


Subject	Year	Month		
Mathematics	9	April/May		
Topic:				
PROBABILITY OF COMBINED EVENTS				5 LESSONS
Content (Intent)				
Prior Learning Y7 <ul style="list-style-type: none"> Add fractions (decimals) Multiply fractions (decimals) Convert between fractions, decimals and percentages Y8 <ul style="list-style-type: none"> Probability line, notation, etc Theoretic probability frequency trees Venn diagrams Possibility space experimental vs theoretical probability 		Future Learning KS4 <ul style="list-style-type: none"> Venn Diagrams and Set notation Sample space diagrams Probability trees Two way tables Algebraic probability 		
Objectives <ul style="list-style-type: none"> Calculate the probabilities of independent combined events Calculate the probabilities of dependent combined events Construct and list outcomes of combined events using a tree diagram <ul style="list-style-type: none"> solve problems involving independent combined events solve problems involving dependent combined events Understand that relative frequency tends towards theoretical probability as sample size increases 		For teaching purposes POSSIBLE QUESTIONS <ul style="list-style-type: none"> Show example of a probability problem that involves adding/multiplying Convince me that there are eight different outcomes when three coins are flipped together Always / Sometimes / Never: increasing the number of times an experiment is carried out gives an estimated probability that is closer to the theoretical probability POSSIBLE MISCONCEPTIONS <ul style="list-style-type: none"> When constructing a tree diagram, some students may struggle to distinguish between how events and outcomes are represented may muddle the conditions for adding and multiplying probabilities may add the denominators when adding fractions 		
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)		
Notation P(A) for the probability of event A Probabilities are expressed as fractions, decimals or percentage. They should not be expressed as ratios Tree diagrams can be introduced as an alternative way of listing outcomes for multiple events. <i>E.g. coins flipped: listed (a) systematically, (b) in a two-way table, or (c) in a tree diagram.</i> The tree diagram has the advantage that it can be extended to more than two events (e.g. three or four coins are flipped). the drawing pin experiment <i>Students are taught not to simply fractions when finding probabilities of combined events using a tree diagram (so that a simple check can be made that the probabilities sum to 1)</i>		End of KS3 Exams in May 9BAM12 Tree diagrams How can parents help at home? MathsWatch clips (Qualification GCSE) 14, 59, 125, 185, 204		
Further reading/discussion				
Reading / Enrichment KM: Stick on the Maths: Tree diagrams KM: Stick on the Maths: Relative frequency KM: The drawing pin experiment	Literacy Outcome Event, independent event, dependent event Tree diagrams Theoretical probability Experimental probability Random Bias, unbiased, fair Relative frequency Set	Numeracy Links	Careers Links Statistician Bookmaker Financial Analyst Underwriter	