Embedding career education in the Victorian Curriculum F–10

Science, Levels 3 and 4

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 and levels:** Science, Levels 3 and 4

**Relevant content descriptions:** Natural and processed materials have a range of physical properties; these properties can influence their use ([VCSSU060](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCSSU060))

 Represent and communicate their observations, ideas and findings using formal and informal scientific language ([VCSIS072](https://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCSIS072))

**Existing activity:** Exploring the materials used in the construction of a structure (such as a chicken coop) and designing a similar structure.

**Summary of adaptation, change, addition:** Linking the construction of a structure to a variety of professions, including those involved in the manufacture of materials.

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 splits students into groups and gives each group a picture of a structure such as a chicken coop or greenhouse. Teacher asks them to identify what materials have been used to build the structure. They sort these materials into ‘natural’ and ‘processed’ categories. Students work in groups to identify the properties of the natural and processed materials. They use a graphic organiser, such as a Venn diagram, to record their ideas.Students consider the properties of the materials and explain why someone might have used them in construction of the object. For example, a builder making a chicken coop would use wire/mesh for the walls to allow airflow, but with holes small enough to protect the chickens from predators/to stop them escaping. | Teacher initiates a discussion with students about the different people involved in constructing a structure such as a chicken coop. For example, they could introduce the work of loggers, timber workers, engineers, builders and architects. Emphasis should be placed on how they must all work together to ensure successful construction.It may also be possible to invite guest speakers who build structures to talk about what they have constructed, explaining why particular materials were selected. |
| Teacher explains who may use a chicken coop (i.e. a farmer or a community member with egg-laying hens). Teacher discusses the needs of the coop, such as somewhere safe and dry to sleep, space to move, a door for access, ventilation. Students could be provided with various photographs/sketches of chicken coops to consider which materials were used, and why.Students work in groups to design a chicken coop. They will need to carefully consider what materials they will use in certain sections of the construction and why.  | Students indicate the materials used in their design, whether that material is natural or processed. Where possible, they identify what jobs were involved in the creation of the materials used, drawing on the jobs discussed at the beginning of the activity. For example, they label the wood with jobs such as ‘logger’ and ‘sawmill worker’.  |
| Students develop a PowerPoint presentation in their groups to explain to the class some of the properties of the materials used in their chicken coops and why the materials were chosen. Following feedback, they may reflect on how their chicken coop design could be improved. | Students present their design to the class, or to an end-user of a chicken coop, explaining why they chose each material in certain parts of their chicken coop as per the existing activity. They also outline which professions they feel would be involved in the design and construction of their chicken coop, and what roles they themselves filled in the design of the coop. |

Considerations when adapting the learning activity

* Teachers may wish to choose a different structure to consider depending on the students in the class and their interests. If something is being built within the school grounds it would be efficient and appropriate to use this as the structure.
* Teachers will need to consider the students’ existing knowledge of the design and use of a structure such as a chicken coop to ensure students are supported in the activity. They should also be prepared to give a brief overview of a range of jobs involved in the construction of a structure, from the manufacture of materials to the final product.

Benefits for students

Know yourself – self-development:

* Students learn how to work effectively in a team as they work in groups to design and present their chicken coops.
* Students develop communication skills, including speaking to a large audience as they prepare and give their presentation. They will also develop listening skills as they watch the presentations given by other groups.

Know your world – career exploration:

* Students investigate some aspects of different industries such as engineering, building and construction. In doing so, they begin to understand the role the different industries play in our society.
* Students use technology to collaborate and present their work. They will need to ensure they have used the technology effectively to communicate the information to their audience.

Manage your future – be proactive:

* Students will be challenged to come up with reasons as to why different materials were used in their design. There might not necessarily be a correct answer to the question posed but they will need to provide clear justifications for their responses and practise making informed decisions, which are skills that can be used outside this activity.