**LANGDON PARK SIXTH FORM**

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| **Subject: Mathematics** | **Year: Y13** | **Topic 1.3 Integration 1** |

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| ***What and Why*** “Integration, the inverse of differentiation, is along with differentiation, one of the other key pillars of all higher mathematics. You will learn what integration means and how it is related to the area under a curve by applying the Fundamental Theorem of Calculus and learn core techniques for finding indefinite and definite integrals. These will lay the foundation for studying more complex integration in the Integration 2 unit later” |

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| **Key terms:**  Inverse  Integrate  Limit  Sum  Parallel  Indefinite integral  Definite integral | **Key terms**  **Integration as a concept**   * Understand integration as the inverse of differentiation * Know and use the Fundamental Theorem of Calculus * Evaluate definite integrals; use a definite integral and understand the definite integral * Understand and use integration as the limit of a sum | **Applications of Integration**   * Integrate x n (excluding n = −1), and related sums, differences and constant multiples. * Integrate ekx, sin kx , cos kx and related sums, differences and constant multiples. * Use definite integration to find the area under a curve, between a curve and a line, between 2 curves |

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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:**  Differentiation  Limits  Substitution  Functions  **Websites**  <https://www.mathsisfun.com/calculus/integration-introduction.html> | * 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**: **From A Random World to a Rational Universe** <https://nrich.maths.org/6120>  **Podcast:** [**https://plus.maths.org/content/tour-through-maths-and-music**](https://plus.maths.org/content/tour-through-maths-and-music)  **Enrichment:** [**https://undergroundmathematics.org/calculus-meets-functions/r8987**](https://undergroundmathematics.org/calculus-meets-functions/r8987) |

**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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