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**Mathematics Faculty**

**Year 9 Summer Term 1 - Alpha Scheme**

**Unit 10 Overview - Coordinates and Graphs**

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| **Topic** | **Key Ideas** | **Progress** |
| **R** | **A** | **G** |
| **Coordinates and Graphs** | I can calculate gradients numerically and graphically |  |  |  |
| I can interpret intercepts graphically |  |  |  |
| I can find the equation of a line given the gradient and a point or two points |  |  |  |
| I can recognise, sketch and find the equation of parallel and perpendicular lines |  |  |  |
| I can interpret speed, distance, time graphs |  |  |  |
| I can plot and interpret quadratic graphs |  |  |  |
| I can recognise, sketch and interpret graphs of simple cubic and reciprocal functions |  |  |  |
| I can interpret curved real-life graphs |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | **Calculating gradients numerically and graphically.** Interpreting intercepts graphically (CM clips 189 & 190) | Formative assessment strategies e.g. MWBs, whole class questioning, Diagnostic Questions, SLOP time with self-assessment, Live Marking etc. Assessment is also supported with our use of ILOs, which alternate between Basic Skills Checks one week and then a more individual ILO the following set through Century and Corbettmaths (see learning focus). Finally, every unit is assessed half-termly as part of our Assessment Calendar in Mathematics. | gradient, rate, change, intercept, axis, coordinate, graph |
| **2** | **Finding the equation of a line given the gradient and a point** (CM clips 189 & 194) | equation, gradient, intercept, point, coordinate, substitute |
| **3** | Finding the equation of a line given two points (CM clips 190 & 195) | equation, gradient, intercept, point, coordinate, substitute |
| **4** | Recognising, sketching and finding the equation of parallel and perpendicular lines (CM clips 196 & 197) | sketch, equation, gradient, intercept, parallel, perpendicular |
| **5** | Interpreting speed, distance, time graphs (CM clip 171) | graph, interpret, speed, distance, time, gradient, horizontal |
| **6** | Completing a table of values for quadratic graphs and plotting the corresponding graph (CM clip 264) | coordinate, generate, graph, quadratic, equation, substitute, plot |
| **7** | Interpreting graphs of simple quadratic graphs including roots and turning points. Finding approximate solutions to quadratic equations using graphs (Corbett 267c)  | quadratic, graph, interpret, turning point, root, solution, approximate |
| **8** | **Recognising, sketching and interpreting graphs of simple cubic and reciprocal functions** (CM clips 344 & 346) | graph, function, cubic, reciprocal, sketch, interpret |
| **9** | Interpreting real-life curved graphs. | graph, curved, real-life, data, interpret |