**NZQA**

**Approved**

Achievement standard: 91046 Version 3

Standard title: Use design ideas to produce a conceptual design for an outcome to address a brief

Level: 1

Credits: 6

Resource title: Child’s play

Resource reference: Generic Technology VP-1.3 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-02-2015-91046-02-7356 |
| 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: 91046

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Level: 1

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Vocational pathway: Construction and Infrastructure

Learner instructions

# Introduction

This assessment activity requires you to use design ideas to produce a conceptual design for a play area that addresses a brief.

You are going to be assessed on how you use refined design ideas to produce a conceptual design for an outcome to address a brief. You need to show that you can test, refine and evaluate design ideas through functional modelling and ongoing research, and then justify that your conceptual design for a play area has the potential to be fit for purpose.

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

The outcome of this brief is a conceptual design for a play area, for example for your local early childhood education centre. You are not required to make a play area as part of this activity.

The brief for this play area includes the following specifications:

* must be suitable for three to five year old children
* helps develop motor skills
* has a variety of play experiences
* is safe for playing
* is an efficient use of the space
* must comply with Ministry of Education guidelines, local council requirements and safety standards (e.g. the *New Zealand Standard Playground Equipment and Surfacing NZS 5828:2004*).

To address this brief you may design ideas for the area itself and/or the type and placement of equipment with consideration for the children’s safety. Ensure you do the following:

* Carefully read the brief.
* Analyse the existing playground and play equipment, and research and visit other local playgrounds, in order to generate design ideas.
* Consult with your early childhood education centre manager to gain an understanding of the type of play three to five year old children like to engage in, and the type of equipment that will help develop their motor skills.
* Contact your local council to gain local regulations information, and interview a council representative or a structural engineer to gain further information on playground constraints.
* Use the information gained from this initial research and notes to start designing, and ensure that you are interpreting the brief correctly.
* Generate your initial design ideas and draw designs for the play area.
* Test whole or parts of your design by:
  + using functional modelling, for example discussions with others, 3D drawings, scaled models
  + doing ongoing research, for example into safety standards, materials testing, structures, etc.
* Use feedback from stakeholders to help develop your designs, and refine your ideas in order to address the brief.
* Evaluate your feedback from stakeholders and the functional modelling to justify the selection of the design ideas you will develop.
* Produce a conceptual design for the play area that addresses your brief.
* Justify the potential fitness for purpose of the proposed play area.

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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 use refined design ideas to produce a conceptual design that addresses a brief for a play area.

# Conditions

This is an individual activity.

# Resource requirements

The assessor/educator will provide learners with:

* access to Ministry of Education guidelines, council regulations and safety standards (e.g. the *New Zealand Standard Playground Equipment and Surfacing NZS 5828:2004*)
* resources to undertake functional modelling and evolve conceptual designs (e.g. cardboard, lego, timber, etc.)
* opportunities to visit childhood centres
* access to the internet and libraries for research.

# Additional information

Functional modelling is used in the ongoing exploration and evaluation of developing design ideas. It is undertaken to gather evidence on all aspects of the outcome, including its likely technical feasibility and social acceptability.

For more information, download an explanatory paper about functional modelling available from Technology Online at <http://technology.tki.org.nz/>.

Useful websites include:

<http://www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/PropertyToolBox/StateSchools/Design/Playgrounds.aspx>

<http://www.dol.govt.nz/workplace/knowledgebase/item/1560>

<http://www.lead.ece.govt.nz/ManagementInformation/RecentAnnouncements/PlaygroundSafetyGuidance.aspx>.

# Assessment schedule: Generic Technology 91046 – Child’s play

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| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The learner uses design ideas to produce a conceptual design for a play area to address a brief by:   * generating design ideas   For example:  The learner sketches ideas for the overall area as well as parts of the area (e.g. play equipment).   * testing design ideas through functional modelling   For example:  The learner scans images of potential equipment, and uses the images to show potential placement.   * using stakeholder feedback to inform decision making   For example:  The learner shows the stakeholder potential placement, and gets feedback about the suitability and placement of the equipment and other aspects stated in the brief.   * using findings from functional modelling to select design ideas   For example:  Having generated the area to scale and gained feedback from the stakeholder and council expert, the learner chooses to include a swing, a climbing frame, and a sandpit in the play area.   * producing a conceptual design for a play area   For example:  The learner makes a 3D model of the area, and also presents scale drawings to show the specific detail.   * determining the outcome’s potential fitness for purpose   For example:  The learner documents how the conceptual design for the play area has the potential to meet the requirements of the brief such as how the chosen equipment helps to develop motor skills, etc.  *The above expected learner responses are indicative only and relate to just part of what is required.* | The learner uses informed design ideas to produce a conceptual design for a play area to address a brief by:   * creating design ideas informed by research and analysis of existing outcomes   For example, the learner:   * + talks to the stakeholder to ascertain the needs of the children, and to the council representative   + conducts research on existing playgrounds and equipment to inform the initial sketching. * evaluating findings from functional modelling and stakeholder feedback to justify the selected design ideas   For example:  The learner evaluates the first design ideas i.e. scanned images of potential placement by considering the feedback from all stakeholders, how appealing it is to children, the physical benefit to the children and safety constraints.   * producing a conceptual design for a play area   For example:  The learner makes a 3D model of the area, and also presents scale drawings to show the specific detail.   * determining the outcome’s potential fitness for purpose   For example:  The learner documents how the conceptual design for the play area has the potential to meet the requirements of the brief such as how the chosen equipment helps to develop motor skills, etc.  *The above expected learner responses are indicative only and relate to just part of what is required.* | The learner uses refined design ideas to produce a conceptual design for a play area to address a brief by:   * creating design ideas informed by research and analysis of existing outcomes   For example, the learner:   * + talks to the stakeholder to ascertain the needs of the children, and to the council representative   + conducts research on existing playgrounds and equipment to inform the initial sketching. * testing, refining and evaluating design ideas through functional modelling and ongoing research   For example, the learner:   * + evaluates the first design ideas i.e. scanned images of potential placement by considering the feedback from all stakeholders, how appealing it is to children, the physical benefit to the children and safety constraints   + conducts further research into specialised matting to use on the surface of the play area which would offer some protection to children who might fall. * using stakeholder feedback to inform decision making   For example:  The learner reflects on stakeholder feedback and revisits the placement of the play equipment in the play area to create more of an adventure course, and to gain more space around each piece of play equipment which would be safer for the children.   * producing a conceptual design for a play area justifying the potential fitness for purpose of the outcomes   For example:  The learner demonstrates that the conceptual design has the potential to address the specification of ‘safe for five year olds’ by reflecting on the interview with the council engineer and the local regulations regarding play areas. The learner justifies the suggested matting for underneath the proposed jungle gym by providing evidence of the matting’s functional qualities.  *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.