

Our curriculum is carefully sequenced to ensure cumulative knowledge and progression. Each unit builds on the last, with clear concepts that students must grasp to progress. We define end points to illustrate what mastery looks like by year-end.

Location of resources:	JOHN Maths Staff - Documents John Port Spencer Academy Sharepoint – Maths Staff – General – Schemes of Work – Year 7
Curriculum intent and rationale:	<i>Every student to be the best mathematician they can be.</i> Our aim is that every student has the opportunity to reach their potential mathematically and to be equipped to apply their mathematical knowledge to other subject areas, future courses, careers and everyday life. We aim for students to acquire substantive knowledge and procedural fluency along with conceptual understanding and the ability to apply reasoning and problem-solving skills. Curriculum organisation: Students are initially taught in their form groups. Two form groups are predominantly low ability. Halfway through the year students are banded into upper and lower attainment groups. Students receive 4 lessons each week.
National Curriculum Links:	National curriculum in England: mathematics programmes of study - GOV.UK Students will develop fluency, mathematical reasoning and problem solving through: • Number • Algebra • Ratio, Proportion and Rates of Change • Geometry and Measures • Probability • Statistics

What content needs to be covered:					
Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Students will learn key knowledge and skills about: • Place value • Inequalities • Ordering positive & negative numbers • Four operations with integers and decimals • Four operations with negative numbers Students will recap, retrieve and build on key knowledge and skills from KS2. Challenge: Students are challenged to develop reasoning and problem-solving skills.	Students will learn key knowledge and skills about: • Special numbers • Order of operations • Prime factorisation • Factors & Multiples • An introduction to fractions • Finding fractions of amounts Students will recap, retrieve and build on key knowledge and skills from KS2 and half term 1. Challenge: Students are challenged to develop reasoning and problem-solving skills.	Students will learn key knowledge and skills about: • Rounding up to 3dp • Reciprocals • Multiplying & dividing fractions • Ordering fractions & decimals • Adding & subtracting fractions Students will recap, retrieve and build on key knowledge and skills from KS2 and half term 1 & 2. Challenge: Students are challenged to develop reasoning and problem-solving skills.	Students will learn key knowledge and skills about: • Perimeter • Algebraic conventions • Simplifying expressions • Substitution • Forming and Solving equations Students will recap, retrieve and build on key knowledge and skills from KS2 and half term 1, 2 & 3. Challenge: Students are challenged to develop reasoning and problem-solving skills.	Students will learn key knowledge and skills about: • Area • Sequences • Drawing, measuring & estimating angles • Calculating angles • Using a calculator Students will recap, retrieve and build on key knowledge and skills from KS2 and half term 1, 2, 3 & 4 Challenge: Students are challenged to develop reasoning and problem-solving skills.	Students will learn key knowledge and skills about: • Bearings • Forming and solving equations with angles • Co-ordinates in 4 quadrants • Measures • Conversion graphs Students will recap, retrieve and build on key knowledge and skills from KS2 and half term 1, 2, 3, 4 & 5. Challenge: Students are challenged to develop reasoning and problem-solving skills.



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Misconceptions: - Understanding relative size of numbers - Understanding formal methods of written calculation - Understanding calculations with negative numbers	Misconceptions: - Interchanging the meaning of factor and multiple - Equal priority of $\times$ and $\div$, +and $-$ - Remembering that a prime number has only 2 factors - Understanding fractions as proportion	Misconceptions: - Considering the wrong digit when rounding – links to understanding size of numbers - Misremembering rules for calculating with fractions	Misconceptions: - Confusing area and perimeter - Understanding 3a, for example as 3x a when substituting. - Understanding the importance of = in an equation - Use of inverse operations when solving equations	Misconceptions: - Confusing area and perimeter - Knowing how to line up a protractor and use the appropriate scale - Being aware that different calculators may operate differently.	Misconceptions: - Lack of real-life knowledge makes bearings an abstract topic - Misremembering angle rules - Lack or real-life experience makes working with measures an abstract topic - Multiplying and dividing by powers of 10 - Plotting co-ordinates in the wrong order
Previous learning that is particularly relevant:					
Knowledge of Number work from Upper KS2 Curriculum.		Knowledge of Number work from Upper KS2 Curriculum. Algebra from Year 6 curriculum		Knowledge of Number work from Upper KS2 Curriculum. Sequences, Measurement, Properties of Shapes, Position and Direction from Year 6 curriculum Multiplying and dividing by powers of 10. Measuring, drawing and calculating with angles	
Future Learning - How content prepares students for future units, Key Stage 4, or Key Stage 5?					
The work in this term links to future learning by consolidating and developing understanding of calculating with numbers. This knowledge is required throughout the Key Stages.		The work in this term links to future learning by consolidating and developing understanding of calculating with numbers and generalising this with the use of algebraic notation. This knowledge is required throughout the Key Stages.		The work in this term links to future learning by consolidating and developing understanding of sequences and geometry and measures. This knowledge is required throughout the Key Stages.	
Outcomes: By the end of the year pupils will be able to:					
Recall knowledge of calculating with integers, decimals, fractions and negative numbers. Recall the meaning of area and perimeter. Understand algebraic conventions and apply these when substituting or forming and solving equations. Understand and convert between metric and imperial Understand angles as a measure of turn, be able to draw and measure angles, recall with angle rules and apply to calculations and forming and solving equations. Apply knowledge of angles to working with bearings to locate a point. Use co-ordinates in 4 quadrants to locate a point.					
Apply all knowledge to reasoning and problem solving.					
Assessment Strategy How we know our students are knowing and remembering more – Data from hunting not fishing, formative and summative assessment/s is used to adapt teaching and provide targeted challenge and intervention, supporting SEND and disadvantaged pupils.					
Formative: Retrieval starters Use of mini whiteboards in lesson: immediate assessment to enable adaption to lessons and intervention Highlighter plenaries followed by Highlighter Starters Questioning: methods of participation		Summative (& cumulative) Tests at three points in the year. Each student to complete two sections from: Access, Base, Core and Depth according to ability		Opportunities to revisit past learning: Sparx HW questions Retrieval starters Interleaving built into SoW	



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Termly tests used in a formative manner; followed by developmental work Analysis from Sparx Homework			Opportunities for homework (including apps): Sparx Homework Knowledge Organiser Revision for tests
How is the curriculum adapted to meet the needs of SEND and disadvantaged pupils, while maintaining high expectations?			
Expected prior knowledge is revisited. Lessons are adapted to the needs of each class. Use of manipulatives and different representations are encouraged. Year 7 has two forms that are predominantly low ability allowing a specific focus on embedding basic knowledge.			
Wider Curriculum and Enrichment – cultural capital and real world application -			
Enriching experiences: High ability students are entered for the UKMT Maths Challenge		Literacy, Oracy and disciplinary language: The correct use and understanding of notation, key words and terms is essential for students to be able to understand explanations and questions and to be able to participate effectively, with confidence in discussion and written work. Key words and terms are explicit in the Scheme of Work Key words are emphasised in lessons and used in discussion. Lessons include opportunities to discuss in pairs before feeding back to the whole class.	Cross-Curricular opportunities: Science: use of graphs, equations, measures Geography: use of co-ordinates and bearings Technology: use of measures, area, perimeter PE: use of metric units
Our curriculum supports the school value of:			Our curriculum supports personal development by: Students need to develop resilience as they are challenged with harder problems. Students need to deal with being incorrect and thinking further or discussing to ensure that his leads to learning.
Joy	Foster enthusiasm and engagement by Using manipulatives and a variety of representations to develop understanding. By creating challenge at a level where students can achieve success.		Careers / Employability skills: How does the curriculum link to the following employability skills:
Progress	We monitor and support progress through The use of assessment strategies during lessons that support adaptive teaching strategies. Analysis of Sparx homework. Analysis of termly test data with feedback and development work.		Listening – Students need to listen carefully to explanations from their teacher and listen to their peers in class or group discussion Speaking – Students need to speak their ideas on the solutions to problems using correct terminology.
Success	We celebrate success by Giving verbal praise, achievement points, certificates, Sparx leader board, articles in the JPSA Newsletter.		Problem solving – All mathematical knowledge is applied to problem solving Aiming high – Learning become incrementally more challenging as a unit progresses. Teachers aim to ensure students progress as far as they are able.
Act with care, kindness, respect, and integrity	We build meaningful connections with our students by Ensuring a safe and supportive classroom environment with clear expectations of work and behaviour where there is mutual respect for all people in the room and all people feel valued.	Critical thinking – Considering the information available to work with and deciding how best to use it and what calculations should be done. Staying positive – Questions can be challenging and students need to remain positive, find out how to deal with the challenges and understand that being ‘stuck’ ultimately leads to learning if dealt with positively. Leadership – Leading in a group activity or discussion. Feeding back to the whole class on behalf of a group.	

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		Teamwork – Working collaboratively when in a group or when working together as a pair. Being able to share resources fairly and sensible. Creativity – finding novel solutions, writing a clear solution. Employment Sectors discussed include: Place value: nursing, accountants, builders, engineers, stock traders, chefs, athletes Decimals: Nursery Nurses, builders, midwives, athletes, retail assistants, architects, finance, nurses Estimation: Hairdressers, archaeologists, bartenders, builders, virologists, painters and decorators Perimeter: land surveyors, interior designers, lorry drivers, lifeguards, architects, landscape gardeners Algebra: chemists, air traffic control, retail buyers, jewellers, actuaries, surveyors, carpenters, conservation scientists, economists, business analyst Area: architects, interior designers, aerospace designers, gardeners, farmers, marine biologists Patterns: architects, archaeologists, stock analysts, sports coaches, artists, investigators, urban planners, air traffic controllers Angles: architects, carpenters, makeup artists, gardeners, hairdressers, graphic designers, builders, interior designers Measures: hairdressers, builders, nurses, interior designers, dancers, pilots, mechanics, surveyors All via the ‘Maths – Why Bother?’ Series of You Tube clips
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Curriculum impact is evaluated through pupil study, work scrutiny, and progress data. Findings inform regular curriculum review to ensure continuous improvement.

When was this curriculum last reviewed? Include date	What changes were made and why?	How is ongoing improvement ensured?
June 2025	Resources for fractions unit updated in light of work with Maths Hub	QA climate walks
		Review in Faculty time
		Follow up from CPD