**NZQA**

**Approved**

Achievement standard: 91047 Version 3

Standard title: Undertake development to make a prototype to address a brief

Level: 1

Credits: 6

Resource title: Store it

Resource reference: Generic Technology VP-1.4 v2

Vocational pathway: Primary Industries

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| Quality assurance status | These materials have been quality assured by NZQA. NZQA Approved number A-A-02-2015-91047-02-7359 |
| Authenticity of evidence | Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material.Using this assessment resource without modification may mean that learners’ work is not authentic. Assessors/ educators may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

Vocational Pathway Assessment Resource

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Learner instructions

# Introduction

This assessment activity requires you to undertake development to make a wine storage prototype for a boutique winery to address a brief.

You are going to be assessed on how you undertake development to make a justified wine storage prototype for a boutique winery to address a brief.

The following instructions provide you with a way to structure your work so you can demonstrate what you have learnt and achieve success in this standard.

Assessor/educator note: It is expected that the assessor/educator will read the learner instructions, and modify them if necessary to suit their learners.

# Task

Develop and make a wine storage prototype to showcase specialist wines in a boutique winery.

Respond to the brief you’ve been given (or the one that you have developed in agreement with your assessor/educator) by doing the following:

* Carefully read the brief and working drawings for the wine storage prototype.
* Consider the requirements of the stakeholder (for example the owner of the winery) and the environment in order to research and source a range of potentially suitable materials and components.
* Trial, and select materials and/or components to choose those that best fit the purpose of the wine storage prototype:
	+ consider such things as the physical attributes (for example texture, colour) and the functional attributes (for example withstands moisture).
* Seek stakeholder (for example the winery owner) opinion to gain feedback, and to help inform your selection of the materials and components that will contribute to the fitness for purpose of the final outcome when used (for example in the winery).
* Select suitable tools and equipment to use with the selected materials and/or components for your storage prototype.
* Research, trial and select suitable techniques and processes for the selected materials and/or components to make your storage prototype.
* Check your brief to ensure the prototype will be fit for purpose.
* Using your trialling and stakeholder feedback, make notes about any changes you have made, and adjust your brief and refine your specifications if necessary.
* Use the selected materials and/or components, and apply the selected techniques and processes to make the wine storage prototype.
* Consult with your stakeholder throughout the making of the wine storage prototype.
* Trial the prototype by placing and using the storage item where it will be used (for example in the winery).
* Gain stakeholder (this could be the winery owner and customers) feedback on your prototype.
* Compare your prototype against the brief, for example:
	+ how well does your wine storage prototype meet the brief specifications?
	+ do the materials, components, techniques and processes contribute to the fitness for purpose of the wine storage prototype?
* Make a judgement based on the stakeholder’s feedback to justify the wine storage prototype’s fitness for purpose in the social and physical environment:
	+ the social environment relates to the people who will use and view the storage item
	+ the physical environment relates to where the wine storage prototype will be used (for example cold, moist).

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Assessor/Educator guidelines

# Introduction

The following guidelines are supplied to enable assessors/educators to carry out valid and consistent assessment using this internal assessment resource.

As with all assessment resources, education providers will need to follow their own quality control processes. Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material. Using this assessment resource without modification may mean that learners' work is not authentic. The assessor/educator may need to change figures, measurements or data sources or set a different context or topic. Assessors/educators need to consider the local context in which learning is taking place and its relevance for learners.

Assessors/educators need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing learners against it.

# Context/setting

This activity requires learners to undertake development to make a justified wine storage prototype (for example to showcase specialist wines for a boutique winery) and then evaluate this in terms of its fitness for purpose within the physical and social environment it was designed for.

The brief can be provided by the assessor/educator, or developed by the learners and agreed to by the assessor/educator.

# Conditions

This is an individual activity.

# Resource requirements

Assessors/educators will instruct learners on safety practices relevant to the materials, components, tools and equipment they are using, before they begin to work.

Learners require access to:

* the internet and library for research
* information about material and construction techniques, and relevant resources including materials, components, tools and equipment.

# Additional information

Prototyping is the modelling of a realised but yet-to-be-implemented technological outcome. The purpose of prototyping is to evaluate the fitness for purpose of a technological outcome against the brief, and is undertaken to establish (or not) a defendable case for its implementation, refinement or further development.

The location and type of timber storage device can be varied to suit the primary industry requirement and the individual learner situation.

For more information, download an explanatory paper about technological modelling at: <http://technology.tki.org.nz/Curriculum-support/Explanatory-Papers/.>

# Assessment schedule: Generic Technology 91047 – Store it

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| --- | --- | --- |
| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The learner undertakes development to make a wine storage prototype to address a brief by:* selecting and using materials and/or components

For example, the learner:* + chooses dressed rimu timber to make the wine rack; *as the joinery in the winery was made from dressed rimu. The winery owner supported this decision.*
* selecting and using tools and equipment

For example, the learner:* + selects a variety of hand and power tools to make clean and tidy cuts to form each of the components.
* applying practical techniques and processes to make a winery storage prototype

For example, the learner:* + joins the dressed rimu timber with dovetail joints when making the wine rack as this is a join the learner has practised and can do well
	+ makes a wine rack using dressed rimu, and applies the selected techniques and processes.
* evaluating the prototype in terms of the fitness for purpose in its intended physical and social environment

For example, the learner explains:*I used dressed rimu for my wine rack. This gave the rack a rustic look which fitted well with the interior of the winery. It was not obtrusive and sat well at the entrance of the winery, and held 20 bottles of specialist wine.**The above expected learner responses are indicative only and relate to just part of what is required.* | The learner undertakes development to make a refined wine storage prototype to address a brief by:* selecting and using tools and equipment

For example, the learner:* + selects a variety of hand and power tools to make clean and tidy cuts to form each of the components.
* trialling, to inform selection and use of materials and/or components

For example, the learner:* + trials different types of timber products, mechanical fixings and hardware for the winery storage unit for aesthetic purposes, moisture resistance and strength
	+ selects dressed rimu as the material that performs the best; *it gives a rustic look to the wine rack, fits in with the interior of the winery, and will be stable in cold, moist conditions. The winery owner supported this decision.*
* trialling, to inform the selection and application of practical techniques and processes

For example, the learner:* + trials different joints such as using dowel, butt, housed and mitre for strength, aesthetics and appropriateness
	+ selects dovetail joints
	+ makes a wine rack using dressed rimu, and applies the selected techniques and processes.
* evaluating the prototype in terms of the fitness for purpose in its intended physical and social environment

For example, the learner explains:*I used dressed rimu for my wine rack. This gave the rack a rustic look which fitted well with the interior of the winery. Rimu was used as it allows a high class finish, and it has a high compression strength and excellent nail holding strength. It was not obtrusive and sat well at the entrance of the winery and held 20 bottles of specialist wine.**The above expected learner responses are indicative only and relate to just part of what is required.* | The learner undertakes development to make a justified wine storage prototype to address a brief by:* selecting and using tools and equipment

For example, the learner:* + selects a variety of hand and power tools to make clean and tidy cuts to form each of the components.
* trialling, to inform selection and use of materials and/or components

For example, the learner:* + trials different types of timber products, mechanical fixings and hardware for the winery storage unit for aesthetic purposes, moisture resistance and strength
	+ selects dressed rimu as the material that performs the best; *it gives a rustic look to the wine rack, fits in with the interior of the winery, and will be stable in cold, moist conditions. The winery owner supported this decision.*
* selecting and using tools and equipment

For example, the learner:* + selects a variety of hand and power tools to make clean and tidy cuts to form each of the components.
* trialling, to inform the selection and application of practical techniques and processes

For example, the learner:* + trials different joints such as using dowel, butt, housed and mitre for strength, aesthetics and appropriateness
	+ selects dovetail joints
	+ makes a wine rack using dressed rimu, and applies the selected techniques and processes.
* trialling the prototype to gain evidence of the fitness for purpose in its intended physical and social environment

For example, the learner explains:*The wine rack was trialled by being placed in the winery. The owner was pleased with the quality and finish. The rack was able to store 20 bottles of specialist wine. However, the rack took up a lot of space close to the winery entrance so the learner added a bracket so that the rack could be hung on the wall.** using evidence, including stakeholder feedback, to make a judgement of the wine storage prototype’s fitness for purpose

For example, the learner explains:*Some of the joining techniques I trialled such as butt joints and lap joints split the wood and were not strong enough. I chose to use the dovetail joint as this gave a clean and tidy finish to the wine rack. I also provided an opportunity for the wine rack to be hung on the wall as when it was placed at the winery entrance it took up too much room. The owner thought rimu was a good choice because it gave a high class finish, and it has a high compression strength and excellent nail holding strength. The rack was not obtrusive, and saved space in the winery by being able to be hung on the wall and hold up to 20 bottles of specialist wine.**The above expected learner responses are indicative only and relate to just part of what is required.* |

Final grades will be decided using professional judgement based on an examination of the evidence provided against the criteria in the Achievement Standard. Judgements should be holistic, rather than based on a checklist approach.