

Maths



Year 8 Curriculum Map



Year 8 – Autumn Term

<p>Prior Learning</p>	<p>All of the schemes build upon prior learning done in key stage 2 and year 7.</p> <p>To be able to understand the new learning on <i>proportional reasoning</i> pupils will have covered the basic skills of fractions during year 7 which will be useful during the first and third topics of the autumn term. They will have previously studied multiplication in the spring term of year 7. To be able to understand the new learning on <i>representations</i> they will have covered the basics of coordinates during the autumn term of year 7. The other parts of this topic are new to year 8, but the pupils may be aware of the concept of representing data from their studies in year 6 scheme of learning.</p>
<p>What will I learn?</p>	<p>Pupils will begin the term learning all about <i>proportional reasoning</i>, starting with <u>ratio & scale</u>, followed by looking at <u>multiplicative change</u>, and finishing with <u>multiplying and dividing fractions</u>. The second half of the autumn term will be spent looking at <i>representations</i>, with pupils looking at <u>working in the Cartesian plane</u>, before moving on to <u>representing data</u>. Finally, they will finish the Autumn Term working on <u>tables & probability</u>. Each of the topic areas are broken down into small steps of key skills and knowledge for pupils to master. Topics from the first half of the autumn term will be interleaved during the retrieval practice in second part of the term.</p>
<p>How will I be assessed?</p>	<p>Pupils are assessed in 3 ways.</p> <ul style="list-style-type: none"> • Constant lesson by lesson assessment. • Five mini-assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the autumn term, and recalling previous knowledge from key stage 2 and year 7.
<p>Next Steps</p>	<p>Pupils will move on to looking at the following topics in the Spring term: <i>Algebraic techniques</i>, and <i>Developing number</i>.</p> <p>This will introduce pupils to new units of algebra and number, but also build upon the topics in the autumn term of year 8 and the learning from year 7.</p> <p>The concepts from this term will be built upon further in year 9 half term 5 - Solving ratio & proportion problems; year 8 half term 4 - Fractions and Percentages; year 9 half term 1 - Straight Line Graphs; year 8 half term 6 - The Data Handling Cycle; and year 9 half term 6 - Probability.</p>
<p>Opportunities for Independent Learning</p>	<p>Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize</p>
<p>Personal Development and CEIAG</p>	<p>The skills gained from coordinates can be used in Geography, and be used by surveyors, builders, and soldiers. Numeracy is an essential life skill, understanding number is an integral part of everyday life both at work and at home. Data handling skills will be used by Statisticians, but the ability to read graphs and charts will be used by anyone who aspires to manage other employees.</p>
<p>Enrichment Opportunities (Cultural Capital)</p>	<p>Using ratios in everyday life, eg recipes. Using data handling in everyday life, eg reading reports, newspaper articles Using probability in everyday life, eg insurance companies.</p>



Year 8 – Spring Term

<p>Prior Learning</p>	<p>All of the schemes build upon prior learning done in key stage 2; year 7 and the work completed in the autumn term of year 8.</p> <p>To be able to understand the new learning on <i>algebraic techniques</i> pupils will have covered the basic skills of algebra during year 7. To be able to understand the new learning on <i>developing number</i> they will have covered the basics of fractions and percentages during the autumn and spring terms of year 7. Rounding will have been covered during the autumn Term of year 7.</p>
<p>What will I learn?</p>	<p>Pupils will begin the term learning all about the <i>algebraic techniques</i>, starting with <u>brackets, equations and inequalities</u>, followed by looking at <u>sequences</u>, before finishing the half-term looking at <u>indices</u>. The second half of the Spring Term will be spent looking at <i>developing number</i>, with pupils looking at both <u>fractions and percentages</u>, followed by <u>standard index form</u>, before finishing with <u>number sense</u>. Each of the topic areas are broken down into small steps for pupils to master. Topics from the first half of the autumn term and year 7 will be interleaved during the term within the retrieval practice.</p>
<p>How will I be assessed?</p>	<p>Pupils are assessed in 3 ways.</p> <ul style="list-style-type: none"> • Constant lesson by lesson assessment. • Five mini assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the spring term, and recalling previous knowledge from key stage 2, year 7 and the autumn term.
<p>Next Steps</p>	<p>Pupils will move on to looking at the following topics in the summer term: <i>Developing geometry and Reasoning with Data</i>.</p> <p>This will introduce pupils to new units of shape, space and measure, and data handling, but also build upon the topics from the previous two terms.</p> <p>The concepts from this term will be built upon further in year 9 half term 1 - Forming & Solving Equations; year 9 half term 3 - Using Percentages, and year 9 half term 3 - Numbers.</p> <p>Other topics will be revisited in the GCSE course.</p>
<p>Opportunities for Independent Learning</p>	<p>Sparx Maths – Compulsory Tasks (1 Hour per week)</p> <p>Sparx Maths – XP Boost and Target Homework Activities.</p> <p>BBC Bitesize</p>
<p>Personal Development and CEIAG</p>	<p>Standard form is used by scientists and astronomers. Percentages can be used in the field of sports analysis. Someone working in the financial sector will use percentages to calculate investment performance, costs for borrowing and lending money. The ability to understand indices will help in careers such as computer game programming; engineering; accounting; etc...</p>
<p>Enrichment Opportunities (Cultural Capital)</p>	<p>Using standard form in everyday life, eg large numbers or distances in Science.</p> <p>Using percentages in everyday life, eg financial sector.</p> <p>Using sequences in everyday life, eg = computer programming.</p>



Year 8 – Summer Term

<p>Prior Learning</p>	<p>All of the schemes build upon prior learning done in key stage 2; year 7 and the work completed in the autumn and spring terms of year 8.</p> <p>To be able to understand the new learning on <i>developing geometry</i> pupils will have covered the work in lines and angles from the summer term of year 7. To be able to understand the new learning on <i>reasoning with data</i> they will have covered the representing data topic in year 8 and seen some forms of chart and graph in Year 6. Averages will have appeared in several number topics in year 7 as preparation for measures of location.</p>
<p>What will I learn?</p>	<p>Pupils will begin the term learning all about <i>developing geometry</i>, starting with <u>angles in parallel lines and polygons</u>, followed by looking at <u>area of trapezia and circles</u>, before finishing the half term with <u>line symmetry and reflection</u>. The remainder of the summer term will be spent looking at <i>reasoning with data</i>, with pupils looking at <u>The Data Handling Cycle</u> before going on to look <u>measures of location</u>. Each of the topic areas are broken down into small steps of key skills and knowledge for pupils to master. Topics from the first half of the autumn and spring terms will be interleaved during the term within the retrieval practice.</p>
<p>How will I be assessed?</p>	<p>Pupils are assessed in 3 ways.</p> <ul style="list-style-type: none"> • Constant lesson by lesson assessment. • Five mini assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the summer term, and recalling previous knowledge from key stage 2, year 7 and the autumn and spring terms.
<p>Next Steps</p>	<p>Pupils will move on to looking at the following topics in the autumn term of year 9 - <i>Reasoning with algebra</i> and <i>Constructing in 2 & 3 dimensions</i>.</p> <p>This will build upon the concepts introduced during the autumn term of year 8.</p> <p>The concepts from this term will be built upon further in year 9 half term 2 - Three dimensional shapes; year 9 half term 4 - Deduction; and all the other key skills and knowledge will be revisited during the GCSE course.</p>
<p>Opportunities for Independent Learning</p>	<p>Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize</p>
<p>Personal Development and CEIAG</p>	<p>The rules used with angles and parallel lines are used in careers by people such as engineers, architects and carpenters. The ability to calculate the area of various shapes will be used by designers and engineers, as they need to know exact areas when designing buildings, etc...</p> <p>Averages and reading from graphs and charts can be used in their careers by meteorologists; analysts; geneticists; market researchers; as well as the more expected data analysts; mathematicians and statisticians.</p>
<p>Enrichment Opportunities (Cultural Capital)</p>	<p>Look for symmetry in everyday life, eg flags, pavements, designs of buildings Reading multiple bar charts in everyday life, eg newspapers, internet. Using probability in everyday life, eg weather reports.</p>