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| Level 7 | Level 8 | Level 9 | Level 10 | Level 10A |
|---|---|---|---|---|
| **Measurement and Geometry** | | | | |
| **Using units of measurement** | | | | |
| Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem solving | Choose appropriate units of measurement for area and volume and convert from one unit to another | Calculate the areas of composite shapes | Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids | Solve problems involving surface area and volume of right pyramids, right cones, spheres and related composite solids |
| Calculate volumes of rectangular prisms | Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites | Calculate the surface area and volume of cylinders and solve related problems | | |
| | Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving determining radius, diameter, circumference and area from each other | Solve problems involving the surface area and volume of right prisms | | |
| | Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume | Investigate very small and very large time scales and intervals | | |
| | Solve problems involving duration, including using 12- and 24-hour time within a single time zone | | | |
| **Shape** | | | | |
| Draw different views of prisms and solids formed from combinations of prisms | | | | |
| **Location and transformation** | | | | |
| Describe translations, reflections in an axis, and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries | | | | |
| **Geometric reasoning** | | | | |
| Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal | Define congruence of plane shapes using transformations and use transformations of congruent shapes to produce regular patterns in the plane including tessellations with and without the use of digital technology | Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar | Formulate proofs involving congruent triangles and angle properties | Prove and apply angle and chord properties of circles |
| Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning | Develop the conditions for congruence of triangles | Solve problems using ratio and scale factors in similar figures | Apply logical reasoning, including the use of congruence and similarity, to proofs and numerical exercises involving plane shapes | |
| Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral | Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning | | | |
| Classify triangles according to their side and angle properties and describe quadrilaterals | | | | |
| | | **Pythagoras and trigonometry** | | |

| Level 7 | Level 8 | Level 9 | Level 10 | Level 10A |
|---|---|---|---|---|
| | | Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles | Solve right-angled triangle problems including those involving direction and angles of elevation and depression | Establish the sine, cosine and area rules for any triangle and solve related problems |
| | | Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles | | Use the unit circle to define trigonometric functions as functions of a real variable, and graph them with and without the use of digital technologies |
| | | Apply trigonometry to solve right-angled triangle problems | | Solve simple trigonometric equations |
| | | | | Apply Pythagoras' theorem and trigonometry to solving three-dimensional problems in right-angled triangles |

******Measurement & Geometry******

**1.Indigenous Navigating through country**
**https://indigenousknowledge.unimelb.edu.au/curriculum/resources/navigating-our-way-through-country**
**2.Aboriginal and Torres Strait Islander Mathematics Alliance; inspires, promotes & supports mathematics**
**http://atsimanational.ning.com/**
**3.Indigenous perspectives in maths: Understanding Gurruṯu - Patterns**
**www.teachermagazine.com.au/articles/indigenous-perspectives-in-maths-understanding-gurruu**
**4.Maths - Fantastic resources PDF**
**https://www.narragunnawali.org.au/storage/media/page/5a04516b97a7962875563b56aecf5c9d.pdf**
**5.Geometry of water resources & landforms**
**https://indigenousknowledge.unimelb.edu.au/curriculum/resources/geometry-of-water-sources-and-landforms**
**6.Stellar navigation & mathematics**
**https://indigenousknowledge.unimelb.edu.au/curriculum/resources/stellar-navigation-and-mathematics**
**7.Indigenous understanding of maths through moon phases and tides**
**https://indigenousknowledge.unimelb.edu.au/curriculum/resources/mathematics,-moon-phases,-and-tides**
**8.Indigenous Mathematics - Understanding bushfires**
**https://indigenousknowledge.unimelb.edu.au/curriculum/resources/mathematics-of-bushfire**
**9.Indigenous Mathematics - Nature of bushfires**
**https://indigenousknowledge.unimelb.edu.au/curriculum/resources/mathematics-in-nature-understanding-bushfire**
**10.Excellent Maths website for all years**
**https://mic.aamt.edu.au/**
**11.Secondary - all areas**
**https://mic.aamt.edu.au/Resources/Units-of-learning/Middle-years**
**12.Hands on lessons**
**https://mic.aamt.edu.au/Resources/Units-of-learning/maths300**
**13.How to Teach Maths from indigenous perspective**
**https://www.8ways.online/8way-maths**
**14.Project Maths in Aboriginal Communities**
**https://www.cdu.edu.au/centres/macp/index.html#**

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