

## Year 8 – Maths

### Summary of curriculum

The Smiths Wood Year 8 Mathematics curriculum is based on the White Rose Maths KS3 scheme of work. This is a recognised scheme, based on research and covering the requirements of the KS3 national curriculum. The foundations that students gain in year 8 are necessary to access the year 9 and GCSE curriculum.

### Main topics/skills

**Place value:** This is required in most areas of mathematics. Place value also helps understand the meaning of number and order of numbers. Decimals are used commonly in everyday life, for example money and measurement.

**Rounding:** Students will be asked to round their answers to a number of decimal places or significant figures across a range of topics in their 5 year journey. An understanding of this is also important for bounds at GCSE.

**Negative numbers:** Students should be equally competent and fluent in dealing with both positive and negative numbers. This is vital so as not to create barriers to other topics higher up the school.

**Conversions:** Students must be able to convert between different units in order to solve problems in a range of contexts including area, volume, capacity time and currency.

**Presenting data:** Displaying data in a graph makes it easier to interpret. For example, if a bar chart is used to display the hours of sunshine per day in a number of holiday destinations, you can see at a glance which destination is the sunniest. Students will need an understanding of graphs as they are used everywhere in life for example to show house price change as you move further away from the city.

**Sequences:** Learning about sequences helps students in spotting patterns, and also interleaves algebra through finding the position-to-term rule for sequences and generating sequences by substitution. You can use sequences to perform a piece of music or do a kata in martial arts. Knowing how a pattern continues can help us to know what to expect, for example when planets are going to appear in the night sky.

**Inequalities:** Inequalities are used to compare quantities. This topic is closely interleaved with solving equations and can also be used to express upper and lower bounds for an amount.

**Coordinates:** Can help with map reading, cross curricular with Geography and PE. This will have been covered in KS2 but allows for extension to, for example, midpoints.

**Fractions and decimals:** Fractions are seen in everyday life, for example, recipes may contain fractional amounts, like  $\frac{1}{2}$  teaspoon. When scaling a recipe up you need to multiply fractions. Dividing by fractions helps you work out how many  $\frac{1}{3}$  litre glasses you can fill from a 2 litre bottle. Decimals are commonly used in everyday life, such as in money and measurement.

<b>Assessment throughout the year</b>	Students are taught in ability groups, using their KS2 data as their initial starting point. New starters are given a baseline assessment on joining the school. All students sit a block assessment for each topic and a formal assessment at the end of each term. The assessments are tiered as appropriate.
<b>How parents can support their child's learning from home.</b>	Practice times tables with your child – not just until they get them right, practice until they cannot get them wrong. Ask your child 'What did you learn about in maths today?' and 'Do you understand it now?' If the answer is no find some additional questions on the topic from the website below for some additional practice.
<b>Stretch &amp; Challenge opportunities</b>	Stretch and challenge starts in the classroom, however in addition high attaining students are given the opportunity to enter the UKMT Maths Challenge. Our top set year 7 students visited the Big Bang Fair at the NEC last summer.
<b>Useful websites</b>	Homework is set weekly on <a href="http://www.sparxmaths.com">www.sparxmaths.com</a>