## Maths

## Year 7



Overview

The purpose of the Maths curriculum is to equip students with uniquely powerful ways to describe, analyse and solve problems and to make them more prepared for the real world.

We do this by providing a secure understanding of mathematical concepts, from basic principles of mathematics to complex topics that combine several areas of study into a single question.

In Year 7 we concentrate on retention of knowledge and depth of learning. In doing this, all our students have the opportunity to master key skills that might be required in their future development.

	Half Term 1	Half Term 2	Assessment
Autumn Term	<ul> <li>Numerical Skills</li> <li>Understand and use place value for decimals. Calculations with negative numbers. Estimate calculations by rounding.</li> <li>Order of operations</li> <li>Solve calculations requiring understanding of B-I-DM-AS (know that the inverse of squaring is 'square rooting').</li> <li>Basic rules of algebra</li> <li>Introduce the concept of algebra, simplify expressions, manipulate expressions through simple one step rearranging, substitute positive and negative integers into expressions, solve simple one step equations. Substitute and solve.</li> </ul>	<ul> <li>Factors and Multiples</li> <li>Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple.</li> <li>Expand and Factorise</li> <li>Simplify and manipulate algebraic expressions to maintain equivalence by multiplying a single term over a bracket or by taking out common factors.</li> <li>Addition and Subtraction</li> <li>Use Addition and Subtraction, including formal written methods, applied to integers or decimals.</li> </ul>	Baseline Test. First week of Term The assessments in Year 7 mainly test the content covered in that half term but also test cumulative learning. Half Term 1. Immediately after Oct Half Term break. Half Term 2. Just before Christmas break.
	Half Term 3	Half Term 4	Assessment
	<ul> <li>Perimeter</li> <li>Calculate and solve problems involving perimeters of rectangles and</li> </ul>	<ul> <li>Fraction Manipulation</li> <li>Express one quantity as a fraction of another, where the fraction is</li> </ul>	The assessments in Year 7 mainly test the content covered

less than 1 and greater than 1.

**Adding and Subtracting Fractions** 

Use addition and subtraction,

including formal written methods,

applied to proper and improper

fractions, and mixed numbers.

### compound shapes (not circles). Mean

**Spring Term** 

 Describe, interpret and compare observed distributions of a single variable through the use of the mean.

#### **Multiplication and Division**

 Use Multiplication and Division, including formal written methods, applied to integers, decimals.

# Area of rectangles and triangles and parallelograms

Derive and apply formulae to calculate and solve problems involving area of triangles and rectangles. Half Term 4 Last week of Half Term 4.

Last week of Half

in that half term but

also test cumulative

learning.

Term 3.

Half Term 3.

	Half Term 5	Half Term 6	Assessment
Summer Term	<ul> <li>Comparing and Ordering Fractions</li> <li>Compare and order fractions by creating common denominators.</li> <li>Fractions of amounts</li> <li>Interpret fractions as operators.</li> <li>Polygons</li> <li>Derive, describe and illustrate properties of triangles, quadrilaterals and other plane figures [for example, equal lengths and angles] using appropriate language and technologies.</li> <li>Describe, sketch and draw regular polygons, and other polygons that are reflectively and rotationally symmetric.</li> </ul>	<ul> <li>Coordinates</li> <li>Read and plot coordinates in all 4 quadrants.</li> <li>Time</li> <li>Work with analogue and digit time to understand and interpret everyday situations.</li> </ul>	The assessments in Year 7 mainly test the content covered in that half term but also test cumulative learning. Summer Exam these exams cover all the topics learnt in year 7 in equal measures.
	<ul> <li>Angles</li> <li>Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles.</li> </ul>		

Useful Resources for Supporting Your Child at Home:	Homework:
https://whgs-academy.sparxmaths.uk/ https://padlet.com/andrewharrison6/ks3-student- resources-lsap5lkebv2ktn28	Sparx Homework is set automatically weekly, and students have 7 days to achieve 100%