**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: Home entertainment

Resource reference: Generic Technology VP-1.3 v2

Vocational pathway: Manufacturing and Technology

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| Quality assurance status | These materials have been quality assured by NZQA.  NZQA Approved number A-A-02-2015-91046-02-7355 |
| 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

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

Level: 1

Credits: 6

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Vocational pathway: Manufacturing and Technology

Learner instructions

# Introduction

This assessment activity requires you to use design ideas to produce a conceptual design for a home entertainment 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 an entertainment 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 an entertainment area, for example in your living room to entertain guests. You are not required to make an entertainment area as part of this activity.

The brief for this entertainment area includes the following specifications:

* must hold a TV and a sound system, and include adequate lighting
* the power source must be such that it prevents the use of extension cords and multi boxes.

Ensure you do the following:

* Carefully read the brief.
* Analyse and research existing entertainment units, TVs, sound systems and lighting solutions in order to generate design ideas. The ideas generated may be for the whole room, or particular parts of the room.
* Consult with your stakeholder to reflect on your initial research and notes. This will ensure you have sufficient information to start designing and that you have interpreted the brief correctly.
* Generate your initial design ideas and draw designs for the entertainment 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, sound systems 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 entertainment area that addresses your brief.
* Justify the potential fitness for purpose of the proposed area for entertainment.

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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 an entertainment area.

# Conditions

This is an individual activity.

# Resource requirements

The assessor/educator will provide learners with resources to undertake functional modelling and evolve conceptual designs.

Learners will require access to the internet and libraries.

# 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:

* Level of lighting in the home

<http://www.level.org.nz/energy/lighting-design/appropriate-lighting-levels/>

* New Zealand Electrical Code of Practice for Homeowner/Occupier’s Electrical Wiring Work for Domestic Installations <http://www.med.govt.nz/energysafety/documents/legislation-policy/electricity-act-regulations-codes/standards-and-codes-of-practice>

# Assessment schedule: Generic Technology 91046 – Home entertainment

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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 an entertainment area to address a brief by:   * generating design ideas For example:   The learner sketches ideas for the area as well as parts of the area (e.g. entertainment and/or lighting system).   * testing design ideas through functional modelling   For example:  The learner generates a plan, using computer aided design to test the storage of the TV and the sound system in relation to the planned and existing lighting.   * using stakeholder feedback to inform decision making   For example:  The learner shows the stakeholder the computer aided design drawings, and gets feedback about the suitability of the system 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 the sound expert, the learner chooses the sound system that would fit in to the area provided and produce high quality sound.   * producing a conceptual design for an entertainment area   For example:  The learner makes a 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 entertainment area has the potential to meet the requirements of the brief.  *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 an entertainment area to address a brief by:   * creating design ideas informed by research and analysis of existing outcomes   For example:  The learner uses pamphlets and the internet, and looks at what specialist firms offer; then uses these findings to sketch ideas for the area as well as parts of the area (e.g. entertainment and/or lighting system).   * evaluating findings from functional modelling and stakeholder feedback to justify the selected design ideas   For example, the learner:   * + gets feedback from the sound specialist about the technical feasibility of the sound system   + generates a plan, using computer aided design, of where the sound system will be used. The sound specialist and stakeholder feedback enable the learner to validate that a particular system would work in the designated area of the room as required by the brief. * producing a conceptual design for an entertainment area   For example:  The learner makes a 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 entertainment area has the potential to meet the requirements of the brief.  *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 an entertainment area to address a brief by:   * creating design ideas informed by research and analysis of existing outcomes   For example:  The learner uses pamphlets and the internet, and looks at what specialist firms offer; then uses these findings to sketch ideas for the area as well as parts of the area (e.g. entertainment and/or lighting system).   * testing, refining and evaluating design ideas through functional modelling and ongoing research   For example, the learner:   * + gets feedback from the sound specialist about the technical feasibility of the sound system   + generates a plan, using computer aided design, of where the sound system will be used, to test whether there will be sufficient amplification etc.; the sound specialist and stakeholder feedback enable the learner to validate that a particular system would work in the designated area of the room as required by the brief   + researches lighting solutions and incorporates it into the formal drawing of the area in order to create ambience. * using stakeholder feedback to inform decision making   For example, the learner:   * + gains feedback from the stakeholder on the shelving system; the stakeholder wants the lighting to be subtle, and yet allow the stakeholder to see how to adjust settings in the system   + incorporates a dimmer switch on the plan to enable the stakeholder to adjust the brightness of the lighting. * producing a conceptual design for an entertainment area justifying the potential fitness for purpose of the outcome   For example:  The learner demonstrates that the conceptual design has the potential to address the brief, modelling the lighting system designed for the stakeholder to ensure the design met the specific requirements of ‘ambience but sufficient light to see controls’.  *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.