

**INTENT**

The ambitious curriculum in Mathematics will provide students with opportunities to develop skills linked to numerical thinking, as well as an awareness of the application of numerical, geometric and abstract algebraic

### Bilton School Planning for Progress over Time Programme of Study

**The bigger picture:**

We look to develop the following skills in our mathematicians:

FLUENCY • Quick and accurate recall of key facts • Knowledge/selection of appropriate techniques/strategies.

REASONING • Applying logical thinking to a situation to derive the correct problem solving strategy • The bridge between fluency and problem solving.

PROBLEM SOLVING • Finding a way to apply knowledge and skills to answer unfamiliar types of problems.

This skill sets allows our learners to flourish with the skills needed to function in an ever evolving world.

Year 9	10	11	12	13	14	15	16
<b>Topic</b>	Equations	Power and Roots	Constructions and Pythagoras' Theorem	Sequences	3D Shapes	Ration and Proportion	Probability
<b>Progress and assessment</b>	End of topic assessments completed using end points as the assessment criteria.						
<b>Homework</b>	Set on Classcharts and will re-enforce the work completed in class.						
<b>Literacy (including reading)</b>	Key words issued at the start of every topic. 'Two for Two' and 'Three for Three' shared with students. Problem solving questions integrated into lessons.						
<b>Social, Moral, Spiritual and Cultural Development</b>	To use standard form for dealing with large and small numbers. To represent 3D shapes in 2D and to find area and volume. To compare proportions and find value for money. To understand the likelihood of an event.						
<b>British Values and Cultural Capital</b>	Use MWB in classrooms to develop independence, self-esteem and build confidence. Within lessons, respect is encouraged and anything other than this is challenged. Mistakes are welcomed and used as discussion points to address misconceptions. A variety of approaches to solving problems are taught and discussed. Students are encouraged to develop resilience (linked to developing life long learners). Students are given a choice of tasks in lessons (red, amber, green/bronze, silver, gold) often linked to their levels of learning. E-safety is promoted through blended learning opportunities (MathsWatch)						
<b>End Points</b>	To solve simple linear equations	To use order of operations (BIDMAS)	To construct triangles	To find term to term rule of a sequence	To know properties of 3-D shapes	To use direct proportion	To use the probability scale
	To solve multi-step equations	To know squares and cubes	To solve loci problems using constructions	To use position-to-term rules	To draw plans and elevations	To compare proportions linking to FDP	To know what mutually exclusive events and exhaustive events are
	To solve equations with brackets	Square roots and cube roots	To know Pythagoras' theorem	To find nth term	To identify planes of symmetry of a 3-D shape	To simplify ratio	To calculate probabilities
	To solve equations with unknown on both sides	To use the rules of indices	To use Pythagoras' theorem	To use real life sequences	To calculate surface area of a prism	To use ratio for best buy problems and recipes	To list the outcomes of two trials including two-way tables
	To construct equations	To recognise basic surd notation	To use SOHCAHTOA	To recognise special sequences including triangular and geometric	To calculate the volume of a prism	To divide in a ratio	To use experimental probability
		To use standard form for large numbers		To use recursive sequences		To link ratio to scale drawings	To compare theoretical and experimental probabilities
		To use standard form for small numbers				To use proportional reasoning	To identify sets
							To draw and interpret Venn diagrams

IMPLEMENTATION