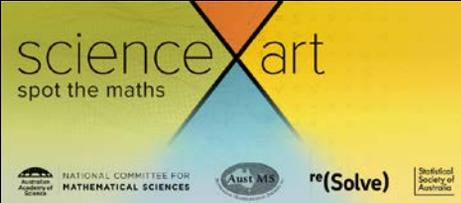
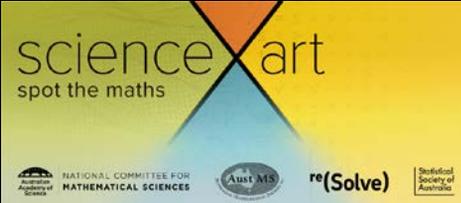


# Australian Curriculum: Mathematics and Photography



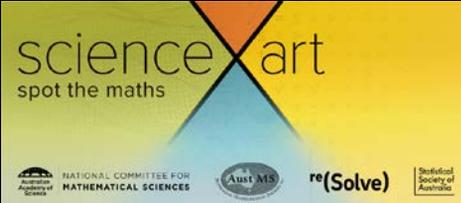
Year level	Strand	Content descriptors	Opportunities
F	Number & Algebra	<p><b>ACMNA003:</b> Subitise small collections of objects</p> <p><b>ACMNA004:</b> Represent practical situations to model addition and sharing</p> <p><b>ACMNA005:</b> Sort and classify familiar objects and explain the basis for these classifications. Copy continue and create patterns with objects and drawings.</p>	<ul style="list-style-type: none"> <li>• Sharing</li> <li>• Natural patterns in the world around us</li> <li>• Subitising patterns</li> </ul>
F	Measurement & Geometry	<p><b>ACMMG006:</b> Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language</p> <p><b>ACMMG009:</b> Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment</p>	<ul style="list-style-type: none"> <li>• Comparisons</li> <li>• Contrasting side-by-side objects</li> <li>• Identifying shapes and objects in the environment</li> </ul>
1	Number & Algebra	<p><b>ACMNA013:</b> Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line</p> <p><b>ACMNA016:</b> Recognise and describe one-half as one of two equal parts of a whole</p>	<ul style="list-style-type: none"> <li>• Modelling numbers</li> <li>• Representing halves</li> </ul>
1	Measurement & Geometry	<p><b>ACMMG022:</b> Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features</p>	<ul style="list-style-type: none"> <li>• Identifying shapes and objects in the environment</li> </ul>
1	Statistics & Probability	<p><b>ACMSP263:</b> Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays</p>	<ul style="list-style-type: none"> <li>• Representations of data in the world around us</li> </ul>
2	Number & Algebra	<p><b>ACMNA028:</b> Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting</p> <p><b>ACMNA031:</b> Recognise and represent multiplication as repeated addition, groups and arrays</p> <p><b>ACMNA033:</b> Recognise and interpret common uses of halves, quarters and eighths of shapes and collections</p>	<ul style="list-style-type: none"> <li>• Representations of numbers over 100</li> <li>• Representations of multiplication including arrays</li> <li>• Representations of fractions</li> </ul>

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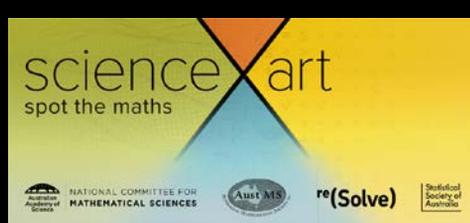
Year level	Strand	Content descriptors	Opportunities
2	Measurement & Geometry	<p><b>ACMMG037:</b> Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units</p> <p><b>ACMMG044:</b> Interpret simple maps of familiar locations and identify the relative positions of key features</p>	<ul style="list-style-type: none"> <li>• Informal units</li> <li>• Comparisons</li> <li>• Contrasting side-by-side objects</li> <li>• Maps</li> </ul>
2	Statistics & Probability	<p><b>ACMSP050:</b> Create displays of data using lists, table and picture graphs and interpret them</p>	<ul style="list-style-type: none"> <li>• Different displays of data in the environment</li> </ul>
3	Number & Algebra	<p><b>ACMNA052:</b> Recognise, model, represent and order numbers to at least 10 000</p> <p><b>ACMNA058:</b> Model and represent unit fractions including <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{5}</math> and their multiples to a complete whole</p>	<ul style="list-style-type: none"> <li>• Representations of numbers up to 10 000</li> <li>• Representations of fractions</li> </ul>
3	Measurement & Geometry	<p><b>ACMMG063:</b> Make models of three-dimensional objects and describe key features</p> <p><b>ACMMG066:</b> Identify symmetry in the environment</p> <p><b>ACMMG064:</b> Identify angles as measures of turn and compare angle sizes in everyday situations</p>	<ul style="list-style-type: none"> <li>• Creating three-dimensional models</li> <li>• Identifying symmetry in the environment</li> <li>• Identifying and comparing angles in the world around us</li> </ul>
3	Statistics & Probability	<p><b>ACMSP069:</b> Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies</p>	<ul style="list-style-type: none"> <li>• Representations of data in the world around us</li> </ul>
4	Number & Algebra	<p><b>ACMNA077:</b> Investigate equivalent fractions used in contexts</p> <p><b>ACMNA081:</b> Explore and describe number patterns resulting from performing multiplication</p>	<ul style="list-style-type: none"> <li>• Representations of equivalent fractions</li> <li>• Identifying number patterns in everyday life</li> </ul>

# Australian Curriculum: Mathematics and Photography



Year level	Strand	Content descriptors	Opportunities
4	<b>Measurement &amp; Geometry</b>	<p><b>ACMMG088:</b> Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies</p> <p><b>ACMMG091:</b> Create symmetrical patterns, pictures and shapes with and without digital technologies</p>	<ul style="list-style-type: none"> <li>Identifying two-dimensional shapes in a composite shape</li> <li>Identifying symmetrical patterns and pictures in the environment</li> </ul>
4	<b>Statistics &amp; Probability</b>	<p><b>ACMSP096:</b> Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values</p> <p><b>ACMSP097:</b> Evaluate the effectiveness of different displays in illustrating data features including variability</p>	<ul style="list-style-type: none"> <li>Identifying data displays in the environment</li> <li>Different representations of the same data</li> <li>Data representations in the media</li> </ul>
5	<b>Number &amp; Algebra</b>	<p><b>ACMNA099:</b> Use estimation and rounding to check the reasonableness of answers to calculations</p> <p><b>ACMNA100:</b> Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies</p>	<ul style="list-style-type: none"> <li>Estimating amounts in the environment</li> <li>Different visual representations of multiplication</li> </ul>
5	<b>Measurement &amp; Geometry</b>	<p><b>ACMMG111:</b> Connect three-dimensional objects with their nets and other two-dimensional representations</p> <p><b>ACMMG114:</b> Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries</p>	<ul style="list-style-type: none"> <li>Relating three-dimensional objects to two-dimensional representations</li> <li>Identifying translations, reflections, rotations and symmetry in the environment</li> </ul>
5	<b>Statistics &amp; Probability</b>	<p><b>ACMSP119:</b> Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies</p> <p><b>ACMSP120:</b> Describe and interpret different data sets in context</p>	<ul style="list-style-type: none"> <li>Representations of data in the world around us</li> </ul>

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Year level	Strand	Content descriptors	Opportunities
6	Number & Algebra	<p><b>ACMNA124:</b> Investigate everyday situations that use integers. Locate and represent these numbers on a number line</p> <p><b>ACMNA125:</b> Compare fractions with related denominators and locate and represent them on a number line</p> <p><b>ACMNA133:</b> Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence</p>	<ul style="list-style-type: none"> <li>• Everyday situations that use integers</li> <li>• Identifying and representing equivalence between fractions</li> <li>• Additive and multiplicative patterns in the environment</li> </ul>
6	Measurement & Geometry	<p><b>ACMMG137:</b> Solve problems involving the comparison of lengths and areas using appropriate units</p> <p><b>ACMMG141:</b> Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles</p> <p><b>ACMMG142:</b> Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies</p>	<ul style="list-style-type: none"> <li>• Comparisons of familiar objects</li> <li>• Identifying angles in the environment</li> <li>• Identifying combinations of translations, reflections and rotations in the environment</li> </ul>
6	Statistics & Probability	<p><b>ACMSP147:</b> Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables</p> <p><b>ACMSP148:</b> Interpret secondary data presented in digital media and elsewhere</p>	<ul style="list-style-type: none"> <li>• Different data displays in the environment</li> <li>• Data representations in media</li> </ul>
7	Number & Algebra	<p><b>ACMNA157:</b> Connect fractions, decimals and percentages and carry out simple conversions</p> <p><b>ACMNA158:</b> Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies</p> <p><b>ACMNA180:</b> Investigate, interpret and analyse graphs from authentic data</p>	<ul style="list-style-type: none"> <li>• Representations of percentages, fractions and decimals</li> <li>• Authentic data in the environment</li> </ul>
7	Measurement & Geometry	<p><b>ACMMG163:</b> Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal</p> <p><b>ACMMG181:</b> Describe translations, reflections in an axis and rotations of multiples of <math>90^\circ</math> on the Cartesian plane using coordinates. Identify line and rotational symmetries</p>	<ul style="list-style-type: none"> <li>• Identifying angles in the environment</li> <li>• Using coordinates to describe translations, reflections and rotations in a photograph</li> </ul>

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Year level	Strand	Content descriptors	Opportunities
7	Statistics & Probability	<p><b>ACMSP169:</b> Identify and investigate issues involving numerical data collected from primary and secondary sources</p> <p><b>ACMSP172:</b> Describe and interpret data displays using median, mean and range</p>	<ul style="list-style-type: none"> <li>Identifying secondary data in the environment</li> <li>Identifying examples of measures of central tendency in the environment</li> </ul>
8	Number & Algebra	<p><b>ACMNA186:</b> Investigate the concept of irrational numbers, including <math>\pi</math></p> <p><b>ACMNA189:</b> Solve problems involving profit and loss, with and without digital technologies</p>	<ul style="list-style-type: none"> <li>Visual representations of irrational numbers</li> <li>Representations of sales/discounts</li> </ul>
8	Measurement & Geometry	<p><b>ACMMG200:</b> Define congruence of plane shapes using transformations</p> <p><b>ACMMG202:</b> Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning</p>	<ul style="list-style-type: none"> <li>Congruent plane shapes in the environment</li> <li>Properties of quadrilaterals in the environment</li> </ul>
8	Statistics & Probability	<p><b>ACMSP205:</b> Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'.</p> <p><b>ACMSP292:</b> Represent events in two-way tables and Venn diagrams and solve related problems</p>	<ul style="list-style-type: none"> <li>Probability language in the environment</li> <li>Representations of probability</li> </ul>
9	Number & Algebra	<p><b>ACMNA208:</b> Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems</p> <p><b>ACMNA296:</b> Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations</p>	<ul style="list-style-type: none"> <li>Direct proportion in real-life contexts</li> <li>Non-linear relationships in the environment</li> </ul>
9	Measurement & Geometry	<p><b>ACMMG219:</b> Investigate very small and very large time scales and intervals</p> <p><b>ACMMG221:</b> Solve problems using ratio and scale factors in similar figures</p>	<ul style="list-style-type: none"> <li>Identifying examples of time scales in the environment</li> <li>Investigating similar figures in the environment</li> </ul>

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Year level	Strand	Content descriptors	Opportunities
9	<b>Statistics &amp; Probability</b>	<p><b>ACMSP225:</b> List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events</p> <p><b>ACMSP228:</b> Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources</p>	<ul style="list-style-type: none"> <li>• Representations of probability</li> <li>• Data representations in the media</li> </ul>
10	<b>Number &amp; Algebra</b>	<p><b>ACMNA239:</b> Explore the connection between algebraic and graphical representations of relations such as simple quadratics, circles and exponentials using digital technology as appropriate</p>	<ul style="list-style-type: none"> <li>• Representations of relations</li> </ul>
10	<b>Measurement &amp; Geometry</b>	<p><b>ACMMG245:</b> Solve right-angled triangle problems including those involving direction and angles of elevation and depression</p> <p><b>ACMMG243:</b> Formulate proofs involving congruent triangles and angle properties</p>	<ul style="list-style-type: none"> <li>• Right-angled triangle problems in the environment</li> <li>• Geometric figures in the environment</li> </ul>
10	<b>Statistics &amp; Probability</b>	<p><b>ACMSP247:</b> Use the language of 'if ....then', 'given', 'of', 'knowing that' to investigate conditional statements and identify common mistakes in interpreting such language</p> <p><b>ACMSP253:</b> Evaluate statistical reports in the media and other places by linking claims to displays, statistics and representative data</p>	<ul style="list-style-type: none"> <li>• Applying conditional statements to the environment</li> <li>• Statistical representations in the media</li> </ul>

