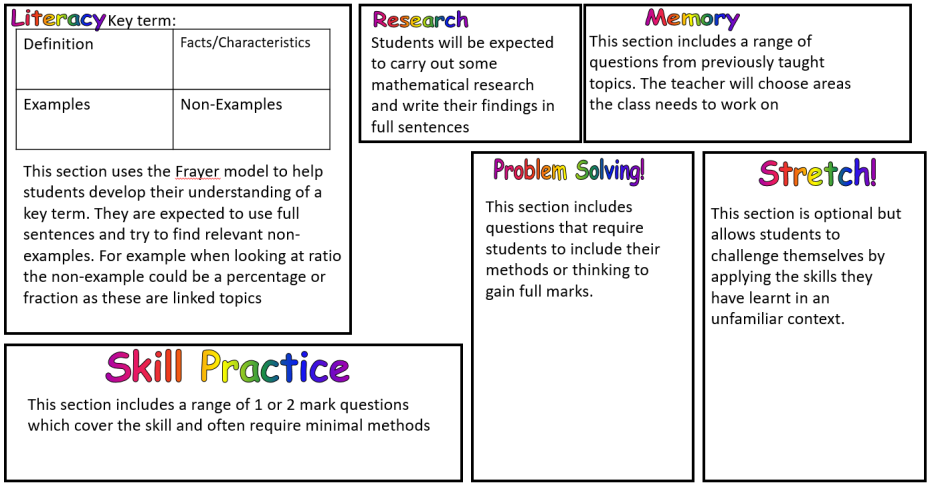
Year 7 Curriculum Overview

Rationale: The Year 7 curriculum is designed to extend student's knowledge from Key Stage 2, introducing new concepts in algebra, number, geometry and measure, probability and statistics and ratio and proportion, building the students experiences of problem solving. Over time students will see the links between the various concepts and topics and be able to answer multi-step problems covering a range of new learning. This year will provide a solid foundation for future progress in Key Stage 3 and 4.

Term/Length of Time	Outline	Assessment/Teacher Feedback Opportunities	Homework and Literacy resources
Autumn 7 lessons per fortnight for approximately 15 weeks. Approx 4 weeks	**Unit 1 – Statistics transition and baseline** An opportunity for students to explore some areas of real life mathematics, including conducting experiments and comparing data for their groups. This module is taught in mixed ability groups and covers the following areas: • Averages and range • Comparing averages • Scatter graphs • Line graphs • Bar charts Students are taught in ability sets from unit 2 onwards	**Baseline Assessment** covering the KS2 curriculum used to assessed pupils against their KS2 scaled SATs score and assist in the setting of ability groups *FAR Homework will be marked by the teacher where feedback will be provided, an action will be given for students to improve and the teacher will check the response to feedback is completed.*	**Homework is set weekly in Maths in Year 7 after the end of September** **Students arrive in mixed ability classes and are then set by ability into 5 maths sets after approximately 5 weeks of the Autumn term.** One FAR (Feedback, Action, Response) homework tasks to be set every 3 weeks. FAR homework sheet all follow the same format as seen below:  **Non - FAR** homework will be set each week (when a FAR is not set). These may be marked by the teacher, self-marked by the student or if using a website/app or peer marked in lessons with teacher guidance.

			Types of Non FAR home work may include: Worksheets – for consolidation or flipped learning purposes. • Revision • Research • Puzzles • Using websites/apps • Quiz **Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Unit 1 BBC Bitesize links to aid revision** **A/B band** Two way tables **C/D Band** Bar Charts **Oak National Academy lessons and resources** Univariate data – **(lessons 5 – 12)** **Recommended Reading** Murderous Maths – Numbers: The Key to the Universe by Kjartan Poskitt

Approx 3 weeks	**Unit 2 – Types of number and power** – Students begin by looking at the building blocks of mathematics, types of number. • Multiples, factors and primes • Highest common factor, lowest common multiple and prime factors • Operations with negative numbers • Squares, cubes and roots • Laws of indices These skills are often revisited in later modules.	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Unit 2: Links to aid revision** **A/B band** Factors, Multiples and Primes **C/D Band** Positive and Negative numbers **Oak National Academy lessons and resources** Factors and Multiples, Positive and Negative Numbers, Prime Factor Decomposition
Approx 3 weeks	**Unit 3 – Expressions** We move onto more abstract mathematics. Algebra can and will be used in a variety of ways for their maths exam and students must know how to effectively manipulate and use it effectively, including:	Feedback throughout lessons and FAR marked homework. **Unit 1-3 Assessment -** 60 minutes in lesson. Students will receive strengths and areas for development. At the end of every 2-3 modules students sit an assessment, covering all aspects	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue

	• Substituting into expressions • Collecting like terms • Writing expressions from words • Expanding and factorising	taught and some prior learning from previous modules. All Year 7 students sit the Module assessments in exam conditions in their classrooms. Assessments are out of 50 marks. Assessments are marked by the class teacher, fed back to students, who have the opportunity to improve their work. A personalised checklist is then completed by the student on the front of the test for them to use in their future revision.	**Unit 3: Links to aid revision** **A/B band** Factors, Multiples and Primes **C/D Band** Simplifying terms **Oak National Academy lessons and resources** Expressions, Equations and Inequalities (lessons 1-4 only) **Recommended Reading** The Number Devil – A Mathematical Adventure by Hans Magnus Enzenberger **Revising for Maths:** There are many ways students can revise in Year 7 for Maths: • Use a Key Stage 3 Maths revision guide • Use websites listed above to watch videos, make notes and practice questions where answers are provided. • Use a notepad or additional book to make revision notes – condensing notes from their exercise books to key information needed. • Create mind maps/posters
Approx 3 weeks	**Unit 4 – Non calculator number operations** Once students have a clear understanding of the types of number from unit 1 we can build upon this knowledge to calculate with numbers, including:	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue

	• Rounding numbers • Place value • Operations with decimals • BIDMAS (order of operations) Calculations from known calculations		**Oak National Academy lessons and resources** Accuracy and Estimation (lessons 1,3 and 4) Order of operations (lesson 1 and 2) **Unit 4 - Links to aid revision** **A/B band** Place value and ordering decimals **C/D Band** Use of BIDMAS
Spring 7 lessons a fortnight for approximately 12 weeks Approx 3 weeks	**Unit 5 – Fractions and Percentages** Students are now able to broaden their knowledge from module 3 to incorporate fractions and percentages, including: • Operations with fractions • Fractions and percentage of an amount • Percentage increase and decrease and simple interest	Feedback throughout lessons and FAR marked homework. **Units 4-5 Assessment** 60 minutes in lesson Students will receive strengths and areas for development.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Conceptualising and Comparing Fractions Manipulating and Calculating with Fractions Percentages (lessons 4,5,7 and 8) **Unit 5 - Links to aid revision** **A/B band** Calculating percentages How to add fractions **C/D Band** What are fractions? How to order fractions

			Recommended Reading Snowflake Seashell Star by Alex Bellos
Approx 3 weeks	**Unit 6 – Functions and graphs** We return to more abstract mathematical concepts looking to build on our knowledge from unit 2 to understand functions, including: • Coordinates in all four quadrants • Vertical and horizontal lines • Plotting straight line graphs • Understanding y=mx+c	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Linear Graphs (lessons 1,2,5 and 6) **Unit 6 - Links to aid revision** **A/B band** Straight line graphs **C/D Band** Coordinates
Approx 2 weeks	**Unit 7 – Calculator number operations** Students need to develop their use of calculator, this is particular difference from Key Stage 2 which will prepare them for Key Stage 4. Topics covered include: • Use of calculator	Feedback throughout lessons and FAR marked homework. **Units 6-7 Assessment** 60 minutes in lesson Students will receive strengths and areas for development.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Accuracy and Estimation (lessons 2 and 8)

	• Estimation Calculator problem solving		**Unit 7 - Links to aid revision** **A/B band** Using significant figures **C/D Band** Rounding **Recommended Reading** Sherlock Bones and the Case of the Crown Jewels – Tim Collins
Summer 7 lessons a fortnight for approximately 14 weeks Approx 3 weeks	**Unit 8 – Equations** Returning to abstract mathematics we build on our prior knowledge from units 2 and 6 to look at solving equations using for example: • Linear equations • Rearranging formula	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Forming and Solving Equations **Unit 8 - Links to aid revision** **A/B band** Solving equations with x on both sides **C/D Band** One step and two step equations
Approx 3 weeks	**Unit 9 – Ratio and proportion** Building on our prior knowledge from unit 5	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub.

	we look at how proportional relationships work and link to ratio, including: • Simplifying ratios • Sharing in a ratio • Converting units • Proportion • Best buys	**End of Year Maths Assessment** This is a summative assessment of all topics learnt throughout Year 7 and assesses whether students have retained and can combine information. Students will receive detailed feedback, a PLC and will have opportunities to improve their learning in lessons.	These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Ratio **Unit 9 - Links to aid revision** **A/B band** Direct proportion **C/D Band** Introducing ratio **Recommended Reading** Women in Science: 50 Fearless Pioneers Who Changed the World – by Rachel Ignotofsky
Approx 3 weeks	**Unit 10 – Properties of shape** Students now have the opportunity to develop their geometric reasoning by exploring shape and space, including: • Line and rotational symmetry • Transformations of shapes	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Transforming 2D Figures **Unit 10 - Links to aid revision** **A/B band**

	• 3D shapes and their properties • Congruency		Transformations **C/D Band** Symmetry
Approx 2 weeks	**Unit 11 – Measures and mensuration** Continuing with the theme of geometry this unit requires prior knowledge from unit 10 and also unit 2 and 9 as we look at using formulae. This unit will cover the following: • Area and perimeter • Area and circumference of circles • Volume and surface area • Scale drawings and maps	Feedback throughout lessons and FAR marked homework.	**Optional homework tasks and Literacy resources** **Module Instruction Sheets** will be uploaded by teachers at the start of the module on to Go4Schools. All of these can be accessed on the Digital Learning Hub. These include videos, questions and answers linked to the module being taught in lessons. Module Instruction sheets are colour coded and represent the following target bands: Band A Orange, Band B Yellow, Band C Pink, Band D Blue **Oak National Academy lessons and resources** Area of 2D shapes Circles (lessons 1-6) Volume and Surface area of prisms (lessons 1-8) **Unit 11 - Links to aid revision** **A/B band** Area of circles **C/D Band** Area and perimeter **Recommended Reading** Murderous Maths – Desperate Measures – Kjartan Poskitt