**LANGDON PARK SIXTH FORM**

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| **Subject: Mathematics** | **Year: Y13** | **Topic 2.1 Probability** |

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| ***What and Why*** “Probability, the mathematics of chance and uncertainty, is central to the modern world and at the heart of everything from risk calculations in pandemics to our basic understanding of the physical world and quantum theory and particle physics. You will learn the key ideas in probability, exploring the differences between mutually exclusive and independent events and build an understanding of the crucial idea of conditional probability. You will also learn how to apply this understanding in a variety of different representations from tree diagrams to two way tables and Venn diagram ,and to construct and interpret mathematical models based on probability. This unit will lay the foundations for later work we will do on Statistical Distributions and on Hypothesis Testing.” |

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| **Key terms:**  Mutually exclusive  Independent  Conditional  Intersection Union | Set notation  Venn diagrams  Two way tables  Tree diagrams  Probability distribution | **Key ideas**   * Understand what probability is and what it means to put numbers on it * Understand what mutually exclusive and independent events are * Understand what conditional probability means | **Applications of Probability**   * be able to calculate simps probabilities for mutually exclusive and independent events * Be able to calculate conditional probabilities * Know and be able to use the laws of probability, given using set notation * Apply your understanding to problems in a wide variety of contexts with information given in trees diagrams. two way tables, Venn diagrams and using set notation * Construct and interpret simps probability models using all of the above |

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| **Specification point** | **Pre-reading** | **Application and Assessment (date)** | **Independent learning** | **Extension – Cultural Capital and Reading** |
| H1-H4 | **Topics you should be confident in prior to unit:**  GCSE Higher probability topics  **Websites: revise all GCSE probability here**<https://www.bbc.co.uk/bitesize/guides/zsrq6yc/revision/8> | * End of unit assessment, which will also include selected year 12 material * 50% seen * 50% unseen * 90% pass needed or resit required. | Kerboodle Online Login  My Maths  Exam Solutions  Maths Genie | **Article**: A good article with links to a large and interesting selection of problems that will develop your understanding of probability:  <https://nrich.maths.org/newprobapproach>  **VIDEOS:** Hannah Fry in an interesting presentation:  [**https://www.youtube.com/watch?v=\_q4DrUHKC0Q**](https://www.youtube.com/watch?v=_q4DrUHKC0Q)  a great video on a famous problem in probability:  [**https://www.youtube.com/watch?v=JWV6eHNetZ0**](https://www.youtube.com/watch?v=JWV6eHNetZ0)  **Enrichment:** A challenging probability problem that will also test you understanding of fractions: [**https://undergroundmathematics.org/thinking-about-numbers/difference-of-two-fractions**](https://undergroundmathematics.org/thinking-about-numbers/difference-of-two-fractions) |

**Pre-assessment content review**

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| I feel secure in | I need to focus on | My action plan |

**Pre-assessment skills review**

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| I feel secure in | I need to focus on | My action plan |

**Post-assessment review**

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| Weaknesses in content knowledge | Skills I need to focus on | My action plan |
| Retest / review – teacher and student comment | | |

**Revision planning**

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| Spec point | Notes complete | Revision materials | Past paper Qs | Timed conditions |
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