

Booragul Public School NSW Syllabus for the Australian Curriculum – Measurement and Geometry

Sub Strand – Three Dimensional Space 2

Outcome	Teaching and Learning Activities	Notes/ Future Directions/Evaluation	Date
Stage 2 A student: <ul style="list-style-type: none"> › uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-1WMM › checks the accuracy of a statement and explains the reasoning used MA2-3WM › makes, compares, sketches and names three-dimensional objects, including prisms, pyramids, cylinders, cones and spheres, and describes their features MA2-14MG 		Language Students should be able to communicate using the following language: object, two-dimensional shape (2D shape), three-dimensional object (3D object), cone, cube, cylinder, prism, pyramid, sphere, top view, front view, side view, isometric grid paper, isometric drawing, depth. Refer also to language in Three-Dimensional Space 1.	
<h3><u>Ignition Activities</u></h3> <p>Blindfold Students handle and discuss geometric models or everyday examples of 3D objects They count the faces, edges and corners and describe the shape of the faces. Students could use a feely bag instead of being blindfolded. When the object is visible – discuss whether the descriptions were correct.</p>			 <p style="writing-mode: vertical-rl; transform: rotate(180deg);"> Literacy Critical and creative thinking Personal and social capability Aboriginal and Torres Strait Islander histories and cultures Information and communication technology capability </p>
<p>What Shape Am I? A child describes an object to the class, eg I have 4 triangular faces and 4 corners. The class takes turns to guess. The child who guesses correctly then chooses another object.</p>			
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<h3><u>Explicit Mathematical Teaching</u></h3> <p>Investigate and represent three-dimensional objects using drawings</p> <ul style="list-style-type: none"> • identify prisms (including cubes), pyramids, cylinders, cones and spheres in the environment and from drawings, photographs and descriptions ▮ investigate types of three-dimensional objects used in commercial packaging and give reasons for some being more commonly used (Communicating, Reasoning) 			~ 1 ~

<ul style="list-style-type: none"> • sketch prisms (including cubes), pyramids, cylinders and cones, attempting to show depth ▮ compare their own drawings of three-dimensional objects with other drawings and photographs of three-dimensional objects (Reasoning) ▮ draw three-dimensional objects using a computer drawing tool, attempting to show depth (Communicating) • sketch three-dimensional objects from different views, including top, front and side views ▮ investigate different two-dimensional representations of three-dimensional objects in the environment, eg in Aboriginal art (Communicating) • draw different views of an object constructed from connecting cubes on isometric grid paper • interpret given isometric drawings to make models of three-dimensional objects using connecting cubes 		
<h2><u>Whole Class Teaching Activities</u></h2>		
<p>Real Life 3D Prisms Children look for 3D objects in the 'real' world. Students are to draw these objects from different viewpoints ie top, front and side.</p>		
<p>Guess The Prism Students are to draw a prism and show a partner who is to describe the prism ie faces, corners and edges.</p>		
<p>Cross Sections Students are to draw a series of cross sections of given prisms and pyramids.</p>		
<p>3D Object Words Have models of random 3D objects. Students are then to sketch these from different viewpoints ie top, side and front views.</p>		
<h2><u>Guided Group/Independent Activities</u></h2>		
<p>Students are to examine a range of commercial packaging and give reasons for some being more commonly used. Students could design their own package and justify the reasons for their choices.</p>		
<p>Isometric paper Students draw different views of an object on isometric grid paper. Students then swap drawings and interpret their partners drawing to make a model of the 3D object. Students use connecting cubes.</p>		
<h2><u>Planned Assessment</u></h2>		
<p>Pre Assessment Children are put into groups and sort 3D shapes into categories. ie, pyramids, prisms. Children to discuss and identify features of shapes.</p>		
<p>Present a variety of objects. Children select three objects and write all they know about them. Teacher to construct a marking rubric and distribute to students to look at prior to assessment. ie three to four days.</p>		
<p>Possible Assessment Task Classification Students sort models, everyday objects into prisms, pyramids and those that are neither.</p>		
<p>CLASSIFICATION Students sort models, everyday objects into prisms, pyramids and those that are neither</p>		

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Points of View

Ask students to sit at a table in pairs facing each other with a variety of objects arranged between them.

Each student takes a turn at describing what they can see from their position. They can sketch what they see and write about it.

The students still in pairs then move a little way around the table and repeat this activity. Continue until they are in the other person's position