**MATHEMATICS SCOPE AND SEQUENCE AUDIT: Year 10**

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| **School:** |  | **Date:** |  |

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| **NUMBER AND ALGEBRA**  | **TIMES** | **SAM** | **Term 1** | **Term 2** | **Term 3** | **Term 4** |
| Money & Financial Maths | [Connect the compound interest formula to repeated applications of simple interest using appropriate digital technologies (ACMNA229)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA22***](http://www.amsi.org.au/teacher_modules/consumer_arithmetic.html) |  |[ ] [ ] [ ] [ ]
| Patterns & Algebra | [Factorise algebraic expressions by taking out a common algebraic factor (ACMNA230)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA33***](http://www.amsi.org.au/teacher_modules/Factorisation.html) |  |[ ] [ ] [ ] [ ]
|  | [Simplify algebraic products and quotients using index laws (ACMNA231)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA32***](http://www.amsi.org.au/teacher_modules/fractions_and_index_law_in_algebra.html) |  |[ ] [ ] [ ] [ ]
|  | [Apply the four operations to simple algebraic fractions with numerical denominators(ACMNA232)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA25***](http://www.amsi.org.au/teacher_modules/special_expansions_algbrc_fracs.html)[***TIMESNA26***](http://amsi.org.au/teacher_modules/Linear_equations.html) |  |[ ] [ ] [ ] [ ]
|  | [Expand binomial products and factorise monic quadratic expressions using a variety of strategies (ACMNA233)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA33***](http://www.amsi.org.au/teacher_modules/Factorisation.html) |  |[ ] [ ] [ ] [ ]
|  | [Substitute values into formulas to determine an unknown (ACMNA234)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA36***](http://www.amsi.org.au/teacher_modules/Formulas.html) |  |[ ] [ ] [ ] [ ]
| Linear & non-linear Relationships | [Solve problems involving linear equations, including those derived from formulas(ACMNA235)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA26***](http://www.amsi.org.au/teacher_modules/linear_equations.html)[***TIMESNA36***](http://www.amsi.org.au/teacher_modules/Formulas.html) |  |[ ] [ ] [ ] [ ]
|  | [Solve linear inequalities and graph their solutions on a number line (ACMNA236)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) |  |  |[ ] [ ] [ ] [ ]
|  | [Solve linear simultaneous equations, using algebraic and graphical techniques including using digital technology (ACMNA237)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) |  |  |[ ] [ ] [ ] [ ]
|  | [Solve problems involving parallel and perpendicular lines (ACMNA238)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA29***](http://www.amsi.org.au/teacher_modules/Introduction_to_coordinate_geometry.html) |  |[ ] [ ] [ ] [ ]
|  | [Explore the connection between algebraic and graphical representations of relations such as simple quadratics, circles and exponentials using digital technology as appropriate (ACMNA239)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA35***](http://www.amsi.org.au/teacher_modules/Quadratic_Function.html) |  |[ ] [ ] [ ] [ ]
|  | [Solve linear equations involving simple algebraic fractions (ACMNA240)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA25***](http://www.amsi.org.au/teacher_modules/special_expansions_algbrc_fracs.html) |  |[ ] [ ] [ ] [ ]
|  | [Solve simple quadratic equations using a range of strategies (ACMNA241)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=NA&layout=1) | [***TIMESNA34***](http://www.amsi.org.au/teacher_modules/Quadratic_Equations.html)[***TIMESNA35***](http://www.amsi.org.au/teacher_modules/Quadratic_Function.html) |  |[ ] [ ] [ ] [ ]
| **MEASUREMENT AND GEOMETRY** |  |  |  |  |  |  |
| Using Units of Measurement | [Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids (ACMMG242)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=MG&layout=1) | [***TIMESMG12***](http://www.amsi.org.au/teacher_modules/Cones_Pyramids_and_Spheres.html) |  |[ ] [ ] [ ] [ ]
| Geometric Reasoning | [Formulate proofs involving congruent triangles and angle properties (ACMMG243)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=MG&layout=1) | [***TIMESMG22***](http://www.amsi.org.au/teacher_modules/Scale_drawings_and_similarity.html) |  |[ ] [ ] [ ]  [ ]  |
|  | [Apply logical reasoning, including the use of congruence and similarity, to proofs and numerical exercises involving plane shapes (ACMMG244)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=MG&layout=1) | [***TIMESMG20***](http://amsi.org.au/teacher_modules/Paralleograms_and_rectangles.html)[***TIMESMG21***](http://www.amsi.org.au/teacher_modules/Rhombuses_Kites_and_Trapezia.html)[***TIMESMG22***](http://www.amsi.org.au/teacher_modules/Scale_drawings_and_similarity.html) |  |[ ] [ ] [ ] [ ]
| Pythagoras and Trigonometry | [Solve right-angled triangle problems including those involving direction and angles of elevation and depression (ACMMG245)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=MG&layout=1) | [***TIMESMG23***](http://amsi.org.au/teacher_modules/Introductory_trigonometry.html) |  |[ ] [ ] [ ] [ ]
| **STATISTICS AND PROBABILITY**  |  |  |  |  |  |  |
| Chance | [Describe the results of two- and three-step chance experiments, both with and without replacements, assign probabilities to outcomes and determine probabilities of events. Investigate the concept of independence (ACMSP246)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP15***](http://www.amsi.org.au/teacher_modules/Chance_year10.html) |  |[ ] [ ] [ ]  [ ]  |
|  | [Use the language of ‘if ....then, ‘given’, ‘of’, ‘knowing that’ to investigate conditional statements and identify common mistakes in interpreting such language (ACMSP247)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP15***](http://www.amsi.org.au/teacher_modules/Chance_year10.html) |  |[ ] [ ] [ ] [ ]
| Data Representation & Interpretation | [Determine quartiles and interquartile range (ACMSP248)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP08***](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) |  |[ ] [ ] [ ] [ ]
|  | [Construct and interpret box plots and use them to compare data sets (ACMSP249)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP08***](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) |  |[ ] [ ] [ ] [ ]
|  | [Compare shapes of box plots to corresponding histograms and dot plots (ACMSP250)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP08***](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) |  |[ ] [ ] [ ] [ ]
|  | [Use scatter plots to investigate and comment on relationships between two numerical variables (ACMSP251)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP08***](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) |  |[ ] [ ] [ ] [ ]
|  | [Investigate and describe bivariate numerical data where the independent variable is time (ACMSP252)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP08***](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) |  |  |  |  |  |
|  | [Evaluate statistical reports in the media and other places by linking claims to displays, statistics and representative data (ACMSP253)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1) | [***TIMESSP08***](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) |  |  |  |  |  |
| **PROFICIENCIES (Embedded Throughout)** | **Keywords** |
| [**Understanding**](file:///D%3A%5CUsers%5Cmconnor%5CDocuments%5CResources%5CAMSI%20School%20Program%20Implementation%5CAMSI%20Teacher%20Journal%20Master%5C2015%20Audit%20Docs%5CProficiency%20Summaries%5CUnderstanding%20Statements%20and%20Keywords.docx) | includes applying the four operations to algebraic fractions, finding unknowns in formulas after substitution, making the connection between equations of relations and their graphs, comparing simple and compound interest in financial contexts and determining probabilities of  two and three step experiments | Making connections, noticing properties, manipulating according to properties, identifying and describing relationships |
| [**Fluency**](file:///D%3A%5CUsers%5Cmconnor%5CDocuments%5CResources%5CAMSI%20School%20Program%20Implementation%5CAMSI%20Teacher%20Journal%20Master%5C2015%20Audit%20Docs%5CProficiency%20Summaries%5CFluency%20Statements%20and%20Keywords.docx) | includes factorising and expanding algebraic expressions, using a range of strategies to solve equations and using calculations to investigate the shape of data sets | Calculating, solving, applying rules appropriately in algebraic/symbolic expressions |
| [**Problem Solving**](file:///D%3A%5CUsers%5Cmconnor%5CDocuments%5CResources%5CAMSI%20School%20Program%20Implementation%5CAMSI%20Teacher%20Journal%20Master%5C2015%20Audit%20Docs%5CProficiency%20Summaries%5CProblem%20Solving%20Statements%20and%20Keywords.docx) | includes calculating the surface area and volume of a diverse range of prisms to solve practical problems, finding unknown lengths and angles using applications of trigonometry, using algebraic and graphical techniques to find solutions to simultaneous equations and inequalities, and investigating independence of events | Apply, investigate,  |
| [**Reasoning**](file:///D%3A%5CUsers%5Cmconnor%5CDocuments%5CResources%5CAMSI%20School%20Program%20Implementation%5CAMSI%20Teacher%20Journal%20Master%5C2015%20Audit%20Docs%5CProficiency%20Summaries%5CReasoning%20Statements%20and%20Keywords.docx) | includes formulating geometric proofs involving congruence and similarity, interpreting and evaluating media statements and interpreting and comparing datasets | Formulating proofs, interpreting, evaluating, comparing |