<br>Integer                                                                                                                                                                          | <b><u>Keywords</u></b><br>Sum<br>Product<br>Probability<br>Outcomes<br>Chance                                                                                                                                                                                                                                                                                                                        | <b><u>Mathematical</u></b><br>Expression<br>Equation<br>Inequality<br>Term / like terms<br>Substitute                                                                                                                                                                                                     | <b><u>Keywords</u></b><br>Expand<br>Sequence<br>Difference<br>Index/Indices<br>Power                                                                                                                                                                                                   | <b><u>Mathematical</u></b><br>Decimal<br>Percentage<br>Estimate<br>Tenth<br>Hundreth | <b><u>Keywords</u></b><br>Multiplier<br>Base<br>Kilo<br>Milli<br>Centi | <b><u>Mathematical</u></b><br>Angle<br>Acute/right/obtuse/reflex<br>Vertically opposite<br>Angles at a point<br>Regular | <b><u>Keywords</u></b><br>Polygon<br>Area<br>Compound<br>Vertical/horizontal<br>Reflect | <b><u>Mathematical</u></b><br>Primary/secondary data<br>Sample<br>Biased<br>Frequency<br>Tally | <b><u>Keywords</u></b><br>Graph scale<br>Range<br>Average<br>Mean/median/mode<br>Outlier |
|                                                                                                                                                                                                                                                                                                                                                                                                          | <b><u>Prior learning and recall</u></b><br>*Understand fractions<br>*Add and subtract fractions<br>*Understand the coordinate plane                                                                                                                                                                                                                                                                                        | <b><u>Prior learning and recall</u></b><br>*Understand and use algebraic notation<br>*Understand the coordinate plane<br>*Probability from data<br>*Sample spaces<br>*Venn diagrams                                                                       | <b><u>Prior learning and recall</u></b><br>*Understand algebraic notation<br>*Understand and solve algebraic equations<br>*Recognise number sequences<br>*Powers of numbers                                                                                        | <b><u>Prior learning and recall</u></b><br>*Understand per cent as 'number of parts per hundred'<br>*Fraction, decimal and percentage equivalence<br>*Understand powers of numbers<br>*Basic rounding of numbers                                                                                                                                                                                     | <b><u>Prior learning and recall</u></b><br>*Understand and classify angles<br>*Addition and subtraction (incl. decimals)<br>*Apply angle rules around a point and in triangles<br>*Perimeter and area of rectangles and triangles<br>*Principle of reflection                                             | <b><u>Prior learning and recall</u></b><br>*Construct and interpret tally and frequency tables, bar charts and pictograms<br>*Construct and interpret basic pie charts<br>*Calculate mean and median from a list                                                                       |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | A brief overview                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | In year 8 students follow topics from the National Curriculum. Relevant, key learning from KS2 and year 7 is revisited and built upon in year 8 developing more complex number, algebra and geometry problem solving skills and developing analytical skills with data for the first time building on KS2. Ratio and proportion is also introduced for the first time building on key principles of scale explored in KS2. |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | These skills will be revisited and built upon in subsequent years enabling pupils joining mid KS3 or pupils with long previous learning gaps to catch up by topic area in a structured way. Topics are introduced throughout the year linked to core skills to aid depth of understanding. This gives pupils key foundations with which to progress through KS3.                                                           |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | In year 8 each class follows the same topics per half term with support or depth and extension given to pupils were appropriate.                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | Key Assessments                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                          | Topic quizzes, consolidation activities and key word exercises take place throughout year 8. Prior knowledge is checked and developed and maths specific and command vocabulary are introduced in the relevant lessons.                                                                                                                                                                                                    |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
| At the end of each term key skills from prior and new knowledge relevant to the topics covered that half term is revised and assessed.                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
| Assessments and classwork is marked by the class teacher and detailed feedback given to pupils highlighting areas of strength and weakness. Pupils also review their own work and are involved in setting their own targets so that pupils can understand and acquire the relevant skills to progress into year 9.                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
| Useful Websites                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |
| MyMaths - <a href="https://www.mymaths.co.uk/">https://www.mymaths.co.uk/</a><br>(Passwords are available for MyMaths.)<br>Corbett Maths - <a href="https://corbettmaths.com/">https://corbettmaths.com/</a><br>Maths Genie - <a href="https://www.mathsgenie.co.uk/">https://www.mathsgenie.co.uk/</a><br>Oak Academy - <a href="https://www.thenational.academy/">https://www.thenational.academy/</a> |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                                                                                      |                                                                        |                                                                                                                         |                                                                                         |                                                                                                |                                                                                          |

Year 9

| Autumn Term 1<br>Number Properties<br>Percentages<br>Geometry                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                  |                                                                                                                                                                         |                                                                                 | Autumn Term 2<br>Equations and Inequalities<br>Fractions<br>Rates                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                          |                                                                                                  | Spring Term 1<br>Reasoning with number                                                                                                                                        | Spring Term 2<br>Reasoning with geometry                                                   | Summer Term 1<br>Reasoning with proportion                                                                        | Summer Term 2<br>Probability / algebraic representation                                                                     |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>New Learning Topic Overview</b><br>*Factors<br>*Primes<br>*Highest Common Factor<br>*Lowest Common Multiple<br>*Product of Prime Factors                                                                                                                                                                                                                                                                                                    |                                                                                  | <b>New Learning Topic Overview</b><br>*FDP<br>*Percentages of amounts<br>*Percentage increase/decrease<br>*Find the original value<br>*Express as a percent of original |                                                                                 | <b>New Learning Topic Overview</b><br>*3D Solids<br>*Faces, edges and vertices<br>*Nets of cubes<br>*Nets of other 3D solids<br>*Area of 2D shapes<br>*Area of compound shapes<br>*Surface area cubes and cuboids |                                                                                                      | <b>New Learning Topic Overview</b><br>*Solve one-step equations<br>*Solve two-step equations<br>*Understand inequalities<br>*Solve one-step inequalities<br>*Solve two-step inequalities |                                                                                                  | <b>New Learning Topic Overview</b><br>*Add and subtract fractions (different denominators)<br>*Multiply using fractions<br>*Divide using fractions                            |                                                                                            | <b>New Learning Topic Overview</b><br>*Speed, distance, time<br>*Read distance/time<br>*Draw distance/time graphs |                                                                                                                             | <b>New Learning Topic Overview</b><br>*Chains of reasoning with angle facts<br>*Rotating and translating shapes<br>*Pythagoras' Theorem                                                                                                                                               |                                                                                               | <b>New Learning Topic Overview</b><br>*Enlargement of shapes<br>*Similar shapes<br>*Solving ratio and proportion problems<br>*Rates of change (speed and density)  |  | <b>New Learning Topic Overview</b><br>*Relative frequency and expected outcomes<br>*Probability of independent events<br>*Quadratic and reciprocal graphs from tables<br>*Represent inequalities |  |                                                                                                                                                                           |  |
| <b>Mathematical</b><br>Factor<br>Multiples<br>Primes<br>HCF<br>LCM<br>Product<br>Composite                                                                                                                                                                                                                                                                                                                                                     | <b>Keywords</b><br>Percent<br>Fraction<br>Profit<br>Sale<br>Increase<br>Decrease | <b>Mathematical</b><br>Percent<br>Fraction<br>Decimal<br>Profit/Loss<br>Increase<br>Decrease                                                                            | <b>Keywords</b><br>Dimensions<br>Face<br>Edge<br>Vertex<br>Net<br>Perpendicular | <b>Mathematical</b><br>Cross-section<br>Prism<br>Compound<br>Acute/Obtuse/<br>Reflex/Right<br>Scale Factor                                                                                                        | <b>Mathematical</b><br>variable term<br>equals<br>equation<br>constant<br>inequality<br>greater than | <b>Keywords</b><br>*Fraction<br>*Numerator<br>*Denominator<br>*Simplify<br>*Proper<br>*Improper                                                                                          | <b>Mathematical</b><br>speed<br>distance<br>time<br>rates of change<br>axes<br>metres<br>seconds | <b>Keywords</b><br>*Alternate angle<br>*Corresponding angle<br>*Co-interior angle<br>*Interior angle<br>*Exterior angle                                                       | <b>Mathematical</b><br>Polygon<br>Regular / Irregular<br>Rotate<br>Translate<br>Hypotenuse | <b>Keywords</b><br>Similar<br>Ratio<br>Enlargement<br>Linear<br>Non-linear<br>Proportion                          | <b>Mathematical</b><br>Inverse Proportion<br>Speed / Distance / Time<br>Average speed<br>Density / Mass / Volume<br>Convert | <b>Keywords</b><br>Event<br>Outcome<br>Probability<br>Equally Likely<br>Biased / Unbiased                                                                                                                                                                                             | <b>Keywords</b><br>Fair<br>Relative Frequency<br>Independent<br>Quadratic<br>Solve / Solution |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| <b>Prior learning and recall</b><br>*Factors, multiples and primes<br>*Times tables<br>*Dividing<br>*Multiplication                                                                                                                                                                                                                                                                                                                            |                                                                                  | <b>Prior learning and recall</b><br>*Place value<br>*Addition<br>*Subtraction<br>*Multiplication by 10, 100, 1000<br>*Division by 10, 100, 1000                         |                                                                                 | <b>Prior learning and recall</b><br>*2D shape names<br>*Area by counting<br>*Multiplication<br>*Division by 2                                                                                                     |                                                                                                      | <b>Prior learning and recall</b><br>*collect like terms<br>*expand brackets<br>*inequalities with numbers<br>*addition<br>*subtraction<br>*multiplication<br>*division                   |                                                                                                  | <b>Prior learning and recall</b><br>*add and subtract fractions with the same denominator<br>*Addition<br>*Subtraction<br>*Shading fraction of a shape<br>*Simplify fractions |                                                                                            | <b>Prior learning and recall</b><br>*division<br>*multiplication<br>*solve one step equations                     |                                                                                                                             | <b>Prior learning and recall</b><br>*Directed numbers<br>*Factors, multiples and primes<br>*Adding / subtracting fractions<br>*Multiplying / dividing fractions<br>*Standard form<br>*Fractions, decimals and percentage equivalence<br>*Percentages of amounts and percentage change |                                                                                               | <b>Prior learning and recall</b><br>*Angle facts<br>*Angles in parallel lines<br>*Angles in polygons<br>*Line symmetry and reflection<br>*Squares and square roots |  | <b>Prior learning and recall</b><br>*Direct proportion and conversion graphs<br>*Scale drawing<br>*Solve ratio problems given whole or part                                                      |  | <b>Prior learning and recall</b><br>*Single event probability<br>*Four operations (+ - × ÷) with fractions, decimals and percentages<br>*Venn diagrams<br>*Two-way tables |  |
| A brief overview                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| In year 9 students follow topics from the National Curriculum. Relevant, key learning from KS2 and years 7 / 8 is revisited and built upon in year 9 developing the pupils reasoning skills and adding new skills largely relating to shapes.                                                                                                                                                                                                  |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| By the end of year 9 we would like students to have a deeper understanding of the above prior learning and be introduced to new key topics such as Pythagoras' Theorem, more complex equations to solve and rearrange, equation of a line, volume and surface area of 3D shapes, constructing shapes and scale drawings, problem solving skills and the concepts of enlargement, similarity and ratio laying the foundations for Trigonometry. |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| This approach enables pupils joining mid KS3 or pupils with long previous learning gaps to catch up by topic area in a structured way. Time is given at the end of year 9 to revise these knowledge gaps and revise year 7 and 8 data representation and averages and range which is not explicitly covered in year 9. This gives pupils key foundations with which to progress to KS4.                                                        |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| In year 9 each class follows the same topics per half term with support or depth and extension given to pupils were appropriate.                                                                                                                                                                                                                                                                                                               |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| Key Assessments                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| Topic quizzes, consolidation activities and key word exercises take place throughout year 9. Prior knowledge is checked and developed and maths specific and command vocabulary are introduced in the relevant lessons.                                                                                                                                                                                                                        |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| At the end of each term key skills from prior and new knowledge relevant to the topics covered that half term is revised and assessed.                                                                                                                                                                                                                                                                                                         |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| Assessments and classwork is marked by the class teacher and detailed feedback given to pupils highlighting areas of strength and weakness. Pupils also review their own work and are involved in setting their own targets so that pupils can understand and acquire the relevant skills to progress into KS4.                                                                                                                                |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| Useful Websites                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |
| Corbett Maths - <a href="https://corbettmaths.com/">https://corbettmaths.com/</a><br>Maths Genie - <a href="https://www.mathsgenie.co.uk/">https://www.mathsgenie.co.uk/</a><br>Oak Academy - <a href="https://www.thenational.academy/">https://www.thenational.academy/</a>                                                                                                                                                                  |                                                                                  |                                                                                                                                                                         |                                                                                 |                                                                                                                                                                                                                   |                                                                                                      |                                                                                                                                                                                          |                                                                                                  |                                                                                                                                                                               |                                                                                            |                                                                                                                   |                                                                                                                             |                                                                                                                                                                                                                                                                                       |                                                                                               |                                                                                                                                                                    |  |                                                                                                                                                                                                  |  |                                                                                                                                                                           |  |