Sample teaching planner –
Food and fibre production

Design and Technologies

Foundation to Level 6

**Disclaimer:** It is the responsibility of the school to ensure that duty of care is exercised in relation to the health and safety of all students undertaking any activities suggested in this teaching planner.

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Introduction

The Technologies Contexts sub-strand Food and fibre production in the Victorian Curriculum F–10 Design and Technologies focuses on food and fibre as human-produced or harvested resources, and how food and fibre are produced in managed environments such as farms or plantations, or harvested from wild stocks. Students develop an understanding of the challenges involved in managing these resources within sustainable agricultural systems. They develop their knowledge and understanding about the managed systems that produce food and fibre through creating designed solutions.

This teaching planner identifies themes, key messages and ideas for teaching content from specific content descriptions of Food and fibre production Foundation to Level 6. The information in the teaching planner has been provided to assist teachers to design and plan teaching and learning programs that are suitable for their own cohort of students. The ideas for teaching curriculum content are not intended to comprise a sequence of learning but rather they are ideas to support teachers to plan suitable lessons.

Please note, teachers are advised to use their professional judgment to ensure lesson plans comprehensively address the relevant content descriptions.

Online resources for Food and fibre production

To complement the sample teaching planner, a suite of online resources has been curated and published on FUSE’s [Food and fibre production page](https://fuse.education.vic.gov.au/pages/foodandfibre). The resources are categorised according to the four themes identified in this sample teaching planner and support the teaching of content in the Technologies Contexts sub-strand Food and fibre production in Victorian Curriculum F–10 Design and Technologies.

Hyperlinks to relevant FUSE resources, plus other online resources, are included within the ‘Ideas for the classroom’ sections in this teaching planner.

Key theme 1: Growing animals

The ‘Ideas for the classroom’ in this theme promote skills, knowledge and understanding of concepts related to investigating animals that are grown for food and clothing, including animal welfare, growth and nutrition.

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| --- | --- | --- | --- |
|  | **Foundation to Level 2** | **Levels 3 and 4** | **Levels 5 and 6** |
| **Key messages** | * Animals are grown for food and clothing (fibre).
 | * The ways animals are grown and managed for food have changed over time.
 | * Animals are bred in managed environments, such as farms, to meet the growing needs of society.
 |
| **Ideas for the classroom** | * Identify some animals that can be used for food, and discuss the animals’ basic requirements for health and reproduction – for example, how a dairy cow’s diet affects her milk production and how the health of a sheep can affect the quality of its wool and its meat.
* Create a diagram of the appearance of a healthy agricultural animal, including the living environments that they should ideally live in on a farm.
* Design and create a costume item – for example a hat, mask or cape – using natural fibres such as feathers and wool.
 | * Identify areas in Australia and Asia where animals are grown for food and clothing (fibre), for example cattle for beef and sheep for wool. Describe how the ways these animals are grown and managed have changed in the last century. Present the findings in a collaborative Google Map, using the [Google My Maps](https://www.google.com/maps/about/mymaps/) feature.
* Explore traditional Aboriginal food production techniques, including their relationship to Aboriginal seasons and food availability.
* Create a visual presentation of how dairy cows were once milked compared to how they are milked today.
 | * Investigate the different kinds of impacts that animal farming can have on communities. Consider any competing issues of sustainability.
* Investigate how kangaroos are raised for meat production in Australia, compared to how cattle or sheep are raised for meat production.
* Identify guidelines for animal welfare and discuss why these guidelines are needed for industry and schools.
* Explore the rise of intensive animal systems, such as a feedlot and barn-raised chickens. Discuss how these systems feed society, and the animal welfare issues that may be involved.
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| **Content descriptions** | * Explore how plants and animals are grown for food, clothing and shelter [(VCDSTC015)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC015)
 | * Investigate food and fibre production used in modern or traditional societies [(VCDSTC025)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC025)
 | * Investigate how and why food and fibre are produced in managed environments [(VCDSTC035)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC035)
* Investigate how people in design and technologies occupations address competing considerations, including sustainability, in the design of solutions for current and future use [(VCDSTS033)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS033)
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Key theme 2: Growing plants

The ‘Ideas for the classroom’ in this theme promote skills, knowledge and understanding of concepts related to investigating plants that are grown for food, clothing and shelter, including plant nutrition and growth.

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|  | **Foundation to Level 2** | **Levels 3 and 4** | **Levels 5 and 6** |
| **Key messages** | * Plants are grown for food, clothing (fibre) and shelter.
 | * Plants can be grown at home, at school or on farms.
 | * Plants are grown in managed environments, such as farms and plantations, to meet the growing needs of society.
 |
| **Ideas for the classroom** | * Identify some examples of food, clothing and shelter that come from plants and match them to their source.
* Take photos of appropriate plants in the school and create a poster to describe how these plants could be used for food, clothing or shelter.
* Review food packaging for chips, biscuits and/or pasta and describe which plants are found in each of the food products.
 | * Make a video showing the tools, equipment and procedures needed to safely set up and grow vegetables in a school garden. Highlight conditions required to grow herbs and vegetables in a garden.
* Plant seeds in newspaper pots and then transplant into pots in the school garden, to demonstrate how plants are grown from seeds. Use seeds from Australian native plants and/or seeds from newer varieties of plants.
* Document the growth of a plant or changes to a fruit tree through daily photographs that can be put together to make a video.
 | * Investigate how a farmer could grow a wheat crop for food or a eucalyptus plantation for timber. Brainstorm the land size, machinery and inputs the farmer would need.
* Develop a flow chart that displays the process of production of a fibre, such as cotton, from the farm to a retail product for sale. Discuss reasons why cotton is grown in Australia.
* Plan and manage the steps involved for selling vegetables grown in the school garden at a farmers’ market.
* Test compost and other forms of organic fertilisers in the school garden in regards to their effects on soil quality and health. Evaluate their impact on the produce.
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| **Content descriptions** | * Explore how plants and animals are grown for food, clothing and shelter [(VCDSTC015)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC015)
* Visualise, generate, and communicate design ideas through describing, drawing and modelling [(VCDSCD019)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD019)
 | * Investigate food and fibre production used in modern or traditional societies [(VCDSTC025)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC025)
* Select and use materials, components, tools and equipment using safe work practices to produce designed solutions [(VCDSCD030)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD030)
 | * Investigate how and why food and fibre are produced in managed environments [(VCDSTC035)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC035)
* Develop project plans that include consideration of resources when making designed solutions [(VCDSCD042)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD042)
* Negotiate criteria for success that include consideration of environmental and social sustainability to evaluate design ideas, processes and solutions [(VCDSCD041)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD041)
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Key theme 3: Industries and managed systems

The ‘Ideas for the classroom’ in this theme promote skills, knowledge and understanding of concepts related to food and fibre production industries, everyday innovations and technological innovations, and traditional land management practices.

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|  | **Foundation to Level 2** | **Levels 3 and 4** | **Levels 5 and 6** |
| **Key messages** | * Farms are designed to grow food and plants that meet the needs of the community.
 | * Australia is a major agricultural producer and exporter, providing food, shelter and clothing through farming.
* Steps in food and fibre production include growth, production, manufacturing, distribution, retailing and consumption. These steps are often referred to as the food or fibre system.
 | * Food and fibre require different production and management techniques, with consideration of sustainability and community needs.
* Technology can have both helpful and harmful effects on a healthy food supply.
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| **Ideas for the classroom** | * Explore different types of farms, for example sheep, wheat, dairy and cotton. Identify how the products from these farms are used.
* Investigate native Australian plants that can be used for food. Plan and follow steps to safely plant and grow local native plants in the school. Discuss the benefits of growing native Australian plants.
* Plan the growing of plants in empty ice-cream cones in the classroom. Include details of what plants need to live, such as soil, water and sunlight.
 | * Identify and describe areas where major food animals and plants and fibre plants are bred or grown in Australia, for example the wheat and sheep belts, zones where sugar cane or rice are grown, northern Australia’s beef cattle areas, and native forest plantation areas.
* Explore different food and farming industries through [Primezone’s ‘A day in the life of …’ series](http://fuse.education.vic.gov.au/?T28NN9). Discuss issues raised in the videos in regards to innovations in the industries and safety considerations. Follow up by visiting a farm and produce a class interpretation of an ‘A day in the life of …’ video related to the visit, highlighting key features and innovations and how equipment was used safely.
* Focus on one food or fibre and develop an ebook or poster identifying the occupations of people involved at each stage of the food system.
 | * Investigate the most suitable environments for growing plants or animals, for example the most suitable place for raising chickens or growing herbs for the school canteen.
* Examine where and how rice is grown and harvested throughout Asia and Australia. Annotate findings on a map. Explore how, over time, innovations in the rice industry have changed the technologies that are used. Ask students to consider the sustainability of growing rice in regions where water is not abundant.
* Explore traditional land management practices, comparing Gunditjmara eel traps at Lake Condah to modern salmon farming.
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| **Content descriptions** | * Identify how people create familiar designed solutions and consider sustainability to meet personal and local community needs [(VCDSTS013)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS013)
* Explore needs or opportunities for designing, and the technologies needed to realise designed solutions [(VCDSCD018)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD018)
 | * Recognise the role of people in design and technologies occupations and explore factors, including sustainability, that impact on the design of solutions to meet community needs [(VCDSTS023)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS023)
* Select and use materials, components, tools and equipment using safe work practices to produce designed solutions [(VCDSCD030)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD030)
 | * Investigate how people in design and technologies occupations address competing considerations, including sustainability, in the design of solutions for current and future use [(VCDSTS033)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS033)
* Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques [(VCDSCD039)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSCD039)
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Key theme 4: Sustainable futures

The ‘Ideas for the classroom’ in this theme promote skills, knowledge and understanding of concepts related to environmental, economic and social impacts on a sustainable future, and the challenges in managing resources within sustainable agricultural systems.

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|  | **Foundation to Level 2** | **Levels 3 and 4** | **Levels 5 and 6** |
| **Key messages** | * The ways food and fibre are grown have an impact on the environment.
 | * Our environment is important for a healthy food supply.
 | * Sustainable management of food and fibre industries is vital.
 |
| **Ideas for the classroom** | * Identify ways to be environmentally sustainable when growing plants, for example making compost for or adding mulch to a kitchen garden.
* Explore the ways Aboriginal peoples managed the land for food and fibre production before European settlement.
* Investigate water-saving techniques that can be used when watering plants, such as watering overnight instead of during the day and using drip irrigation instead of sprinklers.
* Identify where pollution from a farm may come from, and the benefits of planting trees and shrubs on a farm to offset this pollution.
 | * Identify and discuss sustainable farming systems in which plants and animals are able to grow, thrive and produce profit for a farmer.
* Explore companion planting and design a garden according to plants that do well or do not do well near each other. Identify the most resilient and productive arrangements.
* Investigate the importance of bees for a healthy food supply. If students are ready, the social and economic impacts of bee numbers further declining could be discussed, however these concepts are not introduced until Levels 5–6 and 7–8 respectively.
* Research techniques used by Aboriginal peoples prior to European settlement to ensure a healthy food supply.
 | * Research and identify what the term ‘sustainability’ means for farming.
* Discuss why farmers need to make a profit while also being environmentally friendly.
* Research green manuring and explain how it can help a farmer both economically and environmentally. You could also discuss economic sustainability issues related to green manuring if students are ready for this concept, which is not introduced until Levels 7–8.
* Investigate how low-input sustainable agriculture (LISA) is used in Australia and Asia.
 |
| **Content descriptions** | * Identify how people create familiar designed solutions and consider sustainability to meet personal and local community needs [(VCDSTS013)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS013)
* Explore how plants and animals are grown for food, clothing and shelter [(VCDSTC015)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC015)
 | * Recognise the role of people in design and technologies occupations and explore factors, including sustainability, that impact on the design of solutions to meet community needs [(VCDSTS023)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS023)
* Investigate food and fibre production used in modern or traditional societies [(VCDSTC025)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC025)
 | * Investigate how people in design and technologies occupations address competing considerations, including sustainability, in the design of solutions for current and future use [(VCDSTS033)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTS033)
* Investigate how and why food and fibre are produced in managed environments [(VCDSTC035)](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC035)
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