

**Subject:** Statistics      **Year** 10      **Ability** All

Half Term 4 / weeks	Week 1-4	Week 5-6
<b>Topic</b>	Block 9 – Probability	Reteach and Retention
Topic overview	To be able to calculate the probability of multiple events both independent and conditional	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
<b>Pupils will learn...</b>		
<b>Components</b>	<ul style="list-style-type: none"> <li>• Know and compare probabilities on a scale from 0-1</li> <li>• To be able to calculate expected frequency</li> <li>• To be able to compare theoretical and experimental probabilities and know that probabilities will tend to theoretical values</li> <li>• To be able to use tree diagrams, Venn diagrams and sample spaces to represent all the different outcomes for up to three events</li> <li>• Know and apply formal notation for independent events</li> <li>• Know and apply formal notation for conditional probability</li> <li>• Know and interpret the characteristics of the binomial distribution (trials limited to five)</li> <li>• Apply Peterson capture/recapture formula to calculate and estimate the size of a population</li> </ul>	<p>Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention.</p> <ul style="list-style-type: none"> <li>• Clear areas for improvement are monitored by individual staff and at a departmental level.</li> </ul>
<b>What pupils should already know (prior learning components)</b>	Students should already be aware of definitions of probability, be able to calculate probabilities using sample spaces, experimental results, Venn diagrams and tree diagrams.	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
<b>Transferrable knowledge (skills)</b>	This block enables students to calculate probabilities for multiple conditional events. The basics of the block will be used at GCSE Maths level, but the higher skills will be useful at A Level in a range of subjects.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and improve students' ability to answer these and directly sequential problems.
<b>Key vocabulary pupil will know and learn</b>	Probability, experimental, relative frequency, theoretical, tree diagram, Venn diagram, sample space, Peterson capture, binomial, conditional, independent	

<b>Assessment activities</b>	Block 9 covered in Test 4 Homework available for after each block	AFL and adaptive teaching will continue to support staff to assess the address areas.
<b>Resources available</b>	Template lessons available for each block. Latest edition of textbook available. Certain Hegarty quizzes are suitable but not every topic features online	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes <b>Why this topic is important...</b>	While probability seems to be separate from the statistical enquiry cycle it links to both by consideration of expectations of different types of events and by looking at population distribution and size. This block starts by looking at the full GCSE probability requirement and building on this to include more formal notation and more complex events. Distributions are then looked at focussing in particular at the binomial distribution and the links with Pascal's triangle.	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.