Broadening Horizons

Our intent is that all students have a full understanding of how to develop themselves as well rounded citizens. We want all students to know what options are open to them in the future and understand the routes they have in order to progress on their life journey.

Our curriculum will include:

- Exposing learners to worded problem-solving questions based on real life situations
- Using Maths across the curriculum, such as correlation and hypothesis testing in Biology and kinematics in Physics
- Opportunities throughout the curriculum that expose learners to careers involving mathematical knowledge and skills

Careers

Mathematics is a subject that can lead to many fascinating career paths, including those in Science, Engineering, Finance and Technology. Interpreting data is a critical skill that is used in many careers, including data analysis, market research, and social sciences.

By encouraging your children to develop their mathematical skills, including statistics and probability, they can open up a range of exciting career opportunities in these fields and more.

Maths plays a critical role in fields such as computer programming, data analysis, and cryptography, where a strong understanding of mathematical concepts is essential. Maths is also an important skill for careers in Medicine, where precision and accuracy are paramount.

By developing a strong foundation in Maths, your children can open up a range of exciting career opportunities and pave the way for a successful future.

Immerse Yourself

Log onto your MathsWatch Account here

Students have access to Mathswatch to support their revision. This includes videos and practice questions that students can use to gain further practice as needed.

Following each assessment, students are provided with clear bespoke direction related to each area for development that is identified by their teacher. This may be related to a range of resources provided by their teacher.

Students are all encouraged to attend a weekly booster in which further work and support is provided to support them alongside their studies and revision.

As part of our commitment to supporting our A Level students, we require all students to follow a set structure for their organisation and notes. This allows students to ensure that their notes are easily accessible as and when needed both during lessons and outside of lessons.

In addition to the ordinary A Level Maths course, some students also wish to extend their mathematical knowledge by taking the Further Maths A Level as well. This is another A Level completely but is highly desirable to top Universities in order to apply to study their Mathematics courses.

Praise and Reward

Our rewards system can be broadly split into four categories: classroom level, subject level, school level and privilege rewards. We'll focus on classroom and subject rewards here - for more information about our rewards schemes, please see our website.

CLASSROOM LEVEL REWARDS

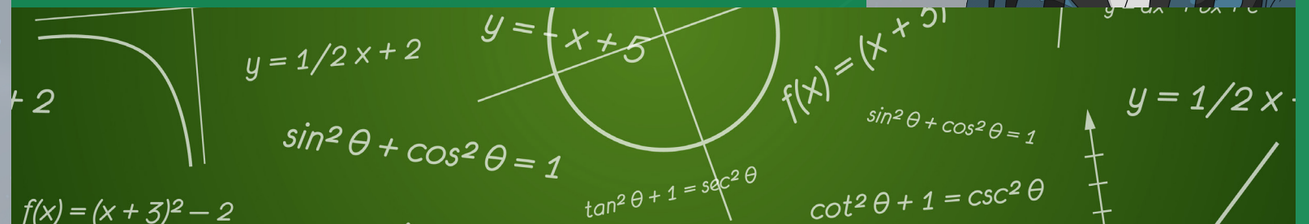
Awarded for: working hard, taking risks and rising to a challenge, making mistakes and learning from them, helping others, and taking pride in the school community.

Rewarded by: praise postcards, positive phone calls to parents/ carers, positive text messages home, and lesson-based prizes.

SUBJECT LEVEL REWARDS

Reward scheme: Star of the Week, curriculum awards (Subject/ School Way, participation, working with pride, embracing the whole curriculum), high flyer, extra mile, most improved.

Rewarded by: names displayed on reward boards, certificates, social media posts.



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Leonhard Euler

Leonhard Euler invented a new field of mathematics - the Eulerian pat. Scan the QR to see how a small problem led Euler to discover a whole new field of maths, way ahead of his time.

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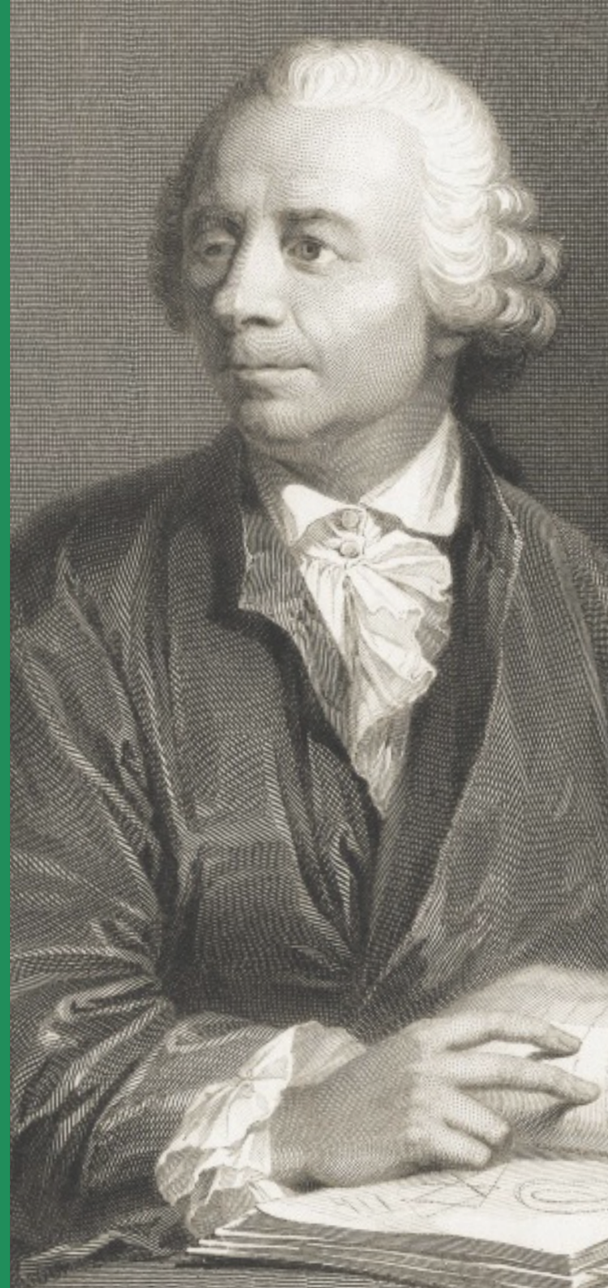
MATHS

YEAR 13

Curriculum Newsletter

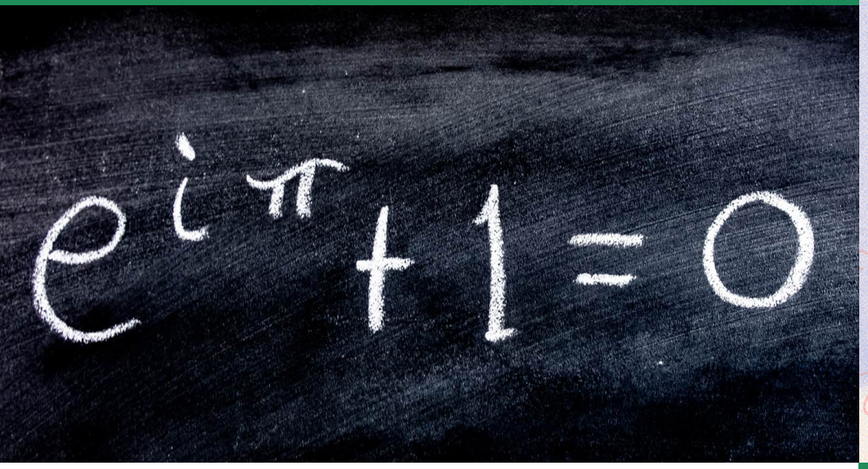


Curriculum Intent

It is our intention that every student leaves school confident and competent to deal with any mathematical problem they may face in their lives and future careers.

This is achieved through promoting students to; be resilient in their approach, take risks to deepen their knowledge, forge valuable working relationships and take responsibility for and enjoy their learning. We aim to push students to be the best mathematicians by building up their skills base and maximising their attainment and understanding in mathematics at whichever stage that may be.

We ensure a coherent mathematics scheme of work that challenges all students and promotes teaching and learning; this provides students with the knowledge and skills to achieve well academically, and be successful once their education with us ends.



Year 13 Curriculum

In Y13, students build on the knowledge and skills acquired in Y12 on the three main areas - Pure, Statistics and Mechanics.

Pure Mathematics is made up of 9 main topics:

- Proof - proof by contradiction
- Algebra and Functions - partial fractions, algebraic division and transformations
- Coordinate Geometry in the (x,y) plane - converting between Cartesian and parametric forms and modelling with parametric equations
- Sequences and Series - arithmetic and geometric sequences
- Trigonometry - radians, trigonometric identities and solving simple trigonometric equations
- Differentiation - the second derivatives of f(x), the chain, product and quotient rules and differentiating trigonometric functions and exponentials and logarithms
- Integration – integrating functions, integration by substitution and by parts and the trapezium rule
- Numerical Methods – find roots, solve equations using iterative methods and the Newton-Raphson method
- Vectors – 3D vectors and coordinates

Statistics is made up of 4 main topics:

- Data Presentation and Interpretation – understand correlation and regression
- Conditional Probability - Venn diagrams and tree diagrams
- Statistical Distributions – the normal distribution
- Statistical Hypothesis Testing – conduct a Hypothesis Test on PMCC (correlation)

Mechanics is made up of 4 main topics:

- Quantities and Units in Mechanics – understand and use fundamental quantities in the S.I. System: length, time and mass and derived quantities and units: velocity, acceleration, force, weight and moment
- Kinematics – vectors and projectiles
- Forces and Newton's Law – friction, statics and connected particles
- Moments – resultant moments, equilibrium, centres of mass and tilting

THE MATHS WAY

WE LOOK FOR MATHS IN THE REAL WORLD

We learn from peers & listen to their explanations

WE CAN THINK LOGICALLY

We can search for patterns in data

Analyse, reason, deduce

We can identify relevant information & use this to solve problems

We see mistakes as an opportunity to learn

We persevere & try different approaches

We use our books as a revision guide

We make mental estimations to check our answers are reasonable

We show all our working out

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SUBJECT WAYS

Have your say!

At WPT we're always looking for feedback. If you have any thoughts/opinions on this Curriculum Newsletter, its content or the curriculum in general, please scan the QR code to fill out a short feedback form.

Assessment Points

Students are assessed at the end of each theme, roughly once per half term. Assessments are written and include fluency, reasoning and problem-solving questions.

The Maths Way

The Maths way is followed and referred to in all lessons. It supports students to become young mathematicians and develop them into thinking and working like mini-mathematicians.