Year 8

Subject: Mathematics

Intent for the Year

In Year 8 pupils will continue to broaden their understanding of core mathematical concepts that they developed in year 7. They will have opportunities to develop a conceptual understanding through application and problem solving including real-life concepts. In addition, the introduction of new topics including algebra, graphs and statistics, will strengthen their skills in reasoning and interpretation. Year 8 pupils will independently model mathematical situations and start to make connections between different areas of mathematics alongside their other subjects. Pupils will begin to become confident in their use of mathematical language to reason in number, geometry, and algebra problems.

Topics Covered

Proportional Reasoning - Ratio and scale, Multiplicative change, Multiplying and dividing fractions.
Representations - Working in the Cartesian plane, Representing data, Tables & Probability.
Algebraic Techniques - Brackets, equations and inequalities, Sequences, Indices.
Developing Number - Fractions and percentages, Standard index form, Number sense.
Developing Geometry - Angles in parallel lines and polygons, Area of trapezia and circles, Line symmetry and reflection.
Reasoning with Data - The data handling cycle, Measures of location.

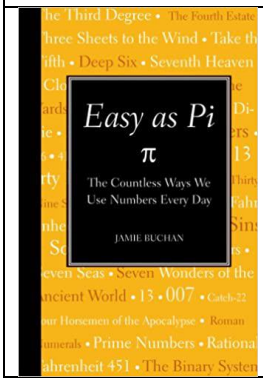
Parents/Carers can help by…

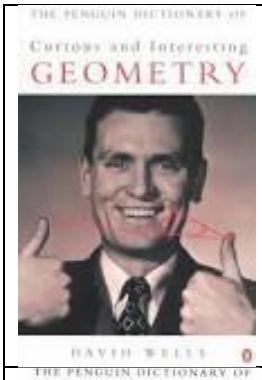
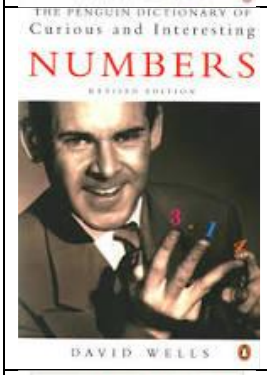
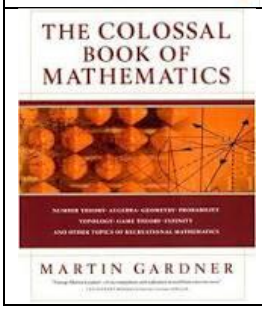
- Ensuring that your child has the correct equipment for every lesson including the Casio FX991 scientific calculator.
- Supporting your child with their weekly Hegarty Maths and knowledge organiser activities.
- Attending parent's evenings to discuss your child's progress in their maths learning.
- Talk about and embrace the maths that surrounds us in everyday life.

Useful Websites

https://www.sparxmaths.uk/
https://hegartymaths.com/
https://www.mymaths.co.uk/
https://www.mathscareers.org.uk/sport/
https://wonderopolis.org
https://wild.maths.org
https://explore-math.weebly.com
https://www.mathsisfun.com

Recommended Reading

Book Title	Author	Brief Reasoning
	**Easy as Pi: The Countless Ways We Use Numbers Every Day by Jamie Buchan**	Have you ever wondered what makes "seventh heaven" and "cloud nine" so blissful and the number 13 so unlucky? Here's the "4-1-1" on the origins of numerical expressions and the importance of numbers in fiction, film, culture, and religion.

	**The Penguin Dictionary of Curious and Interesting Geometry by David G. Wells**	The Penguin Dictionary of curious and interesting geometry. What do the Apollonian gasket, Dandelion spheres, interlocking polyominoes, Poncelet's purism, Fermat points, Fatou dust, the Vodernberg tessellation, the Euler line and the unilluminable room have in common?
	**The Penguin Dictionary of Curious and Interesting Numbers by David Wells**	The Penguin Dictionary of Curious and Interesting Numbers is a reference book for recreational mathematics and elementary number theory.
	**The Colossal Book of Short Puzzles and Problems by Dana Richards**	For more than twenty-five years, Martin Gardner was Scientific American's renowned provocateur of popular math. His yearly gatherings of short and inventive problems were easily his most anticipated math columns.