



# Australian Curriculum: Design and Technologies — Year 9

## *TMT-Materials and technologies specialisations*

### Band plan 2023

CURRICULUM		YEAR 9			
		SEMESTER 1		SEMESTER 2	
		Term 1	Term 2	Term 3	Term 4
<b>Unit name</b>	CO2 concept vehicle	Passive speaker box	Folding Beach Table	BBQ Spatula	
<b>Unit description</b>	In this unit, students will apply engineering principles, emerging technologies and the properties of materials to design a CO2 concept vehicle. They will consider construction techniques as factors that influence the speed and efficiency of the CO2 concept vehicle. Students will apply orthographic sketches before constructing the vehicle. Testing and refinement will inform the final design and construction of the vehicle. Vehicles will compare the performance of their vehicles from another class followed by an evaluation of the design and construction processes.	In this unit, students will identify the factors that impact on their decisions as they design a speaker box. Students will produce a series of concept designs, highlighting their responses to data. They will provide a series of orthographic sketches detailing the size and dimensions of the speaker design, materials list and tools and equipment to be used. Risk assessment for the tools and equipment will be produced, identifying hazards and control measures needed. Students will produce a production plan and manufacture the speaker box.	In this unit, students will design and construct a folding table for a picnic. You will provide evidence of the processes and skills needed to manufacture the Folding Beach Table through a PowerPoint presentation.	In this unit, students have been asked to design and construct an aluminium BBQ spatula that meets detailed specifications. Students will provide evidence of the processes and skills needed to manufacture the aluminium BBQ spatula in a production plan. Students will undertake the design process by designing a modified blade.	
ASSESSMENT		YEAR 9			
		SEMESTER 1		SEMESTER 2	
		CO2 concept vehicle - AT1	Passive speaker box – AT2	Folding Beach Table	BBQ Spatula – AT 4
<b>Range and balance of summative assessment conventions</b>	<b>Technique</b>	Project-3D Model	Project	Project	Project
	<b>Type of text</b>	Portfolio	Portfolio	Portfolio	Portfolio
	<b>Mode</b>	Written and product	Written and product	Written and product	Written and product
	<b>Conditions</b>	<ul style="list-style-type: none"> <li>To be completed individually</li> <li>To be completed in class time</li> <li>Completed booklet and vehicle to be submitted</li> </ul>	<ul style="list-style-type: none"> <li>To be completed individually</li> <li>To be completed in class time</li> <li>Completed booklet and speaker box to be submitted</li> </ul>	<ul style="list-style-type: none"> <li>To be completed individually</li> <li>To be completed in class time</li> <li>Completed booklet and folding table to be submitted</li> </ul>	<ul style="list-style-type: none"> <li>To be completed individually</li> <li>To be completed in class time</li> <li>Completed booklet and spatula to be submitted</li> </ul>

Aspects of the achievement standard				
explain how people working in design and technologies occupations consider factors that impact on design decisions and the technologies used to produce products, services and environments	✓	✓		
identify the changes necessary to designed solutions to realise preferred futures they have described		✓		
when producing designed solutions for identified needs or opportunities, students evaluate the features of technologies and their appropriateness for purpose for one or more of the technologies contexts			✓	✓
create designed solutions for one or more of the technologies contexts based on a critical evaluation of needs or opportunities	✓	✓	✓	
establish detailed criteria for success, including sustainability considerations, and use these to evaluate their ideas and designed solutions and processes			✓	✓
create and connect design ideas and processes of increasing complexity and justify decisions				
communicate and document projects, including marketing for a range of audiences	✓			✓
independently and collaboratively apply sequenced production and management plans when producing designed solutions, making adjustments to plans when necessary		✓		
select and use appropriate technologies skilfully and safely to produce high-quality designed solutions suitable for the intended purpose			✓	✓

Term 1
Term 2
Term 3
Term 4



indicates opportunities that summative assessments provide for students to demonstrate evidence against aspects of the achievement standard