Embedding career education in the Victorian Curriculum F–10

Design and Technologies – Food and fibre production,   
Levels 9 and 10

An existing learning activity linked to a particular learning area or capability in the Victorian Curriculum F–10 can be easily adapted to incorporate career education, enriching students’ career-related learning and skill development.

1. Identify an existing learning activity

**Curriculum area, sub-strand and levels:** Design and Technologies – Food and fibre production, Levels 9 and 10

**Relevant content description:** Investigate and make judgements on the ethical and sustainable production and marketing of food and fibre [(VCDSTC057](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC057))

**Existing activity:** Examining new or emerging technologies that address sustainability issues related to food and/or fibre production.

**Summary of adaptation, change, addition**: Pitching new technology to improve sustainability in relation to a farm case study.

2. Adapt the learning activity to include a career education focus

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| Existing learning activity | Adaptations, changes or extensions that can be made |
| Teacher discusses the increased need of food and fibre production as the world’s population increases, natural resources reduce and the climate changes. Teacher then discusses the need for farms to be sustainable (economically, environmentally and socially). | Discussion of sustainability runs unchanged. |
| Teacher introduces the concept of the modern farm and the technology, science and research that is involved in today’s farming (see Considerations.) Teacher introduces new and emerging innovations or technologies within the food and fibre industries. The technologies could address issues such as pests or disease, land degradation, chemical use concerns, drought, and climate change. Some examples include:   * Internet of Things/sensors * gene editing * automation/robots/drones | Teacher shares a farm case study with a number of problems including pest, weed or disease, land degradation, chemical use concerns, drought, and/or climate change (see ‘Additional resources’ for samples). Class discusses the case study in relation to sustainability, noting what sustainability issues the farm faces. |
| Teacher designs a task in which students research how a new or emerging form of technology can assist sustainability.  Students research and then present their chosen technology to the rest of the class. | Students work in teams to research new and emerging technologies that might improve sustainability in the farm scenario. They pick one technology to pitch to a ‘farmer’ (the teacher) looking to invest in technology for their farm.  The students and teacher discuss the skills required to make a good pitch, e.g. making the details of the technology clear, appropriate body language, effective use of multi-media displays, personal presentation, and confidence.  Students need to convince the teacher that their chosen technology will be the most beneficial to the case study farm by showing how this technology would improve environmental, economic and/or social sustainability. The pitch must include the possible careers that will come with implementing the new or emerging technology. This will fit into both the economic and social aspects of sustainability. |
| Teacher assesses students on research and presentation skills | Student teams present their research as a pitch to the teacher. Teacher chooses the team with the most convincing pitch as the winner.  Students can peer-assess their classmates’ pitch skills. These skills can be connected to careers, and interviewing, communication and teamwork skills that are needed in a workplace. Teacher also links the awareness of a range of new and emerging technologies to students’ career options, both in the agricultural industry, and areas such as engineering and sustainability. |

Considerations when adapting the learning activity

* Modern farming information can be found at the National Farmers Federation and ABARES snaps shot of agriculture website, and in the resources linked in ‘Additional resources’.
* Teachers will need to do research to ensure technologies discussed are current. Websites such as the [CSIRO](https://www.csiro.au/en/Research/AF), [Department of Agriculture](https://www.agriculture.gov.au/ag-farm-food/innovation) and [AgriFutures](https://www.agrifutures.com.au/) will be useful.

Additional resources to help when adapting the learning activity

* Modern farming information: [The Conversation](https://theconversation.com/agriculture-in-australia-growing-more-than-our-farming-future-22843) and [Australian Year of the Farmer](https://www.youtube.com/watch?v=_pb2fCoPmjw)
* Sample case studies:
* [Soils for Life – Case studies](https://soilsforlife.org.au/case-studies/)
* [WeedSmart – Case studies](https://weedsmart.org.au/case-studies/)
* [Farmers for climate action – Farmers in focus](https://farmersforclimateaction.org.au/farmer-in-focus/karin-stark-and-jon-elder/)
* [Drought case studies](https://agriculture.vic.gov.au/support-and-resources/case-studies/drought-case-studies)
* [Water case studies](https://agriculture.vic.gov.au/support-and-resources/case-studies/water-case-studies)

Benefits for students

Know yourself – self-development:

* Students develop their teamwork skills as they cooperate and support others to prepare and complete the pitch.

Know your world – career exploration:

* Students learn about advancements in the food and fibre industries, and understand work is shifting into science, engineering, technology and automation within the industry.
* Students use a range of technologies and information effectively to communicate to their audience during the pitch.

Manage your future – be proactive:

* Students gain insight into the changing nature of food and fibre production, and careers associated with sustainability and technology, which can aid them in planning and building their careers.