

Food and wellbeing: Design and Technologies

Design and Technologies

In Design and Technologies, students learn how to apply knowledge of the characteristics of food, along with nutrition principles (as described in HPE) to food selection and preparation through the design and preparation of food for specific purposes and consumers. They will also develop understandings of contemporary technology-related food issues such as 'convenience' foods, highly processed foods, food packaging and food transport. The knowledge and understanding strand and processes and production strand are integrated to enhance learning.

The technologies contexts content descriptions provide a framework within which students can gain knowledge and understanding about technologies and design. These content descriptions focus on the characteristics and properties of technologies and how they can be used to create innovative designed solutions.

The technologies contexts in Design and Technologies related to food and wellbeing are:

F–6: Food and fibre production and food specialisations

7–10: Food specialisations, and materials and technologies specialisations.

They provide a progression of learning from Foundation to Year 8 and optionally to Year 9–10 or lead to more specialised Technologies subjects in Years 9 and 10. They also reflect national priorities including workforce needs, food security and sustainable food and fibre production and health and wellbeing priorities.

When learning about food specialisations, students will progressively develop knowledge and understanding about: the characteristics and properties of food to and apply these to food selection and preparation; and contemporary technology-related food issues through creating designed solutions.

Food and wellbeing dimensions

Design and Technologies - Years 5 and 6

Year 6

Design and technologies knowledge and understanding

Content descriptions with elaborations

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)

- reflecting on the features of designed solutions that ensure safety and wellbeing of users, for example smoke alarms
- evaluating the sustainability implications of materials, systems, components, tools and equipment (for example, materials can be recycled or re-used to reduce waste; systems may benefit some, but disadvantage others)
- considering the impact designed products, services or environments have in relation to sustainability and also on local, regional and global communities, including Aboriginal and Torres Strait Islander communities and countries in the Asia region

Investigate how and why food and fibres are produced in managed environments and prepared to enable people to grow and be healthy (ACHASSK021)

- using current food guides and government-endorsed food policies to plan food choices
- experimenting with tools, equipment, combining ingredients and techniques to design and make food products or meals for selected groups for healthy eating taking into consideration environmental impacts and nutritional benefits
- considering traditional and contemporary methods of food preparation used in a variety of cultures, including Aboriginal and Torres Strait Islander methods
- identifying work practices that show an understanding of nutrition, environmental considerations, hygiene and food safety when designing and making a food product (for example, washing fruit and vegetables carefully to remove residues, safe disposal of cooking oils to avoid environmental damage, refrigerated storage of highly perishable foods)

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

- comparing tools, equipment and techniques to select those most appropriate for a given purpose
- evaluating the use of computer-aided manufacturing in terms of cost and impacts on local and regional designers, producers and enterprises
- comparing the design and production of products, services and environments in Australia and a country in the Asia region

Design and technologies processes and production skills

Content descriptions with elaborations

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

- exploring the steps involved in the process to satisfy a design brief, need or opportunity
- investigating designed solutions from around the world to make suitable, quality decisions that meet the design brief, challenge or scenario
testing a range of materials, components, tools and equipment to determine the appropriate technologies needed to make products, services or environments, for example a moving vehicle
- investigating how to minimise material use and manage waste by critiquing the environmental and social impacts of materials, components, tools and equipment

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

- generating a range of design ideas for products, services or environments using prior knowledge, skills and research
- developing alternative design ideas and considering implications for the future to broaden the appeal and acceptance of design ideas
- analysing and modifying design ideas to enhance and improve the sustainability of the product, service, environment or system
- representing and communicating design ideas using modelling and drawing standards including the use of digital technologies (for example, scale; symbols and codes in diagrams; pictorial maps and aerial views using web mapping service applications)
- experimenting with materials, tools and equipment to refine design ideas, for example considering the selection of materials and joining techniques to suit the purpose of a product

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

- matching material and joining techniques to the design intention, for example accurately

cutting and sewing the fabric pieces to make a community banner or joining components to produce an electric circuit

- working safely, responsibly and cooperatively to ensure safe work areas (for example, the safe use of equipment when making a water-resistant, floating craft or a model of an environmentally sensitive outdoor shelter)
- using appropriate personal protective equipment required for the use of some tools and equipment (for example, protective eyewear)
- manipulating materials with appropriate tools, equipment and techniques (for example, when preparing food, cultivating garden beds, constructing products)

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

- independently and collaboratively identifying criteria for success, processes and planning (for example, using visual representations such as a flowchart) evaluating the suitability of materials, tools and equipment for specific purposes
- reflecting on how well their designed solutions ensure safety and wellbeing of users and consumers and meet the needs of communities and different cultures
- considering the criteria for success in relation to the benefits and costs of production processes, the environmental impact, future use and application, and social values and ethics of clients
- evaluating products, services and environments from a range of technologies contexts with consideration of ethics and sustainability

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

- examining the essential features of existing processes to inform project planning including safe work practices that minimise risk
- setting milestones for production processes and allocating roles to team members
- identifying when materials, tools and equipment are required for making the solution
- outlining the planning and production steps needed to produce a product, service or environment using digital technologies
- reflecting on planned steps to see if improvements can be made