













## Curriculum Overview for Mathematics

### Year 8

<p><b>NP10: Introduction to Proportion</b></p> <p><b>Declarative Knowledge</b></p> <ul style="list-style-type: none"> <li>Ratio tables and double number lines represent proportional relationships</li> <li>Define similar</li> <li>Identify whether a question or context is using direct or inverse proportion</li> </ul> <p><b>Procedural Knowledge</b></p> <ul style="list-style-type: none"> <li>Calculate with direct proportion</li> <li>Calculate with inverse proportion</li> <li>Calculate a percentage increase</li> <li>Calculate a percentage decrease</li> </ul> <p><b>Contextual Knowledge</b></p> <ul style="list-style-type: none"> <li>Solve reasoning and problem-solving questions with direct proportion</li> <li>Solve reasoning and problem-solving questions with inverse proportion</li> <li>Calculate exchange rates</li> <li>Calculate best buys</li> <li>Calculate recipe amounts from a given or needed ingredient</li> <li>Solve reasoning and problem-solving questions with percentages</li> </ul>		Reading like a Mathematician Subject specific vocabulary definitions and choral response Reading reasoning and problem-solving questions
		Direct proportion, Inverse proportion, Unit, Value, Exchange, Multiplier, Enlargement, Similar, Scale factor, Percent, Increase, Decrease
		End of unit assessment with feedback lesson to address misconceptions Content from this unit will be included in the formal endpoint assessment
		1 hour of Sparx Maths homework needs to be completed every week  Revision for formal assessment using provided revision booklet

<p><b>A4: Solving Equations</b></p> <p><b>Disciplinary knowledge</b></p> <ul style="list-style-type: none"> <li>Identify terms and expressions</li> <li>Identify equations</li> <li>Know the meaning of equal</li> <li>Know the inverse operations</li> </ul> <p><b>Procedural knowledge</b></p> <ul style="list-style-type: none"> <li>Balance equations using inverse operations</li> <li>Solve equations with one-step</li> <li>Solve equations with multiple steps</li> <li>Form equations</li> </ul>		Reading like a Mathematician Subject specific vocabulary definitions and choral response Reading reasoning and problem-solving questions
		Unknown, expression, equation, term, solve
		End of unit assessment with feedback lesson to address misconceptions Content from this unit will be included in the formal endpoint assessment

<p><b>Contextual knowledge</b></p> <ul style="list-style-type: none"> <li>Solve equations with brackets</li> <li>Solve equations with fractions</li> <li>Solve equations with decimals</li> </ul>		<p>1 hour of Sparx Maths homework needs to be completed every week</p> <p>Revision for formal assessment using provided revision booklet</p>
<p><b>SP1 – SP2: Discrete and Bivariate Data</b></p> <p><b>Disciplinary knowledge</b></p> <ul style="list-style-type: none"> <li>Categorise types of data</li> <li>Know and use the vocabulary of statistics</li> <li>Identify bivariate data</li> <li>Know and use the vocabulary of statistics</li> <li>Know that correlation does not mean causation</li> </ul> <p><b>Procedural knowledge</b></p> <ul style="list-style-type: none"> <li>Read data from and construct frequency tables and bar charts</li> <li>Read data from and construct pie charts</li> <li>Calculate summary statistics (mean, median and mode averages and range as a spread of data)</li> <li>Read, interpret and construct scatter graphs</li> <li>Identify correlation, including categorising as positive, negative or no correlation</li> <li>Construct lines of best fit</li> <li>Construct lines of best fit using the mean point</li> <li>Read, interpret and construct time-series graphs</li> </ul> <p><b>Contextual knowledge</b></p> <ul style="list-style-type: none"> <li>Critique frequency tables, bar charts and pie charts</li> <li>Work with percentages in pie charts</li> <li>Compare data and identify misleading data represented in charts/graphs</li> <li>Calculate summary statistics from frequency tables</li> <li>Describe the strength of correlations</li> <li>Predict data using lines of best fit within data – interpolation</li> <li>Predict data using lines of best fit outside of data – extrapolation</li> </ul>		<p>Reading like a Mathematician Subject specific vocabulary definitions and choral response Reading reasoning and problem-solving questions</p>
		<p>Qualitative, quantitative, discrete, continuous, mean, median, mode, range, variable, univariate data, bivariate data, correlation, outlier, line of best fit, interpolation, extrapolation, trend</p>
		<p>End of unit assessment with feedback lesson to address misconceptions Content from this unit will be included in the formal endpoint assessment</p>
		<p>1 hour of Sparx Maths homework needs to be completed every week</p> <p>Revision for formal assessment using provided revision booklet</p>