

Year 9

Subject: Mathematics

Intent for the Year

In Year 9 pupils will continue to broaden their understanding of core mathematical concepts that they developed in years 7 and 8. 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 9 pupils will independently model mathematical situations and start to make connections between different areas of mathematics alongside their other subjects. Pupils will be confident in their use of mathematical language to reason in number, geometry, and algebra problems, preparing them for their next step of mathematics in key stage 4.

Topics Covered

- Reasoning with Algebra** - Straight line graphs, Forming and solving equations, Testing conjectures.
- Constructing in 2 and 3 dimensions** - Three-dimensional shapes, Constructions and congruency.
- Reasoning with Number** – Numbers, Using percentages, Maths and money.
- Reasoning with Geometry** – Deduction, Rotation and translation, Pythagoras' Theorem.
- Reasoning with Proportion** - Enlargement and similarity, Solving ratio & proportion problems, Rates.
- Representations and revision** – Probability, Algebraic representation.

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://corbettmaths.com/contents/>
<https://www.onmaths.com/>
<https://www.mathscareers.org.uk/sport/>
<https://wonderopolis.org>
<https://wild.maths.org>
<https://explore-math.weebly.com>
<https://www.mathsisfun.com>
<https://www.gapminder.org>
<https://parallel.org.uk>

Recommended Reading

Book Title	Author	Brief Reasoning
	<p>Maths on the Back of an Envelope By Rob Eastaway</p>	<p>Packed with amusing anecdotes, quizzes, and handy calculation tips for every situation, Maths on the Back of an Envelope is an invaluable introduction to the art of estimation, and a welcome reminder that sometimes our own brain is the best tool we have to deal with numbers.</p>
	<p>CODE BOOK by Singh, Simon</p>	<p>The Code Book: The Science of Secrecy from Ancient Egypt to Quantum Cryptography is a book by Simon Singh, published in New York in 1999 by Doubleday. The Code Book describes some illustrative highlights in the history of cryptography, drawn from both of its principal branches, codes and ciphers.</p>
	<p>Why Do Buses Come in Threes?: The Hidden Maths of Everyday Life by Rob Eastaway</p>	<p>Why do buses always come in threes: the hidden mathematics of everyday life.</p>
	<p>Think of a Number by Johnny Ball</p>	<p>Think of a number. Let your child join Johnny Ball on a dazzling maths adventure to infinity and beyond. They'll find out maths isn't just about sums and calculations, but how numbers can take them anywhere!</p>