	YEAR 7
	TERM 1 - 4
	Unit 1
Assessment Tasks	Design and Digital Technology
Unit description	In a 10-week Year 7 integrated TES program, students explore renewable energy systems through computational, design, and systems thinking. They apply digital systems to real-world challenges, focusing on designing solar-powered inventions using Tinkercad and collaborative prototyping in Minecraft Education Solar Power Studio. The unit starts with an introduction to solar energy, where students identify problems and refine design ideas using mind mapping and stakeholder analysis. They research and analyse existing solar inventions, breaking them down into components and communicating insights using technical vocabulary. Building on this, students develop design briefs, create circuit diagrams, and optimise prototypes for efficiency using mathematical modelling. Iterative prototyping in Tinkercad and environmental testing in Minecraft help refine solutions through computational thinking strategies like abstraction and debugging. Regular peer feedback and user testing sessions encourage iteration and continuous improvement. Weekly PowerPoint activities strengthen literacy in TES. As the term progresses, students develop marketing materials effectively communicating their inventions' value and function. The unit culminates in a virtual exhibition, where students present their solutions and reflect on their learning journey, demonstrating their ability to integrate sustainability, ICT capability, and critical and creative thinking. This program provides authentic opportunities for students to apply design and systems thinking, collaborate using digital platforms, and build the subject-specific literacy required by the Australian Curriculum Version 9 in TES.

ASSESSMENT	YEAR 7
	Term 1 - 4
	Solar Invention Challenge

	Assessment Task	Research journal
	Technique	Research
	Type of text	Journal
	Mode	Written
	Conditions	Formative
	Relevant Curriculum Elements	ACTDIK023, ACTDIK024, ACTDEP035, ACTDEP036
Range and balance of formative assessment conventions	**Assessment Task**	Design brief
	Technique	Prototyping
	Type of text	Digital model
	Mode	Practical/Digital
	Conditions	Summative
	Relevant Curriculum Elements	ACTDEP036
	Assessment Task	Tinkercad prototype
	Technique	Prototyping
	Type of text	Digital model
	Mode	Practical/Digital
	Conditions	Summative)

	Relevant Curriculum Elements	ACTDEP036
	Assessment Task	**Minecraft build**
	Technique	Prototyping
	Type of text	Digital model
	Mode	Practical/Digital
	Conditions	Summative
	Relevant Curriculum Elements	ACTDEP036
Range and balance of summative assessment conventions	**Assessment Task**	**Peer feedback**
	Technique	Feedback
	Type of text	Oral/Written
	Mode	Oral/Written
	Conditions	Formative
	Relevant Curriculum Elements	ACTDEP035, ACTDEP036
	Assessment Task	**Digital portfolio**
	Technique	Compilation
	Type of text	Portfolio
	Mode	Digital
	Conditions	Summative
	Relevant Curriculum Elements	ACTDIK023, ACTDIK024, ACTDEP035, ACTDEP036
	Assessment Task	**Marketing materials**
	Technique	Communication
	Type of text	Multimodal text
	Mode	Digital/Written
	Conditions	Summative
	Relevant Curriculum Elements	ACTDEP035
	Assessment Task	**Manual**
	Technique	Technical writing
	Type of text	Manual
	Mode	Written
	Conditions	Summative
	Relevant Curriculum Elements	ACTDEP036
	Assessment Task	**Virtual exhibition**
	Technique	Presentation
	Type of text	Multimodal presentation
	Mode	Digital/Oral
	Conditions	Summative
	Relevant Curriculum Elements	ACTDIK023, ACTDIK024, ACTDEP035, ACTDEP036
	This unit provides students with authentic opportunities to address all major strands and processes of the Australian Curriculum Version 9 for Design and Technologies in Years 7–8, ensuring a rich and balanced learning experience that is explicitly aligned to curriculum expectations	
Investigating and defining needs/opportunities	✓	

Generating, testing, and communicating design ideas	✔
Producing and implementing designed solutions Evaluating processes and outcomes, including sustainability	✔
Collaborating and managing projects	✔
Applying knowledge of engineering principles, systems, and sustainability	✔

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