NHSG Key Stage 3 Unit Overview for Y7 (Autumn): Mathematics

Scheme of Learning	Maths Y7 Autumn Term Number, Probability and Algebra		
Learning outcomes	By the end of the Autumn term, you should have knowledge and understanding of number; the four rules with decimals; rounding; fractions, decimals and percentages; ratio and proportion and an introduction to algebra.		
Knowledge	Key concepts and skills Familiarity with number operations and rules Order of operations Fraction and decimal conversion Percentages Simple probability Basic ratio and proportion work Solving linear equations using a well-structured method to show understanding Continue from KS3 overview Contents	Key terminology Expression, Term, Formula (formulae), Equation, Function, Variable Mapping diagram, Input, Output Represent Substitute Evaluate Like terms Simplify / Collect Term-to-term rule Position-to-term rule	
Ongoing Assessment	In Maths, the most important assessment takes place in every lesson where teachers observe and support whilst they are practicing applying knowledge and new skills. This assessment enables teachers to tailor their lessons to their class. At a point when teachers know that students are ready, a class will have a skills check in a lesson. These checks are are low stakes and help to inform both teachers and students of each individuals next steps. Students are not given warning of these skills checks so that teachers can determine how regularly students are engaging in maths, rather than measure how much work a student has been able to do to prepare for a test. **Support for revision:** On SharePoint in the 'Topic Information' folder are overview sheets for each topic. Students can download these sheets from here Good ways to revise for the end of unit include: • Review their notes, • Use / Review materials from SharePoint • Boost, Target and Independent learning tasks from SparxMaths.		
Key Assessment	At the end of the Autumn term students will have a large, announced assessment which covers the key concepts covered to date. The aim of this assessment is for student to develop revision skills. The most valuable part of this assessment is the feedback that students get. The question analysis sheets direct students to additional support using Sparx Codes that link to specific topics and content. Students will identify these areas for support through the feedback lesson set aside for assessment feedback		

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<table>
<tr><td>Clear sequencing of content</td><td>
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<tr><td>Number</td><td>Order of operations
Working with integers
Long multiplication
Divisibility rules
Operations with fractions and decimals
Percentages</td></tr>
<tr><td>Probability</td><td>Probability of an event occurring or not occurring
Mutually exclusive events sum to 1
Experimental and theoretical probability
Relative frequency</td></tr>
<tr><td>Ratio and Proportion</td><td>Ratios in simplest form and 1:n
Divide a quantity into a given ratio
Solving word problems in context</td></tr>
<tr><td>Algebra</td><td>Solve simple linear equations
Form and solve equations
Function machines
Sequences using term-to-term and position-to-term rules.
Special sequences such as triangular numbers, square numbers</td></tr>
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<tr><td>Links to Careers</td><td>The overarching skills achieved within Mathematics are integral to numeracy in any career. If students choose to progress from GCSE into A-Level maths, they will begin to see how different types of mathematical application may feed into careers, for example, statistical analysis of data, mechanics and engineering.</td></tr>
<tr><td>Diversity and Inclusion</td><td>Year 7 students are introduced to female mathematicians via their assessments and can learn about their achievements.</td></tr>
<tr><td>Support</td><td>SharePoint pages (text based, images and videos)
Intervention takes place in the classroom for the Autumn term and is at the discretion of the staff member
Key Terminology Sheet</td></tr>
<tr><td>Challenge</td><td>Sparx – independent learning challenge sections guide to ‘codes’.</td></tr>
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