



## Maths Curriculum

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Summary	Number Algebra  Fractions indices, standard form Graphs, tables, charts Quadratic equations and graphs	Fractions, percentages  Angles  Ratio and Proportion  Multiplicative reasoning (perc./comp m)  Angles  Right angled triangles	Perimeter Area Volume 1  Graphs  Perimeter, area, Volume 2  More Algebra(graphs)	Probability  Equations, inequalities, Sequences  Loci, Bearings	Transformations  Averages and Range	Constructions  Congruence, similarity, vectors
Knowledge	<b>N1, N2, N3, N4, N5, N6, N7, N9 N13, N14, N15 A1, A3, A4 G14, S2,S4,S5 A4, A11, A18</b>	<b>N1, N2, N3, N8, N10, N12, R3, R9, S2, N11, N13, R1, R4, R5, R6, R7, R8, R12, R10, R14 N7, N15, A4, G6, G20</b>	<b>N8, N14, R1, G9, G11,G12, G14, G16, G17, N13, A7, A8, A9, A10, A 12, A14, A 17, R1, R11, R14,</b>	<b>P1 to P8 N1, N15, N16, A3, A5, A7, A17, A21, A22, A7, A23, A24, A25, R2, G2, G5, G15</b>	<b>R6, G1, G7, G24 S1, S2, S4</b>	<b>R2,G1,G2, G5, G15 G24, G25</b>

<p>Skills</p>	<p>-Use mental methods for <math>\times</math> and <math>\div</math>, e.g. <math>5 \times 0.6</math>, <math>1.8 \div 3</math>.</p> <p>-Solve a problem involving division by a decimal (up to 2 decimal places).</p> <p>-Given <math>2.6 \times 15.8 = 41.08</math>, what is <math>26 \times 0.158</math>? What is <math>4108 \div 26</math>?</p> <p>-Calculate, e.g. <math>5.2</math> million + <math>4.3</math> million.</p> <p>-Produce and interpret graphs: Pictograms, Pie charts, Bar charts</p> <p>-Simplify <math>4p - 2q + 3p + 5q</math>.</p> <p>-Simplify <math>z^4 \times z^3</math>, <math>y^3 \div y^2</math>, <math>(a^7)^2</math>.</p> <p>-Simplify <math>x^{-4} \times x^2</math>, <math>w^2 \div w^{-1}</math>.</p> <p>-Solve <math>3x^2 + 4 = 100</math>.</p> <p>-Expand <math>(x + 2)(x + 6)</math>.</p> <p>-Factorise <math>x^2 + 7x + 10</math>.</p>	<p>-Express a given number as a fraction of another, including where the fraction <math>&gt; 1</math>.</p> <p>-Simplify <math>\frac{120}{100}</math>.</p> <p><math>\frac{3}{5} \times 15</math>, <math>20 \times \frac{3}{4}</math>.</p> <p><math>\frac{1}{2}</math> of 36 m, <math>\frac{1}{4}</math> of £20.</p> <p>-Find the size of each category from a pie chart using fractions.</p> <p>-Calculate: <math>\frac{1}{2} \times \frac{6}{7}</math>, <math>\frac{3}{5} \div 3</math>.</p> <p>-Write terminating decimals (up to 3 d.p.) as fractions.</p> <p>-Convert between fractions, decimals and percentages, common ones such as <math>\frac{1}{2}</math>, <math>\frac{1}{10}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math> and <math>\frac{n}{10}</math>.</p> <p>-Order integers, decimals and fractions.</p>	<p>- Find the area/perimeter of a given shape, stating the correct units.</p> <p>- Justify whether a certain number of small boxes fit inside a larger box.</p> <p>-Calculate the volume of a triangular prism with correct units.</p> <p>- Interpret a description of a journey into a distance–time or speed–time graph.</p> <p>-Students should be able to decide what the scales on any axis should be to be able to draw a correct graph.</p> <p>-Conversion graphs can be used to provide opportunities for students to justify which distance is further, or whether or not certain items can be purchase in</p>	<p>-Mark events on a probability scale and use the language of probability.</p> <p>-If the probability of outcomes are <math>x</math>, <math>2x</math>, <math>4x</math>, <math>3x</math> calculate <math>x</math>.</p> <p>-Calculate the probability of an event from a two-way table or frequency table.</p> <p>-Decide if a coin, spinner or game is fair.</p> <p>-Understand the use of the 0–1 scale to measure probability.</p> <p>-List all the outcomes for an experiment.</p> <p>-Know and apply the fact that the sum of probabilities for all outcomes is 1.</p> <p>-Draw a Venn diagram of students studying French, German or</p>	<p>-Understand that translations are specified by a distance and direction (using a vector).</p> <p>-Describe and transform a given shape by either a rotation or a translation.</p> <p>-Describe and transform a given shape by a reflection.</p> <p>-Convince me the scale factor is, for example, 2.5.</p> <p>- Explain why a sample may not be representative of a whole population.</p> <p>-Carry out a statistical investigation of their own and justify how sources of bias have been eliminated.</p> <p>-Show me an example of a situation in which</p>	<p>-Correct use of a protractor</p> <p>-Correct use of a compass</p> <p>- Deciding which of the tools is the most efficient in solving a particular construction problem</p> <p>-Estimating lengths and predicting if the result is correct</p> <p>-Understand similarity as one shape being an enlargement of the other.</p> <p>-Recognise that all corresponding angles in similar shapes are equal in size when the corresponding lengths of sides are not equal in size.</p> <p>-Use AB notation for describing lengths and <math>\angle ABC</math> notation for describing angles.</p> <p>-Know that if one vector is a multiple</p>
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	<p>-Solve <math>x^2 + 7x + 10 = 0</math>.</p> <p>-Solve <math>(x - 3)(x + 4) = 0</math>.</p>	<p>-Write a ratio to describe a situation such as 1 blue for every 2 red, or 3 adults for every 10 children.</p> <p>-Recognise that two paints mixed red to yellow 5 : 4 and 20 : 16 are the same colour.</p> <p>-Express the statement 'There are twice as many girls as boys' as the ratio 2 : 1 or the linear function <math>y = 2x</math>, where <math>x</math> is the number of boys and <math>y</math> is the number of girls.</p> <p>-Recognise that two paints mixed red to yellow 5 : 4 and 20 : 16 are the same colour.</p> <p>-If it takes 2 builders 10 days to build a wall, how long will it take 3 builders?</p> <p>-Scale up recipes and decide if there</p>	<p>different currencies.</p> <p>-Recall terms related to a circle.</p> <p>-Understand that answers in terms of <math>\pi</math> are more accurate.</p>	<p>both, and then calculate the probability that a student studies French given that they also study German</p> <p>-Solve: <math>x + 5 = 12</math>, <math>x - 6 = 3</math>, <math>\frac{x}{2} = 5</math>, <math>2x - 5 = 19</math>, <math>2x + 5 = 8x - 7</math></p> <p>-Given expressions for the angles on a line or in a triangle in terms of <math>a</math>, find the value of <math>a</math>.</p> <p>-Given expressions for the sides of a rectangle and the perimeter, form and solve an equation to find missing values.</p> <p>-Solve <math>-3 &lt; 2x + 1</math> and show the solution set on a number line.</p> <p>-State the whole numbers that satisfy a given inequality.</p> <p>-Recognise that measurements</p>	<p>biased data would result.</p> <p>-State the median, mode, mean and range from a small data set.</p> <p>-Extract the averages from a stem and leaf diagram.</p> <p>Estimate the mean from a table.</p>	<p>of the other, they are parallel.</p> <p>-Add and subtract vectors using column vectors.</p>
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		<p>is enough of each ingredient.</p> <p>-Given two sets of data in a table, are they in direct proportion?</p> <p>-Does 2, 3, 6 give a right angled triangle?</p> <p>-Justify when to use Pythagoras' Theorem and when to use trigonometry.</p>		<p>given to the nearest whole unit may be inaccurate by up to one half in either direction.</p> <p>-Sketch the locus of point on a vertex of a rotating shape as it moves along a line, i.e. a point on the circumference or at the centre of a wheel.</p>		
Assessment	Pearson's Themed papers Number, Algebra, Data Handling	Pearson's Themed papers FPD, Ratio and Proportion and Angles	Pearson's Themed papers Perimeter, Area, Volume, Graphs, Quadratics	Pearson's Themed papers Probability, Constructions-Loci, Algebra- equations graphs and sequences	Pearson's Themed papers on Transformations and Averages	Pearson's Themed papers on Constructions Vectors, Congruency and Similarity
Intent	<p>-Students are covering topics and preparing for their GCSE exam</p> <p>-Students are learning new vocabulary</p> <p>-Applying numeracy skills</p>	<p>Students are covering topics and preparing for their GCSE exam</p> <p>-Students are learning new vocabulary</p> <p>-Applying knowledge in real</p>	<p>Students are covering topics and preparing for their GCSE exam</p> <p>-Students are learning new vocabulary</p> <p>-Applying knowledge in real life situation eg.</p>	<p>Students are covering topics and preparing for their GCSE exam</p> <p>-Students are learning new vocabulary</p> <p>-Connecting previous knowledge on eg</p>	<p>Students are covering topics and preparing for their GCSE exam</p> <p>-Students are learning new vocabulary and use terminology appropriately</p>	<p>Students are covering topics and preparing for their GCSE exam</p> <p>-Students are learning new vocabulary</p> <p>-Students to be able to apply their</p>

	-Students to develop logical thinking, problem-solving skills and mathematical thinking	life situation eg. cooking	Home decoration, building and cooking	equations with the new, extended knowledge	-Students to develop logical thinking, problem-solving skills and mathematical thinking	knowledge in real life
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