

Australian Curriculum: Design and Technologies Years 5 and 6

BAND DESCRIPTION

Learning in Design and Technologies builds on concepts, skills and processes developed in earlier years, and teachers will revisit, strengthen and extend these as needed.

By the end of Year 6, students will have had the opportunity to create designed solutions at least once in three technologies contexts: engineering principles and systems, food and fibre production and food specialisations; and materials and technologies specialisations. Students should have opportunities to experience designing and producing products, services and environments.

In Year 5 and 6, students critically examine technologies – materials, systems, components, tools and equipment – that are used regularly in the home and in local, national, regional or global communities, with consideration of society, ethics and social and environmental sustainability factors. Students consider why and for whom technologies were developed.

Students engage with ideas beyond the familiar, exploring how design and technologies and the people working in a range of technologies contexts contribute to society. They seek to explore innovation and establish their own design capabilities. Students are given new opportunities for clarifying their thinking, creativity, analysis, problem-solving and decision-making. They explore trends and data to imagine what the future will be like and suggest design decisions that contribute positively to preferred futures.

Using a range of technologies including a variety of graphical representation techniques to communicate, students represent objects and ideas in a variety of forms such as thumbnail sketches, models, drawings, diagrams and storyboards to illustrate the development of designed solutions. They use a range of techniques such as labelling and annotating sequenced sketches and diagrams to illustrate how products function; and recognise and use a range of drawing symbols in context to give meaning and direction.

Students work individually and collaboratively to identify and sequence steps needed for a design task. They negotiate and develop plans to complete design tasks, and follow plans to complete design tasks safely, making adjustments to plans when necessary. Students identify, plan and maintain safety standards and practices when making designed solutions.

ACHIEVEMENT STANDARD

By the end of Year 6, students describe competing considerations in the design of products, services and environments, taking into account sustainability. They describe how design and technologies contribute to meeting present and future needs. Students explain how the features of technologies impact on designed solutions for each of the prescribed technologies contexts.

Students create designed solutions for each of the prescribed technologies contexts suitable for identified needs or opportunities. They suggest criteria for success, including sustainability considerations, and use these to evaluate their ideas and designed solutions. They combine design ideas and communicate these to audiences using graphical representation techniques and technical terms. Students record project plans including production processes. They select and use appropriate technologies and techniques correctly and safely to produce designed solutions.

Design

CONTENT DESCRIPTIONS

Design and Technologies knowledge and understanding

Technologies and society

Examine how people in design and technologies occupations address competing considerations, including sustainability in the design of products, services, and environments for current and future use (ACTDEK019)

Technologies contexts

Investigate how electrical energy can control movement, sound or light in a designed product or system (ACTDEK020)

Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy (ACTDEK021)

Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use (ACTDEK023)

Design and Technologies processes and production skills

Creating designed solutions by:

Investigating and defining

Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (ACTDEP024)

Generating and designing

Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025)

Producing and implementing

Select appropriate materials, components, tools, equipment and techniques and apply safe procedures to make designed solutions (ACTDEP026)

Evaluating

Negotiate criteria for success that include sustainability to evaluate design ideas, processes and solutions (ACTDEP027)

Collaborating and managing

Develop project plans that include consideration of resources when making designed solutions individually and collaboratively (ACTDEP028)