



The James Young High School

S1 Phase Information Evening

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Presentation Outline



Course Structure and Pathways In S1



Overview of Content S1



Digital Learning Resources / Extra Support



Attitude and Homework Expectations



Supporting at Home

Why maths

The book of nature is written in language of mathematics – Galileo

- The objects in mathematics behave according to the rules.
- The quest of mathematics is to uncover and describe these rules governing the inhabitants of the abstract plane, to find the laws of these realms and explore their implications and applications.
- To see the behavior of mathematics and to live-in it is to see rational, elegant truth in the world, and it is beautiful.
- The school mathematics curriculum is typically categorised according to the following areas: number, algebra, shape, ratio and proportion, probability, and statistics, and in some places a separate area called “mathematical reasoning”

S1 Classes

Unlike many other subjects students come to maths classes based on prior attainment.

Mathematical knowledge is vertical and it's important that all knowledge is mastered.

Students have chance to change classes at key points throughout the year.

Assessments in November.

End of year test April.

Teachers feedback at regular intervals

Corrective
Maths

1M8

1M9

Mixed prior
attainment

1M3

1M4

1M5

1M6

1M7

Highest
prior
attainment

1M1

1M2

S1 Course Overview

The table below indicates the topics and the time frame in which they are taught during S1. The topics listed within a timeframe aren't necessarily taught in the order listed, but will be covered within the time frame and before an assessment. (This is a guide and is subject to change).

Time Frame	Topic	Description	Checklist
August - September	New Assessment Non-Calc and Calculator	<ul style="list-style-type: none"> This assessment along with information provided by the primaries will be used to create/set classes in S1. No preparation is required for this assessment. Setting takes place near the September weekend. 	
	Whole Numbers	<ul style="list-style-type: none"> Read/interpret worded questions (decide whether to +, -, x or ÷) Place value Thousands, Hundreds, Tens & Units (TH H T U etc) Sum construction (chimney sum (+, -, x), bus-stop (÷)) Write worded numbers using digits & vice versa. Reading basic scales (preparation for Home economics in S2) 	
	Calculator Use	<ul style="list-style-type: none"> How to use a basic calculator relating to multi-stage calculations. Know how to put fractions into a calc e.g. $\frac{1}{2}=0.5$, $\frac{1}{4}=0.25$, $\frac{3}{4}=0.75$ etc. Money problems (mix p and £). E.g. know that 5.3 means £5.30 How to transcribe calculations as working. (emphasis on showing working before using calc to retain answer) 	
	Measurement_1	<ul style="list-style-type: none"> Use of ruler to draw/measure (mm & cm) Use a protractor/(compass) to measure/draw Triangle construction (incorporating use of a ruler and protractor) Measure weight/liquid capacity-linking back to reading scales Metric system (unit conversion taught at a later date) 	
	Co-ordinates_1	<ul style="list-style-type: none"> Plot/read points in 4 quadrants and in the context of constructing shapes 	
September - October	Decimals	<ul style="list-style-type: none"> Place value, relation to fractions (10ths, 100ths, 1000ths) Ordering decimal numbers (highest to lowest & vice versa) Reading decimal scales Sum Construction, including money problems & dealing with unusual quantities (104.5p per litre etc) 	
	Algebra_1	<ul style="list-style-type: none"> Meaning/use of algebra & Simplifying expressions (collecting like terms) Substitution (replacing a letter with a number) 	
	Fractions	<ul style="list-style-type: none"> Meaning of fractions (numerator/denominator) – Recognise and create Equivalent fractions Simplifying Fractions Fraction of a quantity (Find $\frac{3}{4}$ of 20) 	

January - March	Data & Analysis	<ul style="list-style-type: none"> Data representation – reading/drawing pictographs/bar graphs/line graphs & simple pie charts, Extension – reading more complicated pie charts Extension – intro to calculation methods for averages e.g. find the mean 	
	Probability	<ul style="list-style-type: none"> Find/interpret simple probabilities expressed as a fraction (decimal/percentage) 	
	2D shapes/Area	<ul style="list-style-type: none"> Language/properties associated with 2D shapes (particularly triangles/quadrilaterals) & (parallel/perpendicular/diagonal/bisect) Labelling points/lines/angles Perimeter/Area of square/rectangle/(triangle) and composite shapes 	
	3D shapes/Volume	<ul style="list-style-type: none"> Language/properties associated with 3D shapes (vertex/edge/face) Recognize/draw/make nets+3D models of cube/cuboid/triangular prism Volume of cube/cuboid Liquid volume (1ml = 1cm³, 1L = 1000ml) 	
	Percentages_2	<ul style="list-style-type: none"> Calc. find x% of y for a wider range of percentages Extension – test score expressed as a % 	
	Measurement_2	<ul style="list-style-type: none"> Metric unit conversion (convert between metres,centimetres,millimetres & kilometres. 	
	Multiples/Factors & Primes	<ul style="list-style-type: none"> Multiples – Know what is meant by a multiple and be able to find the Lowest Common Multiple of two or more numbers Factors – Know what is meant by a factor and be able to find the Highest Common Factor of two or more numbers Primes (sieve of Erasthones, Factor Trees) Extension – Square/Triangular numbers/Powers 	
	History of maths (project)	<ul style="list-style-type: none"> Perspective on maths, Researching and processing information, Presentation of results. (Pupils will be able to select an area of maths/mathematician to research as part of a group, and present their findings) 	

Download the Complete Scheme of Work from this link : [S1 Scheme of work](#)


Corrective Maths


Part of worlds largest ever educational experiment
Project follow through.

Focus on building the foundation of maths and catching students up to required level by S3

Scripted lessons and workbooks.

Distance Learning Scheme of Work

 [S1 Scheme of Distance Learning](#) [382.0KB]

 [S2 Scheme of Distance Learning](#) [153.31KB]

Link to website to download distance learning materials – [Website Link](#)

After School Support BGE

Wednesday Lunchtime

A typical maths lesson

Lesson Evaluation Toolkit :typical features of high-quality lessons		
Elements	Illustrations	Notes
Smooth Start	<ul style="list-style-type: none">• Students come into lessons and settle within the first 5 minutes.• Students have a set routine to begin the lesson• Students know how to collect all resources for the lesson	
Shared Goal	<ul style="list-style-type: none">• The goal of the lesson is shared with the students.• The goal is highlighted throughout the lesson.• Links to applications, the curriculum as appropriate• The students can articulate when asked what the goal of lesson was.	

<p>Teaching for long term retention</p>	<p>Lesson was.</p> <ul style="list-style-type: none"> • Previous learning is reviewed. • Quizzes are used to check for understanding • Linking of current content to previous content, interleaving/ interweaving. 	
<p>Modelling the learning</p>	<ul style="list-style-type: none"> • Clear verbal and visual presentation of the material. • Analogies and concrete representation used where appropriate • Prerequisites are checked before beginning new content. • Presentation is interactive with frequent checks for understanding. • All students participating in questioning, whole class response, cold call, show me boards. • Wait time given for high order questions / think pair shares used. • Students obtain a high success rate before independent practice. 	

<p>Independent Practice</p>	<ul style="list-style-type: none"> • Students get chance to practice material independently • Students have access to answers to check progress. • Teacher observes throughout the room, giving feedback as necessary. • All students obtain success and appropriate challenge. 	
<p>Relationships</p>	<ul style="list-style-type: none"> • Teacher knows the students well. • Students are praised for effort. • High expectations of behaviour and quality of work. • Time and resources are used effectively • Poor student behaviour is dealt with in a systematic and calm manner. 	
<p>Lesson Exit</p>	<ul style="list-style-type: none"> • Lesson is ended in calm and orderly fashion. • Students have a chance to reflect on their learning • Exit tickets are used to check for understanding 	



Attitude and Expectations

Encourage a positive attitude about maths

Encourage them to agents of change and take personal responsibility , take advantage of the extra classes and online support.

All Students need a calculator.

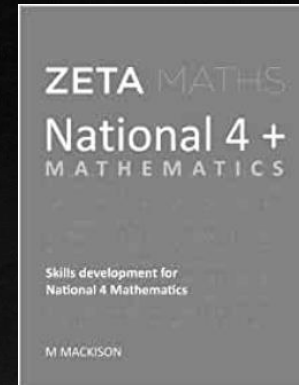
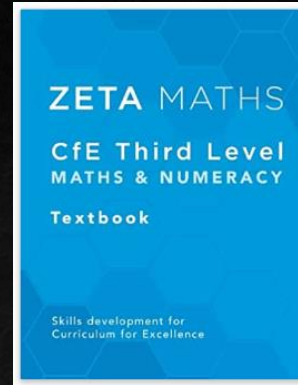
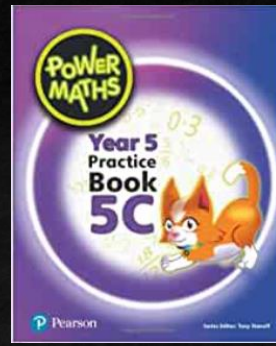
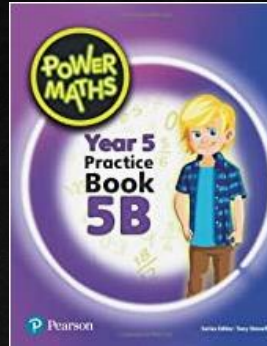
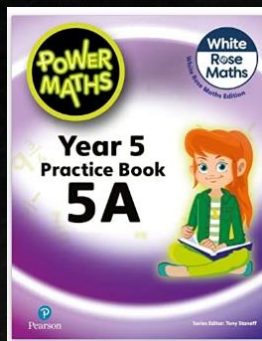
HW should be given to all students at least one per week, HW will average about 30 minutes per week.

Beware the Dangers of phone use and social media especially in the run up to assessments.

High Attendance is key , number one indicator in research study in England for obtaining 5 good GCSE was attendance above 95%.

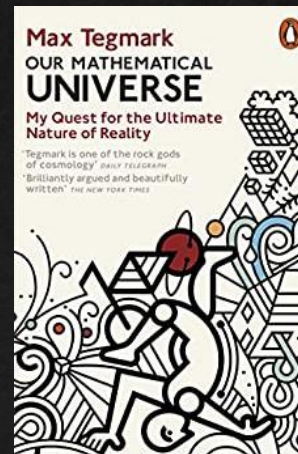
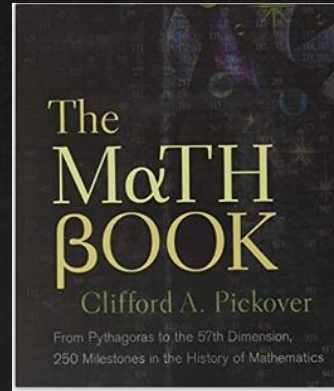
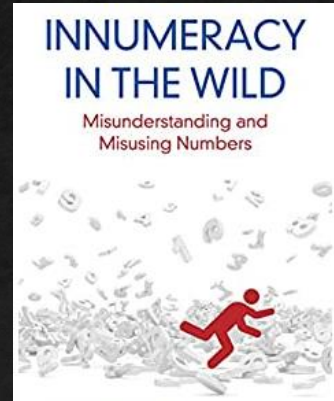
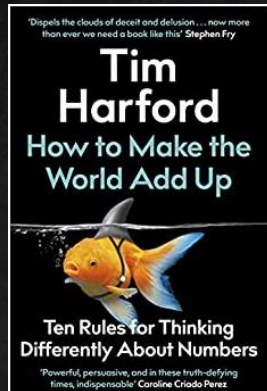
Wanting the Extra Push

Recommend Textbooks for extra work at home



Podcasts : [Curious cases of Rutherford and Fry](#)

Numberphile



Questions Please