

# Broadening Horizons

Our intent is that all students have a full understanding of how to develop themselves as well rounded citizens, maintain healthy relationships and understand how to keep themselves safe both online and in their day-to-day life. 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
- Tabulating and graphing results in science and geography lessons
- Opportunities throughout the curriculum that expose learners to careers involving mathematical knowledge and skills
- Celebrating mathematical focus days, such as Pi Day and Number Day
- Encouraging participation in maths challenges, such as the Junior Maths Challenge

# Careers

Mathematics is a subject that is essential to a wide range of careers, from Science to Finance, Engineering, and more. Many jobs require problem-solving skills, but some also require the ability to draw and measure angles accurately.

For example, careers in Architecture, Engineering, and Surveying all require a strong understanding of geometry and trigonometry. These skills are also important in fields such as Graphic Design, Fashion, and Video Game Development, where angles and proportions play a critical role in creating visually appealing designs.

Encouraging your children to develop their mathematical skills, including drawing and measuring angles, can open up a range of exciting career opportunities in these fields.

# Immerse Yourself



Log onto your MathsWatch Account here

Students have access to MathsWatch to support their revision which links to the tracker sheets filled in during lessons.

If they are struggling with topics in lessons or want to enhance their learning in the classroom then these clip numbers are an ideal place to cover content at home.

The MathsWatch website has short video clips as well as having links to interactive questions and further worksheets.

# 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.

# Contact

Laura Sharpe  
WPT Maths Subject Director  
lsharpe@wickersley.net

Anna Woodhead  
Y8 Maths Coordinator  
a.woodhead@wickersley.net

## The Story of Ada Lovelace

Ada Lovelace was an English Mathematician and Writer, known for her work on Charles Babbage's Analytical Engine. She is considered the world's first Computer Programmer.



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# MATHS

$\sin^2 z = \frac{1 - \cos(2z)}{2}$

$S = \sqrt{\sum_{i=1}^N (x_i - \bar{x})^2}$

$\log_n m = \frac{\log m}{\log n}$

$\text{sech}(x) = \frac{2}{e^x + e^{-x}}$

Parallelogram = bh

$x^2 + 2ax + a^2 = (x+a)^2$

$\arcsin(z) = \ln(z + \sqrt{z^2 + 1})$

$\cot(-x) = -\cot(x)$

$T_r = C_{n,r-1} a^{n-r+1} b^{r-1}$

$C_{n,r} = \binom{n}{r} = \frac{n!}{(n-r)!r!}$

$y_{i+1} = y_i + X_n(b - a y_i)$

$\tanh(x) = \frac{\sinh(x)}{\cosh(x)} = \frac{e^x - e^{-x}}{e^x + e^{-x}}$

$\coth^2(x) - \text{csch}^2(x) = 1$

$\sec(-x) = \sec(x)$

$\tan(-x) = -\tan(x)$

$\text{arccsch}(z) = \ln(1 + \sqrt{1+z^2})/z$

$(a \times b)^n = a^n \times b^n \sim \sqrt[n]{x[p(x)]} = \exists x[\sim p(x)]$

$\tanh(z) = -i \tan(iz)$

$\text{arcsech}(z) = \ln(1 + \sqrt{1-z^2})/z$

**MATHS**  
 YEAR 8 Curriculum Newsletter

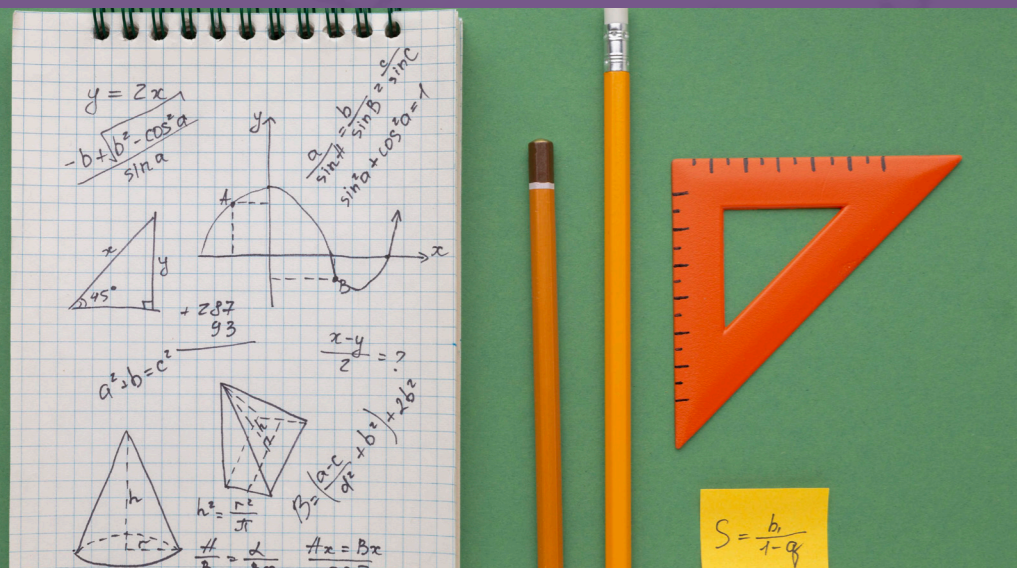


# Curriculum Intent

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.



## 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.



# Year 8 Curriculum

In Year 8, students study 6 key themes.

## Proportional Reasoning

Within this unit students study ratio, multiplicative changes and multiplying and dividing fractions.

## Representations

Students study graphs, representations of data and tables and probability.

## Algebraic Techniques

Within this unit students study about brackets, equations and inequalities, sequences and indices.

## Developing Number

Students further study from Year 7 in fractions and percentages, standard index form and number sense.

## Developing Geometry

Students further study from Year 7 in angles in lines and polygons, area of trapezia and circles and symmetry and reflection.

## Reasoning with Data

Students will develop their studies in the data handling cycle and measures of location.



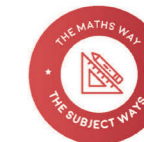
## Assessment Points

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.

# THE MATHS WAY



## WE LOOK FOR MATHS IN THE REAL WORLD

We learn from peers & listen to their explanations

We see mistakes as an opportunity

## WE CAN THINK LOGICALLY

We can search for patterns in data

to learn

Analyse, reason, deduce

We persevere & try different approaches

We can identify relevant information

& use this to solve problems

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