

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

IMPLEMENTATION

Foundation pt.1	1	2	3	4	5	6	7	8	9	14	11
Topic	Calculations 1	Expressions	Angles and polygons	Handling data 1	Fractions, decimals and percentages	Formulae and functions	Working in 2D	Probability	Measures and accuracy	Graphs 1	Equations and inequalities
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 class. 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 understand place value, including ordering integers (+/-)	To know what is meant by expression, equation, formulae and term	To know and use angle facts	To know methods of sampling including simple random sample	To convert between decimals, fractions and %	To substitute into formulae	To measure and draw lengths and angles	To calculate probability from experiments	To round to significant figures	To draw straight-line graphs from a table of values and using $y=mx+c$	To solve one and two step equations
	To round numbers	To form expressions	To know and use angles on parallel lines	To organising data in to frequency tables and stem and leaf diagrams	To find fractions and percentages of amounts	To use standard formulae and re-arrange	To use bearings	To calculate expected outcomes	To estimate and find error intervals	To find and use the equation of a straight line	To solve linear equations with brackets and unknown on both sides
	To add and subtract decimals & integers (+/-)	To substitute into expressions and formulae	To know properties of triangles and quadrilaterals to find missing angles	To represent data in bar charts and pictograms and interpret	To do four calculations with fractions	To recognise equations, identities and functions	To find area of a 2D shape including compound	To calculate theoretical probability	To use calculator methods	To find the gradient of a line	To solve linear equations with fractions
	To multiply and divide decimals & integers (+/-)	To simplify expressions and collect like terms	To understand congruence and similarity	To draw and interpret stem-and-leaf diagrams		To use function machines	To translate, rotate and reflect shapes	To identify mutually exclusive events	To use correct measures	To identify parallel lines	To solve quadratic equations by factorisation
	To solve problems with four operations	To know and use the laws of indices	To find polygon angles	To representing data in pie charts and interpret		To expand and simplify double brackets	To describe transformations		To convert between metric units	To draw and interpret kinematic graphs	To solve simultaneous equations algebraically (and graphically)
		To expand a single bracket and simplify		To find all averages and spread from a list and a frequency table		To factorise quadratics	To enlarge shapes		To use compound measures		To solve inequalities and represent on a number line
		To factorise a single bracket		To compare distributions							
				To draw scatter graphs							
				To identify correlation							