BENSHAM MANOR School

Maths KS4 Curriculum Map 2026-27

	YEAR 10 AND 11 Gateway	YEAR 10 and 11 GCSE
Autumn Term 1	<u>Size and Measure</u> Know, understand and use the mathematical words for measure Understand measure and the different units of measure Choose and use the appropriate units to measure Use common standard and non-standard units Compare different lengths/weights e.g. metre less than a metre Read scales to the nearest labelled division Measure capacity <u>Shape</u> Know and used positional vocabulary Recognise and name 2d and 3d shapes Follow directions using everyday positional vocab including left, right, in front, behind.	<u>Number</u> <u>Negative numbers</u> Order positive and negative numbers in size order Add and subtract positive and negative numbers together Solve number sentences involving addition or subtraction of positive and negative numbers Reason: True or false -36 is bigger than -32? <u>Factors and multiples</u> Identify what a factor is and give examples Identify what a multiple is and give examples Solve problems including reasoning about factors and multiples, e.g. Sarah says 2 and 4 is a factor of 9, is she correct? Explain your answer. <u>Estimating</u> Estimate then answer questions using number knowledge e.g. 705 + 390 = 1100 Solve problems using estimating **Making an estimate:** Which of these number sentences have the answer that is between 0.5 and 0.6 11.74 - 11.18 33.3 – 32.71 Use estimating to check answers to a calculation <u>Money</u> Recognising and knowing the value of coins and notes Finding the total and change from a transaction Solving two step word problems about money <u>Geometry</u> Identify 2d and 3d shapes and their properties Identify the properties of a circle Select the correct equipment to draw a circle with given measurement

		Select the correct calculations to find the circumference, radius or diameter of a circle Answer word problems and reasoning questions involving the calculations of circles **<u>Algebra</u>** Identify the x and y axis
Autumn Term 2	<u>Whole numbers</u> Count reliably 100 items Order numbers up to 100 Read and write whole numbers up to 100 <u>Fractions</u> Recognise and use the words: fraction, half, quarter and write these as a fraction Understand that a fraction is less that one whole Understand relationships between fractions e.g. two quarters = one half Find halves and quarters of simple shapes	<u>Geometry</u> Identify the x and y axis Describe the transformations of shapes on a grid using mathematical language <u>Ratio and proportion</u> solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison Write probability as a fraction <u>Statistics</u> Complete, read and interpret information in tables, including timetables. Interpret and construct pie charts and line graphs and use these to solve problems. Pupils identify similarities and differences between different representations and explain them to each other.
Spring Term 1	<u>Addition and subtraction</u> Add two- digit whole numbers Subtract two-digit whole numbers Round to the nearest 10 Recall addition and subtraction facts to 10 <u>Multiplying</u> Multiply single digit whole numbers	<u>Angles</u> Identify the different triangles and their properties Select the correct equipment to measure an angle Solve problems where you have to find the missing angle in a triangle Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles Reasoning questions: One angle at the point where the diagonals of a rectangle meet is 36 degrees.

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<td>Solve everyday problems without a calculator
Use and interpret + and – in practical situations to solve problems
Use number knowledge to solve word problems and reasoning, e.g. Sarah says 6 + 3 = 9, true or false, explain your answer
Use estimation in solving problems to check if answers are sensible
Solve one step number and word problems</td>
<td>Calculate angles on a straight line, what could the other angles be? Convince me

<u>Statistics</u>
Select the correct equipment to draw a pie chart
Interpret data from a chart to correctly draw a pie chart, calculating angles and using a protractor to draw angles
Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.

<u>Number</u>
Know and use key terms for squared numbers, cubed numbers
To write a number as a power to another number
To use rules for multiplying or dividing powers
Use a calculator to find square root of a number
Set out calculations to find squared or cubed numbers
Solve problems involving multiplication and division including using their knowledge of squared and cubed numbers.

<u>Algebra</u>
Understand and use algebraic language
To use algebra to write simple expressions
To substitute numbers into expressions to work out their value
Simplify multiplied expressions
Collect like terms
Explain why an answer is correct
Reasoning: If y stands for a number complete the table below
<table>
<tr><td>y</td><td>3y</td><td>3y + 1</td></tr>
<tr><td>25</td><td></td><td></td></tr>
<tr><td></td><td></td><td>28</td></tr>
</table>
What is the largest value of y if the greatest number in the table was 163?</td>
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<td>Spring Term 2</td>
<td><u>Using and communicating data</u>
State the purpose of a table or graph and the associated labels
Extract information from lists, tables, simple diagrams and bar charts</td>
<td><u>Algebra</u>
Know and understand the laws of algebra</td>
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	Compare numerical information from a bar chart Collect simple numerical information Sort and classify objects Use straightforward means, such as tables, whole numbers, simple charts and diagrams to present results	Expand a simple bracket Multiply out brackets Find missing lengths and angles Find the amount a letter is represented by Solve problems plot a straight line graph of the form ax + by = c State the gradient and y intercept of any straight line graph To use flow diagrams to draw graphs To work out the equations of horizontal and vertical lines <u>Number</u> Identify the numerator and denominator in a fraction Order factions by size Reasoning: Sam put these fractions in order starting with the smallest. Are they in the correct order? Find a fraction of amount Addition, subtraction, division and multiplication of fractions <u>Decimals</u> Identify the place value of a decimal Order decimals by size Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25. Change a fraction to a decimal by using division Addition and subtraction of decimals
		Order percentages in size order Express numbers as percentages; Express 48 as a percentage of 75 Finding a percentage of an amount; A clock was £70. It has been reduced by 35%, what is the new price? BIDMAS and what it stands for Complete the order of operations correctly Completing sums in brackets Using knowledge of indices to find the answer Division of numbers Multiplication of numbers

		Addition of numbers Subtraction of numbers Work out the answers to problems with more than one mathematical operation Understand the relationship between fractions, decimals and percentages Solve problems involving converting decimals, fractions and percentages Order decimals, fractions and percentages in size order when you have to convert between them. Put these numbers in the correct order, starting with the largest. 7/10, 0.73, 7/100, 0.073 71%
Summer Term 1	<u>Money</u> Make up amounts up to a pound using different coins Calculate the cost in pence of more than one item Calculating the cost of items in pounds Calculate the change from a transaction <u>Time</u> Read and record common date formats Express time on an analogue clock in hours, half hours and quarter hours <u>Temperature</u> Read positive temperature in everyday situations Identify the unit of measure for temperatures Compare temperatures	<u>Percentages</u> Order percentages in size order Express numbers as percentages; Express 48 as a percentage of 75 Finding a percentage of an amount; A clock was £70. It has been reduced by 35%, what is the new price? BIDMAS and what it stands for Complete the order of operations correctly Completing sums in brackets Using knowledge of indices to find the answer Division of numbers Multiplication of numbers Addition of numbers Subtraction of numbers Work out the answers to problems with more than one mathematical operation <u>Fractions</u> Understand the relationship between fractions, decimals and percentages Solve problems involving converting decimals, fractions and percentages Order decimals, fractions and percentages in size order when you have to convert between them.

Summer Term 2	<u>Percentages</u> Recognise and use common percentage Know a percentage is out of 100 <u>Decimals</u> State the meaning of decimals up to 2 dp Read up to two dp Write up to 2dp in practical context <u>Whole numbers</u> Count, order, compare and read numbers up to 1000 <u>Fractions</u> State the meaning of unit fractions e.g. 1/5 Write common fractions Recognise and use fractions in equivalent forms	<u>Probability</u> Work out the probabilities when two or more events occur at the same time Read two-way tables and use them to work out probabilities Use Venn diagrams to solve probability questions <u>Data handling</u> Draw, interpret and use scatter diagrams Draw and use a line of best fit Grouped data and averages Identify the modal group Calculate an estimate of the mean from a grouped table Work out the mode, median, mean and range of small sets of data <u>Percentages</u> Working out percentages of an amount of money Working out fractions of an amount of money Solve real life problems with money involving addition, subtraction, multiplication and division
Autumn Term 1	<u>Data handling</u> Extracting information from lists, tables, diagram and bar chars Compare information from lists, tables, diagrams and bar charts Collect data Record data using a tally chart Make observations about results Organise and present data using whole numbers, decimals and fractions Present data in tables, charts and diagrams Use a simple scale to represent data in a bar chart or pictogram Describe outcomes of data	<u>Measure</u> Solve simple measure problems involving time Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs where it tells the time. Read, write and convert time between analogue and digital 12 and 24-hour clocks. Solve number problems and practical problems that involve place value. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. draw simple conclusions and explain reasoning check results and consider whether they are sensible <u>Ratio and proportion</u>

		Simplify a ratio Express a ratio as a fraction To divide amounts into given ratios Complete calculations from a given ratio and partial information <u>Algebra</u> To use formulae To write formulae To solve real-life problems involving algebra
Autumn Term 2	<u>Money</u> Add amounts including decimals notation Subtract amounts including decimal notation Round sums of money to the nearest £1 or 10p Estimate and make approximate calculations relating to cost <u>Time</u> Read time in common date formats or analogue clocks and 12 and 24 hour clocks Measure times in days, hours and minutes Record time Temperature Read temperature using standard units Measure temperature in standard units Compare temperature	<u>Ratio and proportion</u> Find a common multiple of each ratio Know there are two systems used for measuring quantities - **metric** and **imperial** **Convert units of measure e.g. km-m, m-cm, cm-mm, m-mm** **Solve problems such as** The sunflower is 214 cm tall. Calculate the height of the sunflower in metres and millimetres. convert between imperial and metric units using unit conversions Write a ratio as a fraction and a proportion of an amount
Spring Term 1	<u>Measure</u> Estimate and compare capacity/length Select appropriate units for measure Select appropriate equipment for measure Read and measure capacity using standard and non-standard units to the nearest division Estimate length <u>Shape</u> Sort 2d and 3d shapes according to their properties Identify perimeter of simple shapes Use vocabulary related to shape	<u>Measures</u> Convert between units of measure and explain the reasoning behind it: prove it questions, true or false, convince me Convert between weeks, days, hours, minutes, seconds Reinforce previous skills Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. Solve problems involving the calculation and conversion of **units of measure**, using decimal notation up to three decimal places where appropriate <u>Number</u>

	Follow directions using positional vocab (N,S,E,W) Solve problems with and without a calculator involving direction and measure Solve problems involving whole numbers and decimals Use operations in practical situations to solve multi-step calculations Solve two step word problems	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Solve simple measure and money problems involving fractions and decimals to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
Spring Term 2	Add and subtract using 3 digit numbers Round numbers less than 1000 to the nearest 10 or 100 Know and recall addition and subtraction facts to 20 Estimate answers to addition and subtraction calculations Multiply two digit numbers by single digit numbers Recall simple multiplication tables Divide two digit numbers by single whole number Interpret remainders in division operations Estimate answers to multiplication and division calculations	<u>Geometry</u> use Pythagoras' Theorem to find the missing side of a triangle Identify different triangles and know the rules Find missing angles in a triangle Select the correct equipment to draw a triangle Use knowledge of angles in a triangle to correctly use a protractor to draw a triangle Solve word problems/reasoning questions on identifying the missing angle in a triangle <u>Algebra</u> To recognise patterns in number sequences To recognise how number sequences are built up To generate sequences, given the *n*th term Find the *n*th term of a linear sequence To recognise and continue some special number sequences To understand how prime, odd and even numbers interact in addition, subtraction and multiplication problems To find the *n*th term from practical problems involving sequences

Summer Term 1	Revision	Revision