



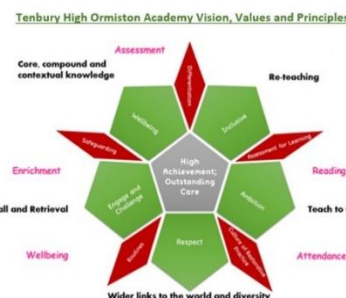








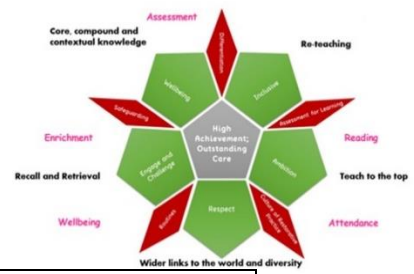
## Curriculum Overview for Mathematics

### Year 9

<p><b>Half Term 3: Probability</b></p> <p><b>Declarative Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Know and use the vocabulary of probability</li> <li>• Understand the use of the 0-1 scale to measure probability</li> <li>• Know that the sum of probabilities for exclusive outcomes is 1</li> <li>• Recognise the language and notation of sets and elements</li> </ul> <p><b>Procedural Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Systematically list all the outcomes for an experiment, including the use of tables and sample space diagrams</li> <li>• Work out theoretical probabilities for events with equally likely outcomes</li> <li>• Apply the fact that the sum of probabilities for all outcomes is 1</li> <li>• Calculate the probability of two (or more) outcomes happening (the and rule)</li> <li>• Calculate the probability of one outcome or another outcome happening (the or rule)</li> <li>• Identify independent and dependent events</li> <li>• Identify mutually exclusive events</li> <li>• Describe regions with a worded description</li> <li>• Shade regions from a worded description</li> <li>• Describe regions using set notation</li> <li>• Shade regions from set notation</li> </ul> <p><b>Conditional Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Complete and understand tree diagrams</li> <li>• Represent the relationship between sets using Venn diagrams</li> <li>• Calculate basic probability from Venn diagrams</li> <li>• Calculate probability of A given B and vice versa from Venn diagrams</li> </ul>		<p>Modelling reading of questions by the class teacher – reading like a Mathematician and BUG Two key words at the start of each lesson defined Expectation of Mathematical vocabulary used in lessons</p>
		<p>Impossible, unlikely, even chance, likely, certain, outcome, event, focus outcome, possible outcomes, Venn diagram, frequency, universal set, union, intersection, complement, sum, dependent, independent, theoretical, experimental</p>
		<p>There will be a formal end of half-term exam incorporating the 2 units studied during the half-term and will recall work from Half-Term 1 We will re-teach during an Exam Review lesson after the assessment.</p>
		<p>Dr Frost Maths – practising skills using DrFrost.org (a unique username and password will be provided by the school)</p>



<ul style="list-style-type: none"> <li>• Write and solve equations from Venn diagrams</li> <li>• Use and apply tree diagrams for problems</li> </ul>		
<p><b>Half Term 4: Direct and Inverse Proportion</b></p> <p><b>Declarative Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Know the difference between direct and inverse proportion</li> <li>• Know the features of graphs that represent a direct or inverse proportion situation</li> <li>• Distinguish between situations involving direct and inverse proportion</li> <li>• Know the features of expressions, or formulae, that represent a direct or inverse proportion situation ·</li> <li>• Understand that “y is inversely proportional to x” is equivalent to “y is proportional to <math>\frac{1}{x}</math>”</li> </ul> <p><b>Procedural Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Calculate original value using reverse percentages.</li> <li>• Calculate simple interest amounts.</li> <li>• Represent and calculate with direct proportion numerically</li> <li>• Represent and calculate indirect proportion numerically</li> </ul> <p><b>Conditional Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Solve simple problems involving inverse proportion</li> <li>• Solve simple problems involving rates of pay</li> <li>• Solve more complex ratio problems involving mixing or concentrations</li> <li>• Solve more complex problems involving unit pricing</li> <li>• Solve problems combining understanding of fractions and ratio</li> <li>• Represent and calculate with direct proportion graphically</li> <li>• Represent and calculate indirect proportion graphically</li> </ul>		<p>Modelling reading of questions by the class teacher – reading like a Mathematician and BUG Two key words at the start of each lesson defined Expectation of Mathematical vocabulary used in lessons</p>
		<p>Direct proportion Inverse proportion Multiplier Linear Congruent, Congruence Similar, Similarity Compound unit Density, Population density Pressure</p>
		<p>There will be a formal end of half-term exam incorporating the 2 units studied during the half-term and will recall work from Half-Term 1 We will re-teach during an Exam Review lesson after the assessment.</p>
		<p>Dr Frost Maths – practising skills using DrFrost.org (a unique username and password will be provided by the school)</p>



<ul style="list-style-type: none"> <li>• Represent and calculate with direct proportion algebraically</li> <li>• Represent and calculate indirect proportion algebraically</li> <li>• Combine ratios and solve problems</li> </ul>		
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