



SAINT JOHN WALL CATHOLIC SCHOOL
A Catholic School For All



Departmental Schemes of Work

Curriculum Intent: “To educate each and every unique child in our care to hear and respond to what God calls them to be”.

KS3 Maths – Year 8

Mathematics Curriculum Intent

Mission Statement	School Curriculum Intent	Maths Curriculum Intent
'To educate	Our skilled teachers and support staff live out their vocation to serve and teach children and young people at Saint John Wall Catholic School	We have a team with over 90 years combined experience teaching secondary mathematics. We are a forward-thinking department, who have recently undergone training in 'mastery within maths'. Our work using modelling and key representations, moving from concrete to pictorial to abstract maths, helps to support staff in delivering the logically sequenced scheme of work, ensuring that there are many opportunities for interleaving and retrieval practice.
each and every	We are ' <i>A Catholic School For All</i> ' and we welcome pupils from each and every diverse background, faith and culture into the Saint John Wall community.	Every child deserves to be able to access the mathematics curriculum, and our department aims to develop in each and every pupil an understanding of the universal language of mathematics. Our curriculum intent is to actively support each and every student in developing positive productive dispositions towards mathematics, through enjoyment of the subject. We aim to enable pupils to have confidence in its everyday uses. We show inclusivity within our lessons, and try to have representation for our pupils at any possible opportunity.
unique child	We value human dignity and recognise every child as a unique individual made in the image of God.	As a school with a high number of EAL pupils, our curriculum has been chosen and adapted to support the literacy needs of our pupils, with a lot of emphasis spent on reading and understanding each question. All pupils have access to the same 5-year curriculum. Our 'Small Step' approach ensures access to the curriculum for all of our pupils, with lessons tailored to support individual pupils via the use of stretch and scaffolding strategies. our unique school, each child grows with confidence and mathematical ability at different speeds. To support this, pupils can move between the foundation and higher examination all the way until year 11.
in our care	We provide high levels of care within a respectful and disciplined environment to safeguard children's wellbeing, welfare and safety.	The maths department have high expectations of behaviour, attitudes to learning and presentation of work. The maths department are caring individuals' who will go above and beyond to support the mathematical growth and development, as well as the safety, of all of our pupils.
to hear	We instil SJW values and encourage spiritual, moral, social, cultural and emotional personal development so that our young people are open to hear God's calling.	We intend to encourage the fluency of mathematics, as well as help the pupils to be able to interpret, explain, predict and represent events and to solve problems independently. We also teach perseverance and resilience, alongside the numeracy skills that are needed daily, ensuring that each child is well prepared for the next stage in their education.
and respond	We foster our young people's gifts and talents so they are equipped with skills, knowledge and qualifications to create opportunities to be able to respond to God's calling.	We want learners to have a positive attitude to solving problems with independent and resilience, encouraging them to be Curious and Active as lifelong learners. The study of mathematics helps pupils to become logical thinkers, giving them the best preparation for their lives. We offer the opportunity for pupils to sit a foundation (grade 1-5) or higher (grade 5-9) examination, dependent on their ability, and extra entry level qualifications are offered to our SEND pupils.
to what God calls them to be'	Taking Jesus Christ as a role-model we help pupils understand what God calls them to be; informed and responsible citizens whose vocation in life contributes to peace, tolerance, justice and service in both our local community and wider society.	As a department, we want our pupils to leave confident with their use and application of number. Pupils who have flourished in the subject may go on to complete A level, and maybe a degree, in mathematics. Some may use their mathematical talents in applied fields like engineering and accounting. All pupils will use maths when working with their own finances. Each topic has real life links, as well as cross curricular links, ensuring that pupils can see the real uses of maths in their lives. We aim for as many pupils as possible to achieve their potential in mathematics by achieving grades 9-1, although a few SEND pupils may be entered for Entry Level to enable them to have the best possible choices in hearing and responding to their vocational calling.

Year 8 Maths Scheme of Work Overview

Sequencing of topics	Autumn term 1:	<p>Proportional Reasoning: Ratio and scale, multiplicative change, multiplying and dividing fractions</p> <ul style="list-style-type: none"> How to use scale factors, scale diagrams and maps. How to express a multiplicative relationship as a ratio or a fraction. How to solve problems involving ratio and direct and inverse proportion. How to formulate proportional relationships algebraically. How to move freely between different numerical, algebraic, graphical and diagrammatic representations. How to multiply and divide fractions, with an emphasis on improving understanding of the underlying algorithms. 	Spring term 2:	<p>Developing Number: Number sense, fractions, percentages, standard form</p> <ul style="list-style-type: none"> How to calculate percentage increase and decrease. How to express one number as a fraction or percentage of another. How to interpret and solve problems, including in financial maths. How to use integer powers and real roots and know powers of 2, 3, 4, 5 How to interpret and compare numbers in standard form. How to convert between metric units How to round numbers and measures to an appropriate degree of accuracy. How to solve problems with time.
	Autumn term 2:	<p>Representations: Working in the Cartesian plane, representing data, tables & probability</p> <ul style="list-style-type: none"> How to recognise, sketch and produce graphs of linear functions, using equations in x and y and the Cartesian plane. How to describe simple mathematical relationships between two variables and illustrate using scatter graphs. How to generate theoretical sample spaces and use these to calculate theoretical probabilities 	Summer term 1:	<p>Developing Geometry: Angles in parallel lines and polygons, area of trapezia and circles, line symmetry and reflection</p> <ul style="list-style-type: none"> How to solve increasingly complex missing angles problems. How to derive and illustrate properties of plane shapes using appropriate language and technologies. How to apply formulae and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, circles and composite shapes. How to describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric.
	Spring term 1:	<p>Algebraic techniques: Brackets, equations and inequalities, sequences, indices</p> <ul style="list-style-type: none"> How to expand over a single bracket and factorise an expression. How to solve equations and inequalities. How to recognise arithmetic, geometric and other sequences. How to find the nth term of an arithmetic sequence. How to use and interpret algebraic notation. How to use language and properties precisely to analyse algebraic expressions. How to model situations mathematically and express the results using a range of formal mathematical representations. 	Summer term 2:	<p>Reasoning with Data: The data handling cycle, measures of location</p> <ul style="list-style-type: none"> How to describe interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outlier). How to construct and interpret appropriate tables, charts and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) for ungrouped and grouped numerical data.
Calendared assessments	<ul style="list-style-type: none"> Two assessment week exams (Spring Term and Summer Term). Seventeen mini assessments to assess understanding after each topic (approximately 5/6 per term). 			
Personal Development <i>(Cross curricular, SJW Values, SMSCV, cultural capital)</i>	<ul style="list-style-type: none"> The departmental focuses on promoting "Active and curious" on a daily basis through problem solving by developing effective questioning through explicitly encouraging the pupils to ask 'what if..', 'what do you think..', 'how do you know...' so they remaining active and curious in their search for new methods and solutions. Teamwork through peer assessment and group work underpins the schemes of learning. Students learn cross curricular skills which they will need to use appropriately in other subjects including tables, graphs, reading scales, units, equations, shapes and measures. Students work together in all areas of Mathematics to support each other and build mutual respect for one another in an environment where they are allowed to make mistakes and learn from them. This fosters confidence and builds self-esteem, encouraging students to take risks and become active and curious lifelong learners whilst using their mathematical skills in all aspects of life. 			
Progression model	What knowledge will pupils develop? (Including key terminology)		What skills will pupils develop? (Including literacy & Numeracy)	
	<p>The knowledge developed will depend on the starting level for different pupils. The aim is to build on the knowledge pupils bring to each topic by the use of diagnostic activities at the start of each unit of work to ensure that pupils are taking the appropriate next steps in their learning from their individual starting points. The Scheme of work ensures that every pupil progresses during each topic.</p>		<ul style="list-style-type: none"> Literacy – This is embedded into lessons at various locations in the form of starters, Frayer models as well as conversations about key words and command words. Representing – making correct use of symbols, words and diagrams Analysing – identifying and describing relationships, making generalisations Interpreting – interpreting general statements or conclusions, evaluating different approaches 	
Development homework	<p>Online developmental homework is set on Maths Watch each half term with a selection of practice questions on the topics which pupils have covered in lessons. Staff steer the pupils to appropriate sections at suitable times during the course.</p>			