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**Mathematics Faculty**

**Unit 6 Overview**

**Equations & Sequences**

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| **Topic** | **Key Ideas** | **Progress** |
| **R** | **A** | **G** |
| **Equations & Sequences** | I can solve equations involving brackets or with square/cubic unknowns |  |  |  |
| I can solve equations with unknowns on both sides |  |  |  |
| I can solve simple simultaneous equations |  |  |  |
| I can generate and describe sequences using term-to-term and position-to-term rules |  |  |  |
| I can generate and describe sequences using the nth term |  |  |  |
| I can generate and describe pattern sequences |  |  |  |
| I can generate sequences using quadratic expressions |  |  |  |
| I can recognise and continue special sequences, e.g. Fibonacci, triangular |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | Recapping positive and negative numbers and squaring, cubing & finding the root of numbers (MW clips N18 & N25 and CM clips 205, 206, 227 & 213) | 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 Mathswatch and Corbettmaths (see learning focus).Finally every unit is assessed half-termly as part of our Assessment Calendar in Mathematics. | positive, negative, square, cube, root |
| **2** | Expanding brackets using the grid, claw & FOIL methods (MW clip A8 and CM clip 13) | expand, multiply, term, simplify |
| **3** | Solving simple equations by using inverse operations and balancing both sides of an equation (MW clip A12 and CM clip 110) | equation, coefficient, solve, inverse, operation, balance |
| **4** | Solving more complex equations (involving brackets and square/cubic unknowns) by using inverse operations and balancing both sides of an equation (MW clips A19a & A19b and CM clip 113) | equation, coefficient, solve, inverse, operation, balance |
| **5** | Solving simple simultaneous equations by elimination - STOP method (MW clip A24b and CM clip 295) | equation, coefficient, simultaneous, solve, inverse, operation, substitute, eliminate |
| **6** | Generating & describing sequences using term-to-term rules, including special sequences such as triangular numbers, Fibonacci numbers, geometric sequences (MW clips A11a & A22 and CM clips 287a & 375) | term, sequence, rule, generate, Fibonacci, triangular, square, geometric, pattern |
| **7** | Using position-to-term rules to generate, describe and find the nth term of numerical and pattern sequences (MW clips A11b & A11c and CM clip 288) | term, sequence, rule, generate, pattern, term, difference, position, nth term |
| **8** | Substituting into quadratic expressions to generate quadratic sequences (MW clip A23b) | substitute, quadratic, term, sequence |