

KS3 Curriculum Overview (Mathematics)

Year 7

TERM 1	TOPIC:	*Key Skills/Subject Links	*Career links & BV
Week 1	Introduction to Number; Whole Numbers, 1.3; Mental Maths, Long addition and subtraction; long multiplication; long and short division, Introduction to decimals, Add and subtract decimals	critical thinking - Students can internalize a set of questions to ask that will help them think their way to a solution. To think critically is to follow a clear line of logical steps and reasoning. problem solving - Application of topics in real world situations and application in problem solving is integral to all lessons and also the focus of problem solving lesson and projects. analytical thinking - Decoding questions and extracting information through analysis of the questions is key in all lessons <u>-science: units of measurement; negative numbers (e.g. temperature change)</u> <u>-geography: scale (maps)</u>	Number calculations in maths are linked to a lot of careers including architecture, construction, and trade, Landscaping & Agriculture, Fashion, Apparel & interior design etc.
Week 2	Introduction to Negative Numbers, Add and subtract negative numbers, Multiply and divide negative numbers, Introduction to algebra,		
Week 3	Multiply and divide decimals by powers of 10, Collect like terms, Squares, cubes and roots, Index notation and nth roots, PMPFT Introduction to algebra		
Week 4	Baseline, Introduction to Geometry, Introduction to 2D shapes, Read time		
Week 5	Factors, Multiples, Time and timetables, Catch up		
Week 6	Multiply and divide decimals, Types of decimals, Scales and units of measurement, Metric units, Time and timetables		
Week 7	Multiply and divide algebraically, Laws of indices in algebra, Order of operations, Calculation skills, Catch up		
TERM 2	TOPIC:	quantitative reasoning - Applying logical arguments and developing an understanding of how numbers and mathematics are linked. ability to manipulate precise and intricate ideas - Be flexible, and approach the same problem from different points of view. <u>-business: percentages</u> <u>-art: symmetry</u>	Fractions, Percentages and and 2D are linked to Retail and store, Financial Analyst and Bankers, Data Analyst and Marketers, Scientist and Lab Techs and many more.
Week 1	Introduction to solving equations, Introduction to fractions, Simplify fractions, Order fractions		
Week 2	Line symmetry of 2D shapes, Rotational Symmetry of 2D shapes, Introduction to rounding, Round to decimal places, Round to significant figures		
Week 3	Add and subtract fractions, Introduction to percentages, Percentages and quantities, PMPFT 1		
Week 4	Prime factorisation, HCF and LCM (by prime factorisation), Catch up, Introduction to congruency and similarity		
Week 5	Introduction to 3D Solids - Calculating Volume, Formulae (Word and Algebraic), PMPFT 2		
Week 6	Catch up, Christmas maths, Reflections		
TERM 3	TOPIC:	construct logical arguments and expose illogical arguments - Students will	
Week 1	Multiply and divide fractions, Substitution (into expressions and		

	formulae), PMPFT Multiply and divide fractions	be encouraged to present a solution clearly, making assumptions explicit. Gain insight into a difficult problem by looking at special cases or sub-problems. tackle a problem with confidence , even when the solution is not obvious. <u>-DT</u> : nets <u>-business</u> : percentages	
Week 2	Revision, Translations, Rotations, Convert percentages to fractions or decimals		
Week 3	Perimeter, M2, Find a fraction of a quantity		
Week 4	Improper fractions and mixed numbers, Planes of Symmetry of 3D Solids, Convert terminating decimals to percentages or fractions		
Week 5	Circumference, Calculations using mixed numbers, PMPFT Circumference		
Week 6	Nets, Catch up, Introduction to Ratio		
TERM 4	TOPIC:	communication - Students will respond to the mathematical ideas of another. Explain a mathematical concept or problem so that others will understand it. Read and then restate a problem in your own words or represent it in such a way that others will understand it. <u>-geography</u> : coordinates <u>-business</u> : percentages <u>-DT</u> : area	
Week 1	Area by counting squares, Missing Angles in shapes, Outcomes and tasks		
Week 2	Frequency trees, Introduction to direct and inverse proportion, Convert fractions to percentages		
Week 3	Order fractions, decimals and percentages, Introduction to Coordinates, Equations of vertical and horizontal lines		
Week 4	Introduction to statistics and sampling, Different forms of a ratio, Introduction to Coordinates		
Week 5	Introduction to inequalities, Constructing Angles, Catch up		
Week 6			
TERM 5	TOPIC:	time management - Emphasizing strong time management skills through maths will be a key foundation for students' success. <u>-science</u> : bar charts <u>-geography</u> : pie charts, bar charts; currency conversion <u>-business</u> : currency conversion <u>-food tech</u> : ratio mixing recipes	
Week 1	Pictograms, Catch up, Revision		
Week 2	Revision, Revision, Revision		
Week 3	Exam week, Exam week, Exam week		
Week 4	Using equivalent ratios: Currency conversions, Using equivalent ratios: Mixing questions, Revision		
Week 5	Data collection, Bar charts: Interpreting, PMPFT Bar charts: Interpreting		
TERM 6	Topic:	teamwork - Encourage collaboration and sharing mathematical journeys in smaller and larger groups on a regular basis.	
Week 1	Constructing Shapes,		
Week 2	Bar charts: Drawing, Mode, median and mean, Pie charts		
Week 3	All averages,		
Week 4	Roll over,		
Rollover			
Week 5		independence - We expect students to do much of the	
Week 6			

Week 7		thinking and speaking during each lesson. There are consistent expectations for student participation.	
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YEAR 8

TERM 1	TOPIC:	*Key Skills/Subject Links	*Career links & BV
Week 1	Percentage change, Straight-line graphs from a table of a values,	critical thinking - Students can internalize a set of questions to ask that will help them think their way to a solution. To think critically is to follow a clear line of logical steps and reasoning. <u>-science: standard form</u> <u>-business: percentages</u>	Probability is linked to Risk Assessment, Pricing, Weather forecasting, Video Game Design & Casino, Finance, Stocks Trading & Crypto.
Week 2	Introduction to angles in parallel lines, Probability scale and numbers,		
Week 3	Introduction to standard form, Other Data Analysis: Range and Quartiles,		
Week 4	Sampling, Catch up, Probability scale and numbers		
Week 5	Calculating probabilities, Convert numbers to standard form,		
Week 6	Straight-line graphs without a table of values, Using a frequency table, PMPFT Straight-line graphs without a table of values		
Week 7	Catch up, M1,		
TERM 2	TOPIC:		
Week 1	Solve equations by trial and improvement, Using ratios to share quantities, M1 review	problem solving - Application of topics in real world situations and application in problem solving is integral to all lessons and also the focus of problem solving lesson and projects. analytical thinking - Decoding questions and extracting information through analysis of the questions is key in all lessons <u>-science: units of area & volume</u> <u>-computer science: sequences</u> <u>-geography: scale factor</u>	Area and Volume is linked to Real Estate, Logistics and Shipping, Packaging designers and many more
Week 2	Congruence in triangles, Use congruency to calculate angles and sides, PMPFT 1		
Week 3	Introduction to arithmetic sequences, Two-way tables, Revision		
Week 4	Similarity and scale factors, Stem and leaf, Revision		
Week 5	Catch up, Units of Area and Volume, PMPFT 2		
Week 6	Sample space diagrams, Catch up, Revision		
Week 7			
TERM 3	TOPIC:		
Week 1	Nth term rule for arithmetic sequences, Area of a rectangle and triangle, Revision	quantitative reasoning - Applying logical arguments and developing an understanding of how numbers and mathematics are linked. ability to manipulate precise and intricate ideas - Be flexible, and approach the same problem from different points of view. <u>-DT: area</u> <u>-food tech: ratio mixing recipes</u> <u>-computer science: sequences</u>	Ratio and Proportions are linked to Engineering & Model making, Digital Media, Photography & Film, Chemical Engineering & Food Science and many more
Week 2	Introduction to Pythagoras' Theorem, Applied direct proportion: Best value, PMPFT Introduction to Pythagoras' Theorem		
Week 3	Time Series, M2, Revision		
Week 4	Applied direct proportion: Recipes, Area of compound shapes, PMPFT Applied direct proportion: Recipes		
Week 5	Gradient of a line segment, Area of a circle, Revision		
Week 6	Use Pythagoras' Theorem, Catch up, Revision		
Week 7			

TERM 4	TOPIC:	construct logical arguments and expose illogical arguments - Students will be encouraged to present a solution clearly, making assumptions explicit. Gain insight into a difficult problem by looking at special cases or sub-problems. tackle a problem with confidence , even when the solution is not obvious. -food tech: ratio mixing recipes -science: surface area -DT: surface area	
Week 1	Volume of a cuboid, M2 PMPFT, Revision		
Week 2	Plans, Elevations and Isometric Drawings, KS 3 Graphs, Revision		
Week 3	Applied direct proportion: Recipes, Using equivalent ratios: Units and scale drawings, Arithmetic		
Week 4	Gradient of a line segment, Surface area of a prism, Arithmetic		
Week 5	Loci, Frequency polygons, PMPFT Gradient of a line segment		
Week 6	Interior and Exterior angles of a polygon, Surface area of a cylinder, Revision		
TERM 5	TOPIC:	communication - Students will respond to the mathematical ideas of another. Explain a mathematical concept or problem so that others will understand it. Read and then restate a problem in your own words or represent it in such a way that others will understand it.	Scatter Graphs are linked forecasting.
Week 1	Catch up, Catch-up, Revision		
Week 2	Revision, Revision, Scatter graphs: Drawing		
Week 3	Exam week, Exam week, Exam week		
Week 4	Estimation, Scatter graphs: Drawing, Revision		
Week 5	Maps and scale drawings, Introduction to bounds, Catch up		
TERM 6	Topic:	time management - Emphasizing strong time management skills through maths will be a key foundation for students' success. -science: compound measures	
Week 1	Compound measures,		
Week 2	Factorisation,		
Week 3	Truncation, Bearings, Direct proportion algebraically		
Week 4	Expand double brackets,		
Rollover			
Week 5		teamwork - Encourage collaboration and sharing mathematical journeys in smaller and larger groups on a regular basis. independence - We expect students to do much of the thinking and speaking during each lesson. There are consistent expectations for student participation.	
Week 6			
Week 7			

Year 9 (If Applicable)

TERM 1	TOPIC:	*Key Skills/Subject Links	*Career links & BV
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			
TERM 2	TOPIC:		
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
TERM 3	TOPIC:		
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
TERM 4	TOPIC:		
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
TERM 5	TOPIC:		
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
TERM 6	Topic:		
Week 1			
Week 2			
Week 3			
Week 4			
Rollover			
Week 5			
Week 6			
Week 7			

*Careers and British Values (BV) – This is a key area to address due to the new OFSTED framework. We need to consider how our curriculum links to careers and British Values. Below I have included some information on this to help make this evident in your schemes of work. **Please identify at least 5 areas within your scheme of work that coincide with future careers and values. There is no need to fill every week in with a link!**

*Key Skills and cross-department links – We are looking to create these overview sheets to try and map what we are doing across the school and see if we can support one another. In this column please detail if there is a key skill that you are focusing on and whether this topic could be supported by another subject. For example, English may be looking at the text 'A Christmas Carol' and History may be able to support with the topic of Victorian Britain. This is an opportunity to ensure we are supporting each other across departments. **Again, please identify 5 areas within your scheme of work where you would like this to happen.**

NB: The new OFSTED framework will critique the reason for a 2-year KS3 rather than 3. We need to look to the National Curriculum in your subject to ensure we are covering the entirety of this in Year 7 & 8.

Further information – Career links and British Values

The key objectives for work-related learning are:

- To promote greater awareness for students about the world of work, the development of key skills and employability.
- To promote awareness and understanding of work, industry, the economy and community.
- To relate skills attitudes, concepts and knowledge learned in school to applications in the wider world.
- To improve employability through work-related learning to develop effective links with key partners and local industry

