


Subject	Year	Month	
Mathematics	8	May	
<b>Topic:</b>			
<b>PROBABILITY DIAGRAMS and TREES</b>			<b>5 LESSONS</b>
<b>Content (Intent)</b>			
<b>Prior Learning</b> Y7 Jan: <ul style="list-style-type: none"> <li>- Convert between fractions, decimals and percentages</li> </ul> Y8 Nov: <ul style="list-style-type: none"> <li>- 0-1 probability scale</li> <li>- theoretical probabilities for events with equally likely outcomes</li> <li>- probability notation</li> <li>- Know that the sum of probabilities for all outcomes is 1</li> </ul>		<b>Future Learning</b> Y9 <ul style="list-style-type: none"> <li>• Probability of independent and conditional events</li> <li>• Tree diagrams</li> <li>• Relative frequency</li> </ul> GCSE <ul style="list-style-type: none"> <li>• Theoretic probability, experimental probability, relative frequency</li> <li>• Independent and conditional events</li> <li>• Probabilities from Venn diagrams, use union and intersection notation</li> <li>• Find a missing probability from a list or two-way table</li> <li>• Draw and use tree diagram</li> </ul>	
<b>Objectives</b> <ul style="list-style-type: none"> <li>• List all elements in a combination of sets using a <b>Venn diagram</b></li> <li>• Use <b>frequency trees</b> to record outcomes of probability experiments</li> <li>• Calculate probabilities using a <b>possibility space</b></li> <li>• Understand the difference between theoretical probability and experimental probability</li> <li>• Estimate an outcome based on experimental probability.</li> </ul>		<b>For teaching purposes</b> Possible questions <ul style="list-style-type: none"> <li>• Show me a way of listing all outcomes when two coins are flipped</li> <li>• Convince me that there are more than 12 outcomes when two six-sided dice are rolled</li> <li>• Convince me that 7 is the most likely total when two dice are rolled</li> </ul> Misconceptions <ul style="list-style-type: none"> <li>• May think that there are only three outcomes when two coins are flipped, or that there are only six outcomes when three coins are flipped</li> <li>• may think that there are 12 unique outcomes or 12 possible totals when two dice are rolled</li> </ul>	
<b>Pedagogical notes (implementation)</b>		<b>How will understanding be assessed &amp; recorded (Impact)</b>	
The Venn diagram was invented by John Venn (1834 – 1923)  <b>Notation</b> P(A) for the prob. of event A Probabilities are expressed as fractions, decimals or percentage.		<b>End of Year Assessment in June</b>  <b>How can parents help at home?</b>  <b>MathsWatch clips</b> (Qualification KS3) P1 , P5 (Qualification GCSE) 185	
<b>Further reading/discussion</b>			
<b>Reading / Enrichment</b> KM: <a href="#">Sample spaces</a> KM: <a href="#">Race game</a> Hwb: <a href="#">Q37</a> , <a href="#">Q79</a> KM: <a href="#">Stick on the Maths L4HD3</a> NRICH: <a href="#">Prize Giving</a> (frequency trees)	<b>Literacy</b> Outcome , Event Experiment, Combined experiment Frequency tree Set, Venn diagram Possibility / sample space Equally likely outcomes Theoretical probability Random, Bias, Fairness Relative frequency	<b>Numeracy Links</b>	<b>Careers Links</b> Statistician Cost Estimator Insurance Underwriter Mathematics Teacher Market Research Analyst Atmospheric Scientists Bookmaker (Gambling)