The James Young High School

S3 Phase Information Evening

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Presentation Outline

- Course Structure and Pathways In S3
- Overview of Content S3
- 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”

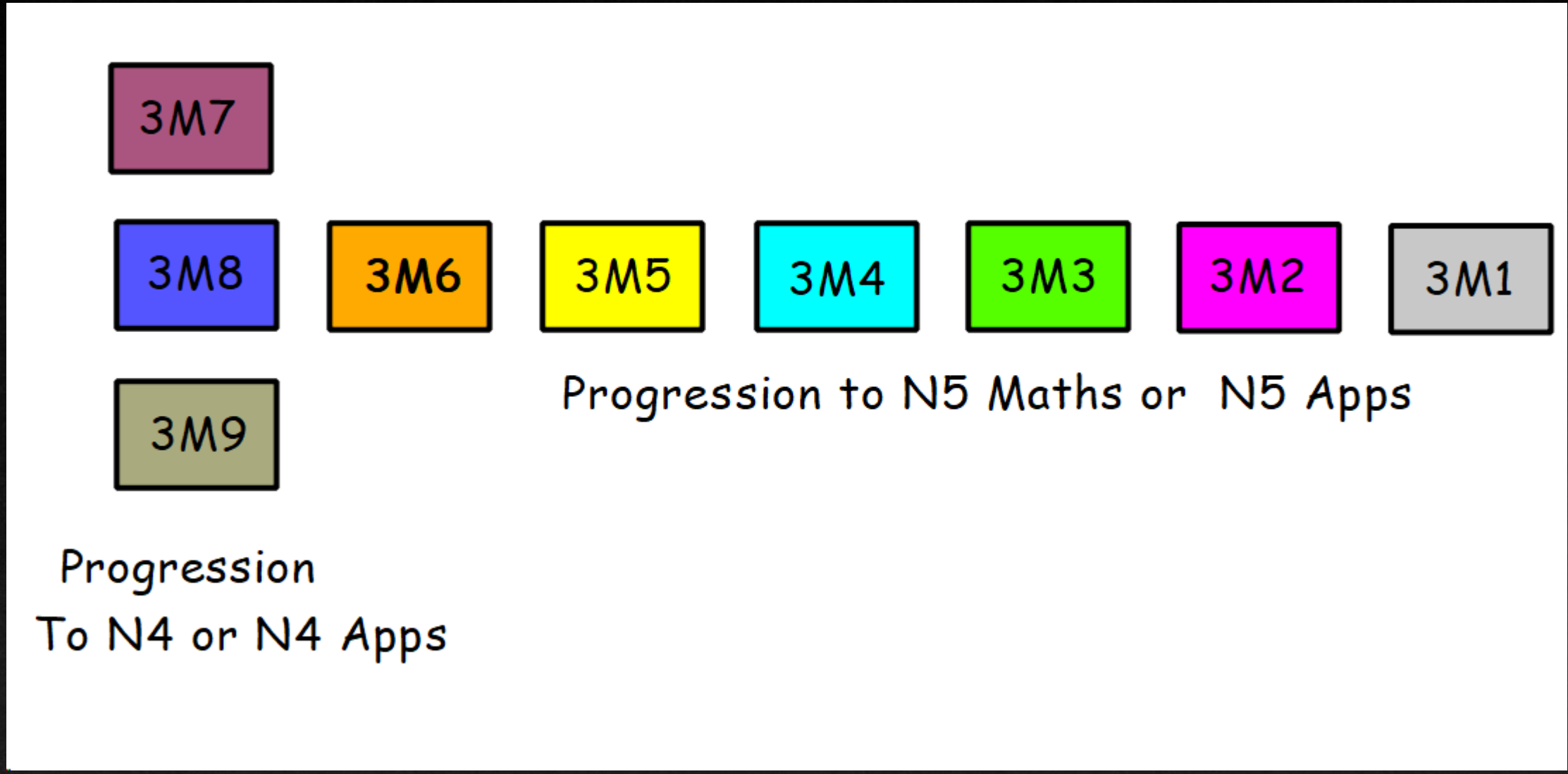
S3 Classes

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

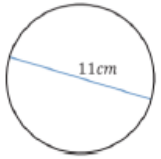
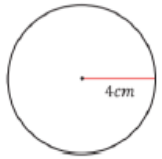
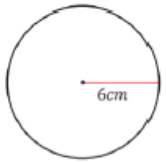
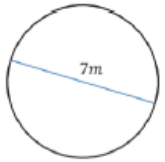
Mathematical knowledge is vertical and it's important that all knowledge is mastered.

Students start to prepare for Snr Phase in S3 so class changes can be difficult.

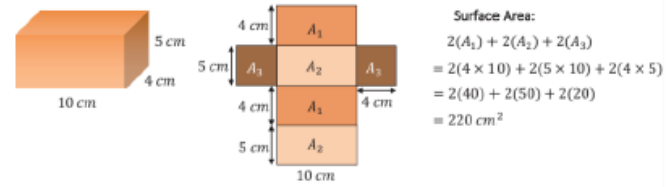
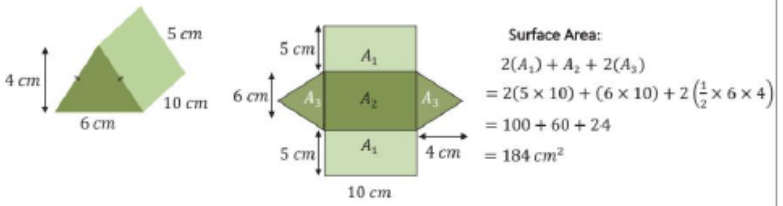
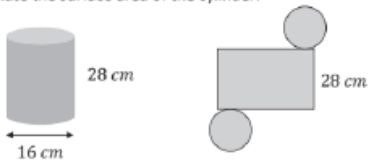
Students aim to achieve level 3 or 4 maths in s3, with numeracy +1


3M7
3M8
3M6
3M5
3M4
3M3
3M2
3M1
3M9
Progression to N5 Maths or N5 Apps
Progression
To N4 or N4 Apps

The Circle

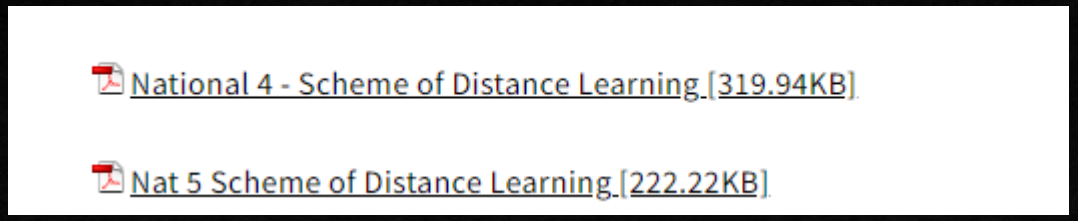
Knowledge	Example Questions	Resource
The circumference of a circle	1. Find the circumference of the circle.  $C = \pi D$ $C = \pi \times 11$ $C = 34.6cm$ (1 d.p.) 2. Find the circumference of the circle.  $C = \pi D$ $C = \pi \times 8$ $C = 25.1cm$ (1 d.p.)	The Circle
The area of circle	1. Find the area of the circle.  $A = \pi r^2$ $A = \pi \times 6^2$ $A = 113.1cm^2$ (1 d.p.) 2. Find the area of the circle.  $A = \pi r^2$ $A = \pi \times 3.5^2$ $A = 38.45\ cm^2$ (2 d.p.)	The Circle
Calculating the radius or diameter when given circumference or area	1. Find the diameter a circle with a circumference of $45cm$. $C = \pi D$ $D = \frac{C}{\pi}$ $D = \frac{45}{\pi}$ $D = 14.3cm$ (1 d.p.) 2. Find the radius a circle with an area of $50cm^2$. $A = \pi r^2$ $r^2 = \frac{A}{\pi}$ $\quad r = \sqrt{\frac{50}{\pi}}$ $r = \sqrt{\frac{A}{\pi}}$ $r = 4.0cm$ (1 d.p.)	The Circle

Surface Area

Knowledge	Example Questions	Resource
Surface area of cubes/cuboids	By first sketching a net of the cuboid, calculate its surface area.  Surface Area: $2(A_1) + 2(A_2) + 2(A_3)$ $= 2(4 \times 10) + 2(5 \times 10) + 2(4 \times 5)$ $= 2(40) + 2(50) + 2(20)$ $= 220\ cm^2$	Surface Area
Surface area of Prisms	 Surface Area: $2(A_1) + A_2 + 2(A_3)$ $= 2(5 \times 10) + (6 \times 10) + 2\left(\frac{1}{2} \times 6 \times 4\right)$ $= 100 + 60 + 24$ $= 184\ cm^2$	Surface Area
Surface area of cylinder	Calculate the surface area of the cylinder.  We can calculate the area of the two circles from the given diameter. The length of the rectangle in the net is the same as the circumference of the circle. **Surface Area:** $2(\pi r^2) + l \times b$ $= 2(\pi r^2) + (\pi D \times b)$ $= 2(\pi(8)^2) + (\pi(16) \times 28)$ $= 1809.55\ldots = 1809.6\ cm^2$ (1 d.p)	Surface Area

Download the Complete Scheme of Work from this link : S3 N4 to N5 pathway

Topics in N5 Math's and Applications



Link to website to download distance learning materials – Website Link

Zeta Maths Subscription

Log in - Zeta Maths

Password : Jysch

After School Support BGE

Wednesday After School Selected Days in Bulletin

A typical maths lesson

Lesson Evaluation Toolkit :typical features of high-quality lessons		
Elements	**Illustrations**	**Notes**
Smooth Start	• 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	• 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.	

	lesson was.	
Teaching for long term retention	• Previous learning is reviewed. • Quizzes are used to check for understanding • Linking of current content to previous content, interleaving/ interweaving.	
Modelling the learning	• 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.	

Independent Practice	• 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.	
Relationships	• 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.	
Lesson Exit	• 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.

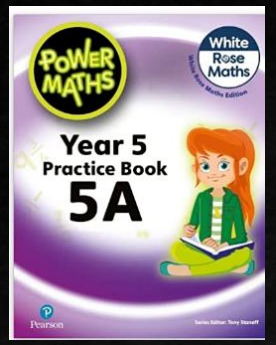
All Students need a calculator.

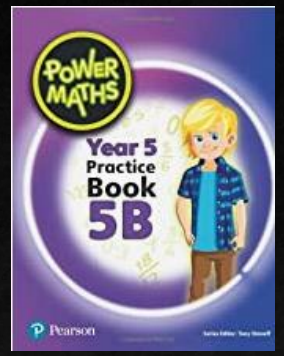
HW should be given to all students at least one per week, HW will average about 30-45 minutes per week.

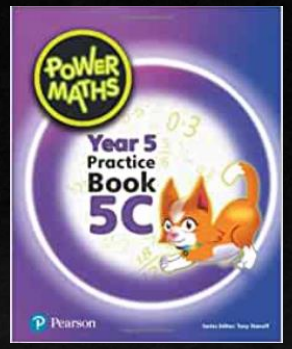
Beware the Dangers of phone use and social media especially in the run up to assessments.

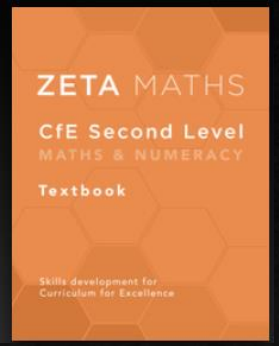
High Attendance is key , number one indicator in research study in England for obtaining 5 good GSCE was attendance above 95%.

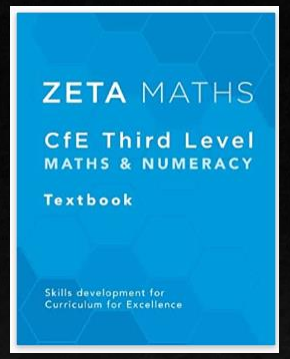
Wanting the Extra Push





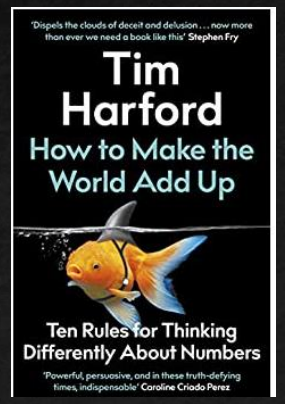


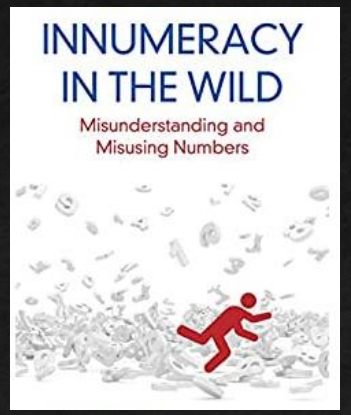


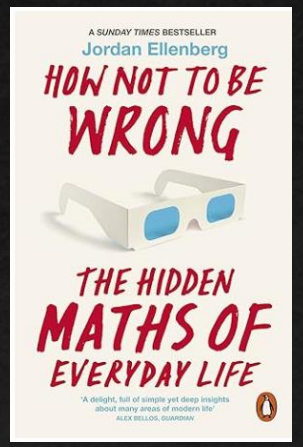


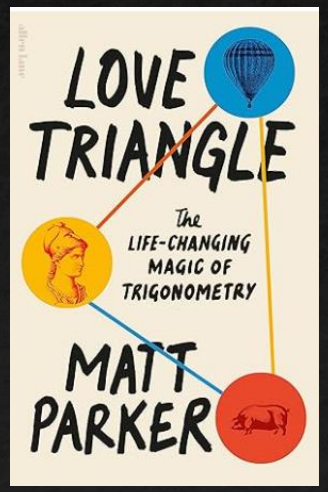
Podcasts : [Uncharted with Hannah Fry]

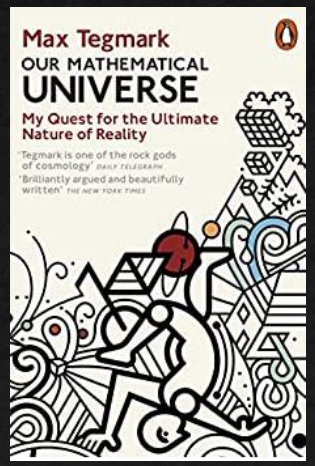
[Numberphile]











Questions Please

Contact me anytime at :
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