Embedding career education in the Victorian Curriculum F–10

Design and Technologies – Materials and technologies specialisations, 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 – Materials and technologies specialisations, Levels 9 and 10

**Relevant content description:** Investigate and make judgements on how the characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions ([VCDSTC059](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDSTC059))

**Existing activity:** Researching the principles behind the testing of a selected item.

**Summary of adaptation, change, addition:** Understanding the product and materials testing aspect of the design process, and exploring the related career opportunities and some of the career-related skills developed through a testing activity.

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

|  |  |
| --- | --- |
| Existing learning activity | Adaptations, changes or extensions that can be made |
| Students select an item of interest and research the testing that would have gone into its production. Items could include children’s pyjamas, soft play flooring for external areas, a boat, wooden toys or a microwaveable bowl.  Students brainstorm the types of testing that would be necessary for a particular material that makes up the item. They identify why the item would be tested in those ways. For example, the material for a pair of pyjamas would be different to another piece of clothing, like an evening dress, both in its requirements and what it would be tested for. The requirements of the fabric used in making pyjamas include warmth, comfort, durability and non-flammability. | Students research how materials get tested as part of the production process. They explore who tests materials and what knowledge and expertise those people or organisations share (see ‘Additional resources’ – the ‘CHOICE’ website has lots of information on how different products get tested if your school has a membership).  Teacher guides students to consider the pathways into this type of work. For example, materials testing can require very high-level academic knowledge and technical skills that come from more vocational pathways.  Teacher can include some explicit pathway exploration related to the industry connected to the product. |
| Students consider whether there is a range or limit within the testing range that is deemed acceptable. Who determines this and how? What is the mandatory standard for the product? (E.g. how flammable is a pair of pyjamas? If too flammable, they cannot be sold.) Why is this important to the user? | Students explore who creates the standards that goods and materials need to meet in order to be safe and sold in Australia (see ‘SAI Global’ in ‘Additional resources’). They research how standards are written and what career pathways lead someone to such a role. |
| Students present the results of their research to their peers and discuss their results as a group. | Teacher helps students link their research and the processes uncovered to skills that will help them in their future careers. For example, students learnt about gathering data and using it effectively to make informed decisions; this is the same process they can use in their own lives to make decisions about career choices. |

Considerations when adapting the learning activity

* Teacher could use this activity as an opportunity to connect with outreach people from various universities to explore career options students may not have been aware of.
* This would be good opportunity to invite someone from the local industry or TAFE, or a building inspector from the local council, to discuss the work, what informs their process and what training/education has led them to their role.
* Check with the school library to confirm if the school has a CHOICE membership.

Additional resources to help when adapting the learning activity

* Furnitest, [Wood-based furniture materials testing](https://furnitest.com/testing/wood-based-furniture-materials-testings/)
* CSIRO, [Fire safety: Testing, research and certification services](https://www.csiro.au/en/Do-business/Services/Materials-infrastructure/Fire-safety)
* SGS, [Consumer goods and retail testing](https://www.sgs.com.au/en-gb/consumer-goods-retail/hardgoods/sport-and-leisure/testing)
* [SAI Global](https://www.saiglobal.com/)
* [CHOICE](https://www.choice.com.au/)

Benefits for students

Know yourself – self-development:

* Students develop their ability to communicate effectively with others as they share results and discuss findings with their peers.

Know your world – career exploration:

* Students gain insight into the labour market by researching the processes involved in product testing, and the skills, knowledge and experience for the variety of roles in this industry.
* Students understand a specific area of work they might not have considered.

Manage your future – be proactive:

* Students develop critical and creative thinking skills to inform decision-making by linking the work they have done in class to skills they can use in the future.
* Students can plan and build their careers by learning about the career paths to specific roles in these industries.