

INTENT

The 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 concepts.

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

Foundation pt.2	Ratio and proportion	Factors, powers and roots	Working in 3D	Handling data 2	Calculations 2	Graphs 2	Pythagoras and trigonometry	Circles and constructions	Combined events	Sequences	Units and proportionality
Topic	12	13	15	16	17	18	19	11	20	21	22
Progress and assessment	End of topic assessments completed using end points as the assessment criteria.										
Homework	Set on ClassCharts and will re-enforce the work completed in class.										
Literacy (including reading)	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.										
Social, Moral, Spiritual and Cultural Development	To analyse and represent data. To use a calculator efficiently and understand the errors introduced by rounding. To understand bearings and use scales. To solve problems involving proportion (eg. Recipes, enlargements). To draw plans and elevations of 3d shapes and find surface area and volume. To solve growth and decay problems such as calculating interest for saving and spending.										
British Values and Cultural Capital	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)										
End Points	To represent a proportion	To find factors and multiples	To know the properties of 3D shapes and their nets	To draw and interpret frequency diagrams	To calculate with roots and indices	To plot and identify properties of quadratic functions	To use Pythagoras' theorem	To know parts of a circle and find circumference and area	To use sets	To describe and use sequence rules	To use compound measures
	To simplify and share in a ratio	To do prime factor decomposition	To draw and use plans and elevations	To interpret and draw bar charts and pictograms	To do exact calculations	To sketch cubic and reciprocal functions	To use SOHCAHTOA for missing sides and angles	To find area of a sector and length of an arc	To draw and use possibility spaces	To find the nth term of a linear sequences	To use direct proportion
	To use ratio and scales	To find HCF and LCM	To find the volume of a prism	To draw and interpret stem-and-leaf diagrams	To use standard form	To draw and interpret real-life graphs	To use vectors in column form and a diagram	To perform standard constructions using compasses	To draw and use tree diagrams with and without replacement	To know special sequences	To use inverse proportion
	To find % of an amount and % increase/decrease	To use powers and roots	To find volume and surface area	To interpret and draw pie charts			To recognise parallel vectors	To solve loci using constructions			To solve growth and decay problems including simple and compound interest and depreciation
	To find percentage change			Calculating averages from a list							
	To find reverse percentages			To find averages and spread from frequency tables including grouped							
				To compare distributions							
				To draw and interpret scatter graphs and identify correlation							
				To draw and interpret time series graphs							

IMPLEMENTATION