**NZQA**

**Approved**

Achievement standard: 91361 Version 3

Standard title: Demonstrate understanding of sociocultural factors, and how competing priorities are managed, in technology

Level: 2

Credits: 4

Resource title: Developments in bricklaying

Resource reference: Generic Technology VP-2.8 v2

Vocational pathway: Construction and Infrastructure

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| Quality assurance status | These materials have been quality assured by NZQA.  NZQA Approved number A-A-02-2015-91361-02-8259 |
| 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

Achievement standard: 91361

Standard title: Demonstrate understanding of sociocultural factors, and how competing priorities are managed, in technology

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Learner instructions

# Introduction

This assessment activity requires you to demonstrate your understanding of sociocultural factors and how competing priorities are managed in the field of bricklaying and in a particular technological development within this field.

You are going to be assessed on how comprehensively you demonstrate your understanding of sociocultural factors and how competing priorities are managed in the field of bricklaying and in a particular technological development within this field.

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

## Confirm your area of research

This activity suggests that you create a report or presentation where you discuss technological developments within the field of bricklaying. These could include developments in building construction and brick manufacture in response to concerns about earthquake strengthening and sustainable housing, such as the use of ties in construction, the production of clay bricks with core holes and the adoption of efficient tunnel kilns in brick manufacturing plants, for example.

Confirm your area of research with your assessor/educator.

Confirm the format of your report or presentation with your assessor/educator. This could be, for example, a written report, a pamphlet, a portfolio or an audio-visual presentation.

## Conduct research

Research your selected field of technology and gather evidence you could use in your report or presentation. Your assessor/educator will advise you on how you might go about accessing suitable information.

The evidence you gather could include photographs, diagrams, notes you have written, and material from books, magazines, brochures or websites. Make sure you keep a record of the sources of this information.

You may work individually or in a group to conduct research but you must produce your report or presentation individually.

See Resource A for an example of how you may organise your investigation.

## Create a report or presentation

Create a report or presentation in which you do the following:

* Discuss the interactions between sociocultural factors and technological developments in the field of bricklaying. Describe what these sociocultural factors are and explain how and why they influence technological developments in this field, providing detailed examples.
* Describe and explain the relationships between competing priorities and aspects of technological practice in the field of bricklaying.
* Describe and explain how competing priorities were managed in a particular technological development in the field of bricklaying. Identify and discuss decisions made to manage these competing priorities.

# Resource A

## Structuring your investigation

Here are some sample questions you could use to help you begin your investigation into sociocultural factors and competing priorities in technological developments within a field of technology. This is only one way to go about the task and it does not fully cover all the information that you may require to write your report or presentation.

### Sociocultural factors

* What sociocultural factors could impact on technological developments in this field? You may consider, but are not limited to:
  + social factors
  + political factors
  + environmental factors
  + economic factors
  + cultural factors
  + spiritual factors.
* What limitations could these sociocultural factors place on technological developments in this field?

### Competing priorities

* What competing priorities influence the development of technological developments in this field? You may consider, but are not limited to:
  + opposing stakeholder viewpoints
  + innovation versus social acceptance
  + expedient practices versus ethically acceptable practices
  + the use of renewable versus non-renewable resources
  + budget constraints versus the use of most suitable materials
  + the use of resources of cultural significance in traditional versus contemporary contexts.
* How do these priorities affect aspects of technical practice? You may consider, but are not limited to:
  + establishing a need or an opportunity
  + design decisions and outcome development
  + resources selection, use and availability
  + manufacturing and/or production processes and methods
  + implementation and evaluation within a social or physical environment
  + maintenance and disposal issues
  + ethical, social and moral responsibilities.

### Competing priorities in a particular technological development

* With reference to a particular technological development within this field, how have competing priorities been managed?
* What decisions had to be made to manage or resolve these competing priorities?
* How were such decisions justified?
* You may consider, but are not limited to:
  + the stakeholders in the development work and the outcome produced
  + the social and physical environment in which the development work took place and in which the outcome was situated
  + legal requirements within the workplace and of the outcome and where the outcome operates
  + cost restrictions in terms of material selection and equipment availability
  + resource selection and justification
  + maintenance and disposal
  + cultural considerations which may be relevant to the particular development
  + ethical, social, and moral responsibilities.

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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 create a comprehensive report or presentation exploring the interactions between sociocultural factors and how competing priorities are managed in a field of technology and in a particular technological development within this field.

This assessment resource recommends the field of bricklaying and suggests some technological developments for exploration. You may wish to select or negotiate other fields of technology and/or technological developments to meet the identified needs of your learners. These could be within or outside your learners’ chosen context(s) for classroom practice, but they need sufficient diversity of potential sociocultural considerations to enable learners to meet the requirements of the standard.

# Conditions

Learner investigation of selected technological developments can occur in parallel with their own technological practice with a major focus on this activity. Sufficient time should be allocated to allow learners to gather the depth and breadth of evidence required to meet the requirements of the standard.

# Resource requirements

Learners will require access to the internet to find relevant information about the selected technology field and particular technological development.

Give learners guidance on how to access information about the relevant technological practice and on what sort of evidence they could collect.

Useful websites related to bricklaying:

* [Think Brick](http://www.thinkbrick.co.nz/) New Zealand <http://www.thinkbrick.co.nz/>
* [Monier Brick](http://www.monierbrick.co.nz/) <http://www.monierbrick.co.nz/>
* [Austral Bricks](http://www.australbricks.com/nz/) <http://www.australbricks.co.nz/>
* Basic Brick <http://www.midlandbrick.co.nz/imagelibrary/765.pdf>
* [NZ Concrete Masonry Manual](http://www.nzcma.org.nz/masonrymanual/1general.htm) <http://www.nzcma.org.nz/masonrymanual/1general.htm>
* NZ Standard 4210: 2001 <http://shop.standards.co.nz/scope/NZS4210-2001.scope.scope.pdf>

# Additional information

None.

# Assessment schedule: Generic Technology 91361 – Developments in bricklaying

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| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The learner demonstrates understanding of sociocultural factors, and how competing priorities are managed, in technology by:   * describing the interactions between sociocultural factors and technological developments in a field of technology   For example:  The learner gives an account of the interactions between sociocultural factors such as sustainability, life expectancy, durability, visual impact, preferred trends, material costs, energy efficiency, healthy and comfortable lifestyles, renewable materials, maintenance, environmental impact, recycling, and technological developments in the field of bricklaying.   * describing the relationships between competing priorities and aspects of technological practice in a field of technology   For example:  The learner identifies and describes competing priorities involved with the use of bricks as a building material, considering environmental effects from both a consumer and a government perspective. They describe the energy efficiency characteristics of bricks as a building material, the use of non-renewable but plentiful extracted raw materials, the need to manage the health of waterways, and the restoration of land affected by extraction.   * describing the competing priorities managed within a particular development in a field of technology   For example:  The learner describes the growing concern about earthquake-safe buildings and how different technological developments in construction and brick manufacturing have made brick veneer a more socially acceptable building material. These developments include the use of ties in building construction and the creation of lighter bricks with core holes that are subject to less seismic load and allow mortar to penetrate more readily.  *The above expected learner responses are indicative only and relate to just part of what is required.* | The learner demonstrates in-depth understanding of sociocultural factors, and how competing priorities are managed, in technology by:   * explaining the interactions between sociocultural factors and technological developments in a field of technology   For example:  The learner clarifies the interactions between sociocultural factors such as sustainability, life expectancy, durability, visual impact, preferred trends, material costs, energy efficiency, healthy and comfortable lifestyles, renewable materials, maintenance, environmental impact, recycling, and technological developments in the field of bricklaying.   * explaining the relationships between competing priorities and aspects of technological practice in a field of technology   For example:  The learner explains issues involved with the use of bricks as a building material by looking at competing priorities in terms of environmental effects from both a consumer and a government perspective. They explain the energy efficiency characteristics of bricks as a building material, the use of non-renewable but plentiful extracted raw materials, managing the health of waterways and restoration of land affected by extraction.   * explaining how competing priorities were managed within a particular development in a field of technology   For example:  The learner explains how design decisions for the use of bricks in low-cost housing has traditionally been managed by reducing cost through such things as using concrete block rather than burnt brick (which consumes less energy in construction), and using locally available materials.  *The above expected learner responses are indicative only and relate to just part of what is required.* | The learner demonstrates comprehensive understanding of sociocultural factors, and how competing priorities are managed, in technology by:   * discussing the interactions between sociocultural factors and technological developments in a field of technology   For example:  The learner discusses the complexity of the interactions between sociocultural factors such as sustainability, life expectancy, durability, visual impact, preferred trends, material costs, energy efficiency, healthy and comfortable lifestyles, renewable materials, maintenance, environmental impact, recycling, and technological developments in the field of bricklaying.   * explaining the relationships between competing priorities and aspects of technological practice in a field of technology   For example:  The learner explains issues involved with the use of bricks as a building material by looking at competing priorities in terms of environmental effects from both a consumer and a government perspective. They explain the energy efficiency characteristics of bricks as a building material, the use of non-renewable but plentiful extracted raw materials, managing the health of waterways and restoration of land affected by extraction.   * discussing the decisions made to manage competing priorities within a development in a field of technology   For example:  The learner highlights competing priorities in design decisions for the use of bricks in low-cost housing.  The learner discusses how consumers make decisions about bricks and how these decisions are based on the brick’s physical properties, cost and aesthetic appeal. They discuss the need for socially acceptable building materials as there is more awareness of the effects of earthquakes, floods, wind and fire, for example. They consider how recent government funding to support sustainable housing is driving the trend towards more suitable, energy efficient materials.  *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.