

# Bellerive FCJ Catholic College



Department: Mathematics

Year Group: 8

Term	Learning Focus	Key Knowledge and Skills	Assessment	Challenge and Enrichment
HT 1	<p><b><u>Proportional Reasoning</u></b> <b>Ratio &amp; Scale</b></p> <p><b>Multiplicative Change</b> <i>Conversion graphs, currency conversions, Scale factors</i></p> <p><b>Multiplying and Dividing Fractions</b></p>	<ul style="list-style-type: none"> <li>Understand and use ratios to describe quantities, simplify ratios, use ratio notation, divide a quantity in a given ratio, link ratio to fractions and percentages, understand Pi and gradient as a ratio</li> <li>Recognise and work with direct proportion, solve problems involving multiplicative relationships such as recipes, identify multiplicative connections between values in a table or graph, understand and use proportional reasoning in real life contexts such as cost per item, develop fluency with multipliers and scale factors in similar shapes</li> <li>Multiply fractions and mixed numbers by other fractions and whole numbers, divide fractions by whole numbers and other fractions, convert between mixed numbers and improper fractions, simplify fractions and solve problems involving fractional multiplication and division in context</li> </ul>	<p>Mini white board assessment</p> <p>Fortnightly mini assessment of content covered.</p> <p>Weekly Sparx homework on content covered with feedback.</p> <p>End of block summative assessment</p>	<p><a href="https://vimeo.com/453610283">https://vimeo.com/453610283</a></p> <p><a href="https://vimeo.com/453610228">https://vimeo.com/453610228</a></p> <p><a href="https://vimeo.com/453633519">https://vimeo.com/453633519</a></p> <p><a href="https://vimeo.com/453645120">https://vimeo.com/453645120</a></p> <p><a href="https://vimeo.com/453671240">https://vimeo.com/453671240</a></p> <p><a href="https://vimeo.com/454834177">https://vimeo.com/454834177</a></p> <p><a href="https://vimeo.com/454834298">https://vimeo.com/454834298</a></p> <p><a href="https://vimeo.com/454834531">https://vimeo.com/454834531</a></p> <p><a href="https://vimeo.com/454834903">https://vimeo.com/454834903</a></p> <p><a href="https://vimeo.com/454835354">https://vimeo.com/454835354</a></p> <p><a href="https://vimeo.com/458054339">https://vimeo.com/458054339</a></p> <p><a href="https://vimeo.com/458054065">https://vimeo.com/458054065</a></p> <p><a href="https://vimeo.com/458054175">https://vimeo.com/458054175</a></p> <p><a href="https://vimeo.com/458149641">https://vimeo.com/458149641</a></p> <p><a href="https://vimeo.com/458149776">https://vimeo.com/458149776</a></p> <p><a href="https://vimeo.com/458149966">https://vimeo.com/458149966</a></p> <p><a href="https://vimeo.com/458150122">https://vimeo.com/458150122</a></p> <p><a href="https://vimeo.com/458150274">https://vimeo.com/458150274</a></p> <p><a href="https://vimeo.com/463365480">https://vimeo.com/463365480</a></p> <p><a href="https://vimeo.com/463365541">https://vimeo.com/463365541</a></p> <p><a href="https://vimeo.com/463366488">https://vimeo.com/463366488</a></p> <p><a href="https://vimeo.com/463839832">https://vimeo.com/463839832</a></p> <p><a href="https://vimeo.com/463366603">https://vimeo.com/463366603</a></p> <p><a href="https://vimeo.com/463366867">https://vimeo.com/463366867</a></p> <p><a href="https://vimeo.com/464964360">https://vimeo.com/464964360</a></p> <p><a href="https://vimeo.com/464964461">https://vimeo.com/464964461</a></p> <p><a href="https://vimeo.com/464973925">https://vimeo.com/464973925</a></p> <p><a href="https://vimeo.com/464981110">https://vimeo.com/464981110</a></p>

HT2	<p><b><u>Representations</u></b>  <b>Working on the Cartesian Plane</b>  <i>Plotting straight lines, link to direct proportion and sequences</i></p> <p><b>Representing Data</b>  <i>Scatter graphs, grouped and ungrouped frequency tables</i></p> <p><b>Tables &amp; Probability</b>  <i>Two-way tables, Venn diagrams</i></p>	<ul style="list-style-type: none"> <li>Understand and use the Cartesian coordinate system, plot straight line graphs, understand the role of the gradient and the y-intercept, recognise vertical and horizontal lines, recognise that straight line graphs represent direct proportion and plot sequences as coordinates</li> <li>Organise data using frequency tables, calculate averages from tables, interpret class intervals and estimate the mean from grouped data, plot data on a scatter graph, identify types of correlation, draw and use lines of best fit, understand limitations of extrapolation, recognise that correlation does not imply causation</li> <li>Construct and interpret two way tables, understand and use basic set notation in Venn Diagrams, solve problems involving frequency and probability using two way tables and Venn diagrams</li> </ul>	<p>Mini white board assessment  Fortnightly mini assessment of content covered.  Weekly Sparx homework on content covered with feedback.  End of block summative assessment</p>	<p> <a href="https://vimeo.com/468128782">https://vimeo.com/468128782</a>  <a href="https://vimeo.com/468128960">https://vimeo.com/468128960</a>  <a href="https://vimeo.com/468129042">https://vimeo.com/468129042</a>  <a href="https://vimeo.com/468129177">https://vimeo.com/468129177</a>  <a href="https://vimeo.com/468129392">https://vimeo.com/468129392</a>  <a href="https://vimeo.com/468129575">https://vimeo.com/468129575</a>  <a href="https://vimeo.com/471425142">https://vimeo.com/471425142</a>  <a href="https://vimeo.com/471425256">https://vimeo.com/471425256</a>  <a href="https://vimeo.com/474984117">https://vimeo.com/474984117</a>  <a href="https://vimeo.com/474984412">https://vimeo.com/474984412</a>  <a href="https://vimeo.com/474984655">https://vimeo.com/474984655</a>  <a href="https://vimeo.com/475137972">https://vimeo.com/475137972</a> </p> <p> <a href="https://vimeo.com/477518878">https://vimeo.com/477518878</a>  <a href="https://vimeo.com/477519085">https://vimeo.com/477519085</a>  <a href="https://vimeo.com/477519379">https://vimeo.com/477519379</a>  <a href="https://vimeo.com/477519564">https://vimeo.com/477519564</a>  <a href="https://vimeo.com/478901964">https://vimeo.com/478901964</a>  <a href="https://vimeo.com/481135393">https://vimeo.com/481135393</a>  <a href="https://vimeo.com/481136083">https://vimeo.com/481136083</a>  <a href="https://vimeo.com/481136452">https://vimeo.com/481136452</a>  <a href="https://vimeo.com/481136693">https://vimeo.com/481136693</a>  <a href="https://vimeo.com/481137122">https://vimeo.com/481137122</a> </p> <p> <a href="https://vimeo.com/483973328">https://vimeo.com/483973328</a>  <a href="https://vimeo.com/483973160">https://vimeo.com/483973160</a>  <a href="https://vimeo.com/483973037">https://vimeo.com/483973037</a>  <a href="https://vimeo.com/483972889">https://vimeo.com/483972889</a>  <a href="https://vimeo.com/484074608">https://vimeo.com/484074608</a> </p>
HT3	<p><b><u>Algebraic Techniques</u></b>  <b>Brackets, Equations and Inequalities</b></p>	<ul style="list-style-type: none"> <li>Simplify expressions, substitution, expand single and double brackets, factorising, solving linear equations and inequalities, forming expressions and understanding and using simple formulae</li> </ul>	<p>Mini white board assessment  Fortnightly mini assessment of content covered.</p>	<p> <a href="https://vimeo.com/490422623">https://vimeo.com/490422623</a>  <a href="https://vimeo.com/490423664">https://vimeo.com/490423664</a>  <a href="https://vimeo.com/490424538">https://vimeo.com/490424538</a>  <a href="https://vimeo.com/490897953">https://vimeo.com/490897953</a>  <a href="https://vimeo.com/490661257">https://vimeo.com/490661257</a>  <a href="https://vimeo.com/491562906">https://vimeo.com/491562906</a> </p>

	<b>Sequences</b>  <b>Indices</b> <i>Laws of indices</i>	<ul style="list-style-type: none"> <li>Identifying sequences, generating sequences, recognising linear and non-linear sequences, finding the nth term</li> <li>Understanding and using powers, evaluating expressions and writing numbers in index form, understanding and using the multiplication, division, brackets laws of indices</li> </ul>	Weekly Sparx homework on content covered with feedback. End of block summative assessment  Assessment on Autumn term topics	<a href="https://vimeo.com/491562951">https://vimeo.com/491562951</a> <a href="https://vimeo.com/491562998">https://vimeo.com/491562998</a> <a href="https://vimeo.com/492153004">https://vimeo.com/492153004</a> <a href="https://vimeo.com/492153577">https://vimeo.com/492153577</a> <a href="https://vimeo.com/492154163">https://vimeo.com/492154163</a> <a href="https://vimeo.com/492155091">https://vimeo.com/492155091</a>  <a href="https://vimeo.com/498289737">https://vimeo.com/498289737</a> <a href="https://vimeo.com/498290425">https://vimeo.com/498290425</a> <a href="https://vimeo.com/498290804">https://vimeo.com/498290804</a> <a href="https://vimeo.com/498291004">https://vimeo.com/498291004</a>  <a href="https://vimeo.com/501778472">https://vimeo.com/501778472</a> <a href="https://vimeo.com/501778353">https://vimeo.com/501778353</a> <a href="https://vimeo.com/501779522">https://vimeo.com/501779522</a> <a href="https://vimeo.com/501780698">https://vimeo.com/501780698</a> <a href="https://vimeo.com/501780643">https://vimeo.com/501780643</a> <a href="https://vimeo.com/501781128">https://vimeo.com/501781128</a>
HT4	<b><u>Algebraic Techniques</u></b> <b>Fractions &amp; Percentages</b>  <b>Standard index Form</b>  <b>Number Sense</b> <i>Estimation, Money, Metric units for weight, length, area and volume</i>	<ul style="list-style-type: none"> <li>Simplifying fractions, calculating with fractions including with mixed numbers and improper fractions, converting between fractions, decimals and percentages, finding percentages of amounts, percentage increase and decrease, and reverse percentage problems</li> <li>Understanding standard form, converting between ordinary numbers and standard form, real world applications of standard form</li> <li>Rounding to significant figures, estimating answers, solving real life money problems, converting between metric units of length, mass, area and volume</li> </ul>	Mini white board assessment Fortnightly mini assessment of content covered. Weekly Sparx homework on content covered with feedback. End of block summative assessment	<a href="https://vimeo.com/507639337">https://vimeo.com/507639337</a> <a href="https://vimeo.com/507639642">https://vimeo.com/507639642</a> <a href="https://vimeo.com/507639950">https://vimeo.com/507639950</a> <a href="https://vimeo.com/507640347">https://vimeo.com/507640347</a> <a href="https://vimeo.com/507640664">https://vimeo.com/507640664</a> <a href="https://vimeo.com/510326002">https://vimeo.com/510326002</a> <a href="https://vimeo.com/510326932">https://vimeo.com/510326932</a> <a href="https://vimeo.com/510327233">https://vimeo.com/510327233</a> <a href="https://vimeo.com/510327544">https://vimeo.com/510327544</a> <a href="https://vimeo.com/510621914">https://vimeo.com/510621914</a> <a href="https://vimeo.com/515880990">https://vimeo.com/515880990</a> <a href="https://vimeo.com/515881324">https://vimeo.com/515881324</a> <a href="https://vimeo.com/515881707">https://vimeo.com/515881707</a>  <a href="https://vimeo.com/519965759">https://vimeo.com/519965759</a> <a href="https://vimeo.com/519966217">https://vimeo.com/519966217</a> <a href="https://vimeo.com/519966730">https://vimeo.com/519966730</a> <a href="https://vimeo.com/519967116">https://vimeo.com/519967116</a> <a href="https://vimeo.com/519967527">https://vimeo.com/519967527</a>

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HT5	<b><u>Developing Geometry</u></b> <b>Angles in Parallel Lines &amp; Polygons</b>  <b>Area of Trapezia &amp; Circles</b>	<ul style="list-style-type: none"> <li>Identifying and using angle relationships in parallel lines, justifying answers using correct terminology, calculating the interior and exterior angles of a polygon</li> <li>Be introduced to the formula for area of a trapezium and using this to solve problems to calculate the area and missing lengths. Be introduced to the formula for area of a circle, identifying the radius and diameter of a circle and use this to calculate the area of a circle and compound shapes</li> </ul>	Mini white board assessment Fortnightly mini assessment of content covered. Weekly Sparx homework on content covered with feedback. End of block summative assessment  Assessment on Spring term topics	<a href="https://vimeo.com/530748724">https://vimeo.com/530748724</a> <a href="https://vimeo.com/530748760">https://vimeo.com/530748760</a> <a href="https://vimeo.com/531647201">https://vimeo.com/531647201</a> <a href="https://vimeo.com/531647240">https://vimeo.com/531647240</a> <a href="https://vimeo.com/531291246">https://vimeo.com/531291246</a> <a href="https://vimeo.com/531295900">https://vimeo.com/531295900</a> <a href="https://vimeo.com/531296980">https://vimeo.com/531296980</a> <a href="https://vimeo.com/536825395">https://vimeo.com/536825395</a> <a href="https://vimeo.com/536826143">https://vimeo.com/536826143</a> <a href="https://vimeo.com/536826731">https://vimeo.com/536826731</a> <a href="https://vimeo.com/536855420">https://vimeo.com/536855420</a> <a href="https://vimeo.com/536853358">https://vimeo.com/536853358</a>  <a href="https://vimeo.com/540095384">https://vimeo.com/540095384</a> <a href="https://vimeo.com/540095428">https://vimeo.com/540095428</a> <a href="https://vimeo.com/540095476">https://vimeo.com/540095476</a> <a href="https://vimeo.com/545156111">https://vimeo.com/545156111</a> <a href="https://vimeo.com/542650167">https://vimeo.com/542650167</a> <a href="https://vimeo.com/543624911">https://vimeo.com/543624911</a>

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HT6	<b><u>Reasoning with Data</u></b> <b>Line symmetry &amp; reflection</b>  <b>The data handling cycle</b>  <b>Measures of Location</b> <i>Averages from tables</i>	<ul style="list-style-type: none"> <li>Recognise and draw lines of symmetry in 2D shapes, understand symmetry in regular and irregular polygons, use symmetry to complete shapes, reflect shapes in horizontal, vertical and diagonal lines on a grid, identify the line of reflection and describe reflections</li> <li>Collect data, process and represent data in bar charts, pie charts, pictograms, line graphs, frequency tables and stem-and-leaf diagrams, interpret and discuss results, discuss reliability and bias</li> <li>Calculate and interpret the mean, median, mode and range from a list and from tables, choosing the most appropriate measure for a given context, compare data sets and apply measures of location to real life data such as sports scores</li> </ul>	Mini white board assessment Fortnightly mini assessment of content covered. Weekly Sparx homework on content covered with feedback. End of block summative assessment	<a href="https://vimeo.com/552331230">https://vimeo.com/552331230</a> <a href="https://vimeo.com/552331674">https://vimeo.com/552331674</a> <a href="https://vimeo.com/552332123">https://vimeo.com/552332123</a> <a href="https://vimeo.com/552332562">https://vimeo.com/552332562</a> <a href="https://vimeo.com/552333174">https://vimeo.com/552333174</a> <a href="https://vimeo.com/553266076">https://vimeo.com/553266076</a> <a href="https://vimeo.com/556191226">https://vimeo.com/556191226</a> <a href="https://vimeo.com/556202159">https://vimeo.com/556202159</a> <a href="https://vimeo.com/556196031">https://vimeo.com/556196031</a> <a href="https://vimeo.com/556196147">https://vimeo.com/556196147</a> <a href="https://vimeo.com/556198321">https://vimeo.com/556198321</a>  <a href="https://vimeo.com/561753012">https://vimeo.com/561753012</a> <a href="https://vimeo.com/561753918">https://vimeo.com/561753918</a> <a href="https://vimeo.com/561754723">https://vimeo.com/561754723</a> <a href="https://vimeo.com/561755034">https://vimeo.com/561755034</a> <a href="https://vimeo.com/561756515">https://vimeo.com/561756515</a> <a href="https://vimeo.com/561758867">https://vimeo.com/561758867</a>