|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year 7 | Autumn 1  | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|  | Number  | Algebra  | Geometry  | Ratio and Proportion  | Probability and Statistics  |
| Topics  | * Standard column procedures
* 4 rules of number extending to fractions and decimals
* Order of operations
* Factors, multiples, primes
* Convert between fractions, decimals and percentages.
* Rounding and estimation
 | * Collecting like terms
* Forming and simplifying expressions
* Expand single brackets and factorise
* Solve simple linear equations
* Recognise, generate and extend sequences and graphs
 | * Recall basic angle

facts* Use a protractor
* Convert standard units of measurement
* Find perimeter and area of 2D shapes
 | * Understand ratio and equivalence
* Simplify ratio and divide in a quantity
* Construct scale drawings
* Calculate

proportional amounts | * Construct and interpret charts and graphs
* Find averages and range

of data sets* Use two way tables and Venn Diagrams
 |
| Application  | * Word problems
* Functional problems
* Real life context
* Money
 | * Use formulae in a variety of contexts e.g. perimeter and area
* Solve worded problems using algebra
* Apply sequences in real life contexts
* Make connections between sequences and graphs
 | * Problem solve with area and perimeter
* Apply area and perimeter knowledge in context
* Investigate angles in regular polygons and parallel lines
 | * Use bearings with

scale* Ratio in context e.g.

money* Interpret map/model scales
* Use ratio within

other contexts e.g. angle problems | * Construct charts and

graphs based on real life data* Extend knowledge of averages and range to grouped frequency tables
* Explain when and why it

is appropriate to use each average* Compare sets of data
 |

Assessment: There are in-class termly assessments consisting of past exam questions on topics studied. Students are also informally assessed using their written class work/homework and verbal comments during lessons.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year 8 | Autumn 1  | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|  | Number  | Algebra  | Geometry  | Ratio and Proportion  | Probability and Statistics  |
| Topics | * Standard column procedures
* 4 rules of number including fractions and decimals
* Order of operations
* Prime factors, Highest Common Factor, Lowest Common Multiple
* Convert between fractions, decimals and percentages.
* Increase/decrease a percentage and find a percentage of an amount
* Rounding to decimal places and significant figures
 | * Collecting like terms
* Substitute into simple expressions and formulae
* Find input/output for function machines
* Expand and factorise one and two brackets
* Be able to change the subject of a formula
* Be able to expand double brackets
* Solve multi step equations
* Use y=mx+c
* Plot quadratic graphs
* Identify symmetry and perform transformations
 | * "Classify 2D and 3D shapes
* Use reflective and rotational symmetry
* Constructions using loci • Recall and apply Pythagoras’ Theorem
* Find area and perimeter

of 2D shapes including circles | * Be able to draw and interpret charts and graphs
* Understand scatter

graphs, lines of best fit and correlation* Calculate mode, median, mean and range from stem and leaf diagrams
 | * Simplify ratios and understand equivalence
* Divide ratios in a given quantity
* Calculate proportions using the unitary method
* Construct and interpret scale drawings
* Find bearings and interpret model scales
 |
| Application  | * Word problems
* Functional problems for highest common factor and lowest common multiple
* Real life context, financial mathematics e.g. VAT and compound interest
* Solve problems with percentage change
 | * Use formulae in a variety of contexts e.g. perimeter, area and angles
* Solve worded problems using algebra
* Understand straight line graphs in the context of real life problems
* Substitute into formulae such as SUVAT equations
 | * Problem solve with area

in a real life context* Understand loci in a wider context
* Real life context for

Pythagoras’ Theorem | * Interpret correlation in various contexts
* Use pie charts in a variety of contexts
* Collect, record, group data and make inferences and draw conclusions
 | * Use bearings in real life situations
* Identify the scale factor of an enlargement as the ratio

of corresponding sides* Convert between currencies
 |
| Prior knowledge | ● Year 7 Number topics | ● Year 7 Algebra topics | ● Year 7 Geometry topics | ● Year 7 Ratio and Proportion topics | * Year 7 Probability and Statistics topics
 |

Assessment: There are in-class termly assessments consisting of past exam questions on topics studied. Students are also informally assessed using their written class work/homework and verbal comments during lessons.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year 9 | Autumn 1  | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|   | Number  | Number Algebra  | Geometry  | Ratio and Proportion  | Probability and Statistics  |
| Topics  | * Squares, cubes, other powers and roots
* Decimals and Fractions (mixed) including 4 rules
* Percentages - including growth, interest, decay and reverse
* Use of a multiplier
* Product and prime factors HCF/LCM and Venn Diagrams
* Rounding, error intervals and estimation
* Use of a scientific calculator
* Standard form and Indices
 | * Substitute into Formulae
* Expand, simplify and factorise including quadratics
* Solve equations
* Rearrange formulae
* Represent and Solve Inequalities
* Straight line graphs using y=mx+c
 | * Describe and perform Transformations
* Properties of shapes and simple angle facts
* Perimeter and area of

2D shapes* 3D forms
* Mensuration
* Angles in parallel lines and other angle facts
* Interior and exterior angles
* Pythagoras and

Trigonometry | * Best value
* Exchange rates
* Simplify Ratio and

divide in a quantity* Proportion - unitary method
* Pie charts - construct and interpret
 | * Drawing and interpreting tables and charts
* Probability using F/D/P
* Two way tables - draw and complete
* Frequency trees
* Averages including from a table and estimating
 |
| Application  | * HCF/LCM in context
* Standard Form in real life context including very big and very small numbers
* Percentage profit/loss
* Compound Interest
 | * Use formulae such as SUVAT equations
* Quadratics in the context of area
* Apply y=mx+c
 | * Angles and Bearings in context
* Scale diagrams and maps
* Pythagoras and

Trigonometry in context | * Ratio and proportion

in context e.g. recipes* Apply exchange rates and best buys
 | * Real life Data
* Comparing data and making inferences
* Probability in context
 |
| Prior knowledge | * Year 7 and 8 Number topics
 | * Year 7 and 8 Algebra topics
 | * Year 7 and 8 Geometry topics
 | ● Year 7 and 8 Ratio and  Proportion topics | * Year 7 and 8 Probability and Statistics topics
 |

Assessment: There are in-class termly assessments consisting of past exam questions on topics studied. Students are also informally assessed using their written class work/homework and verbal comments during lessons.