Prep to Year 2 standard elaborations — Australian Curriculum: Design and Technologies

Purpose

The standard elaborations (SEs) provide additional clarity when using the Australian Curriculum achievement standard to make judgments on a five-point scale. They can be used as a tool for:

- making consistent and comparable judgments about the evidence of learning in a folio of student work
- developing task-specific standards for individual assessment tasks.

Structure

The SEs are developed using the **Australian Curriculum achievement standard**. The Design and Technologies achievement standard describes the learning expected of students at each band. Teachers use the achievement standard during and at the end of a period of teaching to make on-balance judgments about the quality of learning students demonstrate.

In Queensland the Prep* to Year 2 achievement standard represents the **working with (WW) standard** — a sound level of knowledge and understanding of the content, and application of skills. The SEs are presented in a **matrix**. The discernible differences or degrees of quality associated with the five-point scale are highlighted to identify the characteristics of student work on which teacher judgments are made. Terms are described in the Notes section following the matrix.

Prep to Year 2 Australian Curriculum: Design and Technologies achievement standard
By the end of Year 2, students describe the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments. They identify the features and uses of technologies for each of the prescribed technologies contexts.   With guidance, students create designed solutions for each of the prescribed technologies contexts. They describe given needs or opportunities. Students create and evaluate their ideas and designed solutions based on personal preferences. They communicate design ideas for their designed products, services and environments using modelling and simple drawings. Following sequenced steps, students demonstrate safe use of tools and equipment when producing designed solutions.

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* Prep in Queensland is the Foundation Year of the Australian Curriculum and refers to the year before Year 1. Children beginning Prep in January must be five years of age by 30 June.

Prep to Year 2 Design and Technologies standard elaborations

		Applying (AP)	Making connections (MC)	Working with (WW)	Exploring (EX)	Becoming aware (BA)
		The folio of a student's work has the following characteristics:				
Knowledge and understanding	**Technologies and society**	clear and informed description of the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments	informed description of the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments	description of the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments	guided description of the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments	directed identification of: • the purpose of familiar products, services and environments • the needs of users, others and environments
	Technologies contexts	identification and clear description of the features and uses of technologies for each of the prescribed technologies contexts	identification and description of the features and uses of technologies for each of the prescribed technologies contexts	identification of the features and uses of technologies for each of the prescribed technologies contexts	guided identification of some of the features and uses of technologies for each of the prescribed technologies contexts	directed identification of some of the features of technologies for each of the prescribed technologies contexts
Processes and production skills	**Investigating and defining**	clear and informed description of given needs or opportunities	informed description of given needs or opportunities	description of given needs or opportunities	guided description of given needs or opportunities	directed statements about given needs or opportunities
	Generating and designing; evaluating	considered creation and evaluation of their ideas and designed solutions based on personal preferences	informed creation and evaluation of their ideas and designed solutions based on personal preferences	creation and evaluation of their ideas and designed solutions based on personal preferences	guided creation and explanation of their ideas and designed solutions based on personal preferences	directed creation and explanation of their ideas and designed solutions based on personal preferences
		comprehensive and effective communication of design ideas for their designed products, services and environments using modelling and simple drawings	effective communication of design ideas for their designed products, services and environments using modelling and simple drawings	communication of design ideas for their designed products, services and environments using modelling and simple drawings	guided communication of design ideas for their designed products, services and environments using aspects of modelling and simple drawings	directed communication of design ideas for their designed products, services and environments

		Applying (AP)	Making connections (MC)	Working with (WW)	Exploring (EX)	Becoming aware (BA)
Processes and production skills	**Producing and implementing; collaborating and managing**	proficient production of designed solutions: • demonstrating safe use of tools and equipment • following a sequence of steps	effective production of designed solutions: • demonstrating safe use of tools and equipment • following a sequence of steps	production of designed solutions: • demonstrating safe use of tools and equipment • following a sequence of steps	guided production of designed solutions: • demonstrating safe use of tools and equipment • following a sequence of steps	directed production of designed solutions: • demonstrating safe use of tools and equipment • following steps

Key		shading emphasises the qualities that discriminate between the AP–BA descriptors
	AP	applies the curriculum content; demonstrates a thorough understanding of the required knowledge; demonstrates a high level of skill that can be transferred to new situations
	MC	makes connections using the curriculum content; demonstrates a clear understanding of the required knowledge; applies a high level of skill in situations familiar to them, and is beginning to transfer skills to new situations
	WW	works with the curriculum content; demonstrates understanding of the required knowledge; applies skills in situations familiar to them
	EX	exploring the curriculum content; demonstrates understanding of aspects of the required knowledge; uses a varying level of skills in situations familiar to them
	BA	becoming aware of the curriculum content; demonstrates a basic understanding of aspects of required knowledge; beginning to use skills in situations familiar to them

Notes

Australian Curriculum common dimensions

The SEs describe the qualities of achievement in the two dimensions common to all Australian Curriculum learning area achievement standards — understanding and skills.

Dimension	Description
understanding	the concepts underpinning and connecting knowledge in a learning area, related to a student's ability to appropriately select and apply knowledge to solve problems in that learning area
skills	the specific techniques, strategies and processes in a learning area

Terms used in Prep to Year 2 Design and Technologies SEs

These terms clarify the descriptors in the Prep to Year 2 Design and Technologies SEs. Definitions are drawn from the ACARA Australian Curriculum Technologies glossary (www.australiancurriculum.edu.au/f-10-curriculum/technologies/glossary) and from other sources to ensure consistent understanding.

Term	Description
apply; applying	use, utilise or employ in a particular situation
aspects	particular parts or features
clear	easy to perceive, understand, or interpret; without ambiguity
collaborating and managing (design process)	students learn to work collaboratively and to manage time and other resources to effectively create designed solutions; in Prep to Year 2, students: • work individually and collaboratively • sequence steps for making designed solutions
communicate; communication	conveying information or ideas to others through appropriate representations, text types and modes; in Design and Technologies, *communicate* means sharing of information and design ideas; includes using graphical representation techniques (e.g. drawing, sketching and modelling) to create innovative ideas that focus on high-quality designed solutions
comprehensive	detailed and thorough, including all that is relevant
considered	thought about deliberately with a purpose; see well-considered; in Technologies, *considered* includes informed
constructed environments	environments developed, built and/or made by people for human and animal activity, including buildings, streets, gardens, bridges and parks; include natural environments after they have been changed by people for a purpose

Term	Description
creation; create; creating	putting elements together to form a coherent or functional whole; reorganising elements into a new pattern or structure through generating, planning, or producing; *creating* requires users to put parts together in a new way or synthesise parts into something new and different a new form or product; in Design and Technologies, *creating* involves bringing a solution (product, environment or service) into existence through the design process
demonstrate	give a practical exhibition or explanation
description; describe	give an account of characteristics or features
design process (processes and productions skills strand)	in Design and Technologies, *design process* means a process to create a designed solution that considers social, cultural and environmental factors and typically involves: • investigating and defining • generating and designing • producing and implementing • evaluating • collaborating and managing; see also technologies processes
designed solutions	the products, services or environments that have been created for a specific purpose or intention as a result of design thinking, design processes and production processes; in Prep to Year 2, students: • create designed solutions for the prescribe technologies contexts • produce a range of types of designed solutions (products, services and environments). This may occur through integrated learning • this may occur through integrated learning
detailed	meticulous; including many of the parts
digital environments	environments that are entirely presented or experienced with digital technologies; can be a situation, a sphere of activity, or a simulated place (e.g. a social network that provides a digital environment for communicating with friends, software that provides a digital environment for editing photographs)
directed	following the instructions of the facilitator
effective	meeting the assigned purpose in a considered and/or efficient manner to produce a desired or intended result
environment	one type of designed solution; a place or space in which technologies processes operate and/or one of the outputs of technologies processes; environments can be natural, managed, constructed or digital
evaluate; evaluating (design process)	examine and judge the merit or significance of something; students evaluate and make judgments throughout a design process and about the quality and effectiveness of their designed solutions and those of others; in Prep to Year 2, students use personal preferences to evaluate the success of design ideas, processes and solutions, including their care for environment
explanation; explain	provide additional information that demonstrates understanding of reasoning and/or application
features	a distinctive attribute, characteristic, property or quality of something (e.g. an object, material, living thing, system or event)

Term	Description
generating and designing (design process)	students develop and communicate ideas for a range of audiences; *generating creative and innovative ideas* involves thinking differently; it entails proposing new approaches to existing problems and identifying new design opportunities considering preferred futures; *generating and developing ideas* involves identifying various competing factors that may influence and dictate the focus of the idea in Prep to Year 2, students generate, develop and record design ideas through describing, drawing and modelling
graphical representation techniques	techniques used to communicate ideas and plans (e.g. sketching, drawing, modelling, making patterns, technical drawing, computer-aided drawing); in Prep to Year 2, students: • draw, model and explain design ideas • label drawings • draw objects as two-dimensional images from different views • draw products and simple environments and verbalise design ideas
guided; guidance	visual and/or verbal prompts to facilitate or support independent action
identification; identify	to establish or indicate who or what someone or something is
informed	having relevant knowledge; being conversant with the topic; in Technologies, *informed* refers to the underpinning knowledge, understanding and skills of processes and production skills when solving problems and creating solutions
investigating and defining (design process)	students critique, explore and investigate needs, opportunities and information; in Prep to Year 2, students: • explore needs and opportunities for designing • explore the technologies needed to realise designed solutions
managed environments	environments coordinated by humans (e.g. farms, forests, marine parks, waterways, wetlands, storage facilities)
natural environments	environments in which humans do not make significant interventions (e.g. oceans, natural woodlands, national parks)
prescribed technologies contexts	see technologies contexts
processes and production skills	the skills needed to create designed solutions; see also technologies processes
producing and implementing (design process)	actively realising (making) designed solutions using appropriate resources and means of production; in Prep to Year 2, students use materials, components, tools, equipment and techniques to safely make designed solutions
product; products	one type of designed solution; one of the outputs of technologies processes, the end result of processes and production; *products* are the tangible end results of natural, human, mechanical, manufacturing, electronic or digital processes to meet a need or want
production processes	in Design and Technologies, *production processes* are the technologies context-specific processes used to transform technologies into products, services or environments (e.g. the steps used for producing a product)

Term	Description
proficient	competent or skilled in doing or using something; in Design and Technologies, *proficient* means using knowledge and understanding of technologies in a skilful and adept application to produce high-quality design solutions
service	one type of designed solution; one of the outputs of technologies processes, the end result of processes and production; *services* are the less tangible outcome (compared to products) of technologies processes to meet a need or want; they may involve development or maintenance of a system and include catering, cloud computing (software as a service), communication, transportation and water management; services can be communicated by charts, diagrams, models, posters and procedures
statement	a sentence or assertion
sustainable; sustainability	supports the needs of the present without compromising the ability of future generations to support their needs
systems	the structure, properties, behaviour and interactivity of people and components (inputs, processes and outputs) within and between natural, managed, constructed and digital environments
technologies and society (knowledge and understanding strand)	technologies and society focuses on how people use and develop technologies taking into account social, economic, environmental, ethical, legal, aesthetic and functional factors and the impact of technologies on individuals; families; local, regional and global communities; the economy; and the environment − now and into the future; in Prep to Year 2, students: • identify how people design and produce familiar products, services and environments • consider how sustainability to meet personal and local community needs
technologies contexts (knowledge and understanding strand)	in Design and Technologies, these are the contexts that students can focus on when using processes and production skills to design and produce products, services and environments; in Prep to Year 2, the prescribed *technologies contexts* are: • engineering principles and systems • food and fibre production (includes food specialisations) • materials and technologies specialisations
technologies processes (processes and productions skills strand)	the processes that allow the creation of a solution for an audience (end user, client or consumer) and involve the purposeful use of technologies and other resources and appropriate consideration of impact when creating and using solutions; typically require critical and creative thinking such as: computational, design or systems thinking in Design and Technologies, *technologies processes* involve: • design processes • technologies-specific production processes
technologies	the materials, data, systems, components, tools and equipment used to create solutions for identified needs and opportunities, and the knowledge, understanding and skills used by people involved in the selection and use of these
use	to operate or put into effect