|  |  |  |
| --- | --- | --- |
| **Number** | **Geometry and Measure** | **Algebra** |
| **Statistics** | **Probability** | **Ratio and Proportion** |

**CURRICULUM OVERVIEW 2024 – 2025 YEAR 8**

|  |  |  |  |
| --- | --- | --- | --- |
| **YR 8** | **Autumn 1** | **Autumn 2** | **Spring 1** |
| **Content** | **Unit 1 Number properties and calculations****Unit 2: Shapes and measures in 3D** | **Unit 3: Statistics****Unit 4: Expressions and equations** | **Unit 5: Decimal Calulations****Unit 6: Angles** |
| **Key new knowledge** | **Number properties and calculations** * Add and subtract larger numbers.
* Multiply larger numbers.
* Use brackets.
* Add and subtract with negative numbers.
* Multiply and divide negative numbers.
* Work with ratios.
* Find equivalent ratios.
* Solve simple word problems involving ratio.
* Understand the relationship between ratio and proportion.
* Use proportion to solve simple problems.

**Shapes and measures in 3D** * Recognise and name 3D shapes.
* Count faces edges and vertices.
* Deduce properties of 3D shapes from 2D representations.
* Identify nets of 3D solids including cubes and cuboids.
* Draw nets of 3D solids using a ruler and protractor.
* Calculate the surface area of cubes and cuboids.
* Find the volume of a cube or cuboid by counting cubes.
* Know the formula for calculating the volume of a cube or cuboid.
* Solve problems involving units of length, area and capacity.
* Convert between cm3 and litres.

**Unit Test 1 and 2** | **Statistics*** Design a data collection sheet.
* Group data into equal class intervals.
* Interpret complex bar charts.
* Draw bar charts for more than one set of data.
* Interpret pie charts.

**Expressions and equations*** Simplify expressions by collecting like terms.
* Find outputs and inputs of function machines.
* Construct functions.
* Solve simple equations and check the solution is correct.
* Understand the difference between an expression and an equation, and identify the unknown in an equation.
* Use brackets with numbers and letters.
 | **Decimal Calulations*** Add and subtract decimal numbers.
* Multiply decimals.
* Round decimals.
* Order decimals.
* Solve problems involving decimals.

**Angles*** Use a protractor to measure and draw obtuse and reflex angles.
* Estimate the size of reflex angles.
* Use vertically opposite angles.
* Work out the size of unknown angles in a triangle.
* Accurately draw triangles using a ruler and protractor.
* Accurately draw a net of a 3D shape.
* Investigate the sides of a right-angled triangle.
 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Year 7** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Content** | **Unit 7: Number Properties****Consolidation** | **Unit 8: Sequences****Unit 9: Fractions, decimals and percentages** | **Unit 10: Probability** |
| **Key new knowledge** | **Number Properties*** Calculate squares and square roots, mentally and using a calculator.
* Calculate cubes and cube roots, mentally and using a calculator.
* Do calculations involving brackets and square numbers.
* Use the brackets keys on a calculator.
* Use index notation.
* Find the factor pairs of any whole number.
* Use the lowest common multiple (LCM) and highest common factor (HCF) to solve problems.
* Find the factor pairs of any whole number.
* Use the lowest common multiple (LCM) and highest common factor (HCF) to solve problems.
 | **Sequences*** Recognise, describe and continue number sequences.
* Find and use pattern and term-to-term rules.
* Use the term-to-term rule to work out terms in a sequence.
* Recognise an arithmetic sequence.
* Describe sequences arising in real life.
* Describe and continue special sequences.
* Recognise a geometric sequence.
* Generate terms of a sequence using the position-to-term rule.
* Find the 𝑛�th term of a simple sequence.

**Fractions, decimals and percentages*** Compare fractions.
* Simplify fractions.
* Identify equivalent fractions.
* Calculate with fractions mentally.
* Calculate fractions of quantities.
* Multiply a fraction by a whole number.
* Add and subtract fractions.
* Write a number as a fraction of another number.
* Change between fractions and percentages.
* Calculate percentages.
* Compare proportions using percentages.
* Write one number as a percentage of another number.
 | **Probability*** Use the language of probability.
* Use a probability scale with words and numbers.
* Write probabilities as fractions, decimals and percentages.
* Find all the possible outcomes of an event.
* Use equally likely outcomes to calculate probabilities.
* Learn and use probability notation.
* Calculate the probability of an event not happening.
* Find all the possible outcomes of two simple events.
* Use data from an experiment to estimate probabilities.
* Collect data from an experiment, and make calculations based on results.
* Compare and interpret probabilities.
 |