



Victorian Essential Learning Standards

Sample Unit

Designing For A Client

Level 6 - Personal Learning, Design, Creativity And Technology, Communication

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Introduction

In *Designing for a client* students focus on designing and developing a product that meets a client's specified requirements and time management skills.

This unit provides opportunities for students to demonstrate achievement of elements of Level 6 Standards in *Design, Creativity and Technology, Personal Learning and Communication*. It will also help teachers identify ways in which the Level 6 standards will support students to develop employability skills.

Suggested duration: 15 hours

For further information see the [VELS and Employability Skills](#) section.

Teaching and Learning

Teaching and Learning activities include:

- developing a design brief
- undertaking research relevant to the design brief
- producing annotated drawings in response to the design brief
- developing and justifying the preferred design option
- producing the product
- allocating and evaluating their use of time.

For further information see the [Teaching, learning and assessment activities](#) section.

Assessment

During the task students are assessed on their ability to:

- write a design brief
- identify constraints and considerations
- create evaluation criteria
- develop designs
- justify a preferred design option
- allocate time requirements for the production process
- use technical terminology consistently and appropriately.

For further information see the [Assessment](#) section.

Acknowledgements

The VCAA acknowledges teachers from Aitkin College, Ballarat High School and Balwyn High School who contributed ideas or materials that helped shape this unit.

Victorian Essential Learning Standards

Designing for a client provides opportunities to assess students against elements of Level 6 standards and facets of Employability Skills as detailed below.

For further information see the [Employability Skills](#) section.

Strand	Domain	Dimension	Element of standard	Related employability skill
Physical, Personal and Social Learning	Personal Learning	Managing personal learning	... allocate appropriate time and identify and utilise appropriate resources ... to complete tasks, including learner-directed projects within set timeframes.	... uses time and energy efficiently and can prioritise tasks.
Interdisciplinary Learning	Design, Creativity and Technology	Investigating and designing	<p>... identify considerations and constraints within a design brief.</p> <p>... generate a range of alternative possibilities.</p> <p>... justify their preferred option, explaining how it provides a solution to the problem ...</p> <p>... identify a range of criteria for evaluating their products and/or technological systems.</p>	
	Communication	Presenting	... use subject-specific language and conventions in accordance with the purpose of their presentation to communicate complex information.	<p>Communication – <i>Written</i></p> <p>... writes accurately and conventionally.</p>

For further information see the [Assessment](#) section.

Teaching, Learning and Assessment Activities

This unit focuses on designing a product based on client needs.

The activities include:

- Activity 1: Introduction
- Activity 2: Developing a design brief, constraints, considerations and evaluation criteria
- Activity 3: Research
- Activity 4: Designing the product
- Activity 5: Complete the sequencing table
- Activity 6: Making the product and evaluating use of time.

Activity 1: Introduction

Activities	Supporting the activities	Assessment
<p>Introduce the unit, individual and group activities and assessment.</p> <p>Explain to students that they will be designing and making a product that meets a client's needs.</p>	<p>It would be useful to emphasise that they will not only be assessed on their Design, Creativity and Technology (DCT), knowledge and skills but also on their ability to manage their time and their consistent and appropriate use of technical language.</p>	
<p>As a class, brainstorm a list of possible client's needs.</p>	<p>Examples of brainstorming strategies can be found in the <u>Teaching and Learning Resource</u> section.</p> <p>The list of a client's needs will vary but could include:</p> <ul style="list-style-type: none"> • storage for specific items, for example, CDs • garment for a specific occasion • nutritious after school snack for young children. <p>Alternatively, provide the students with a list of client needs for a specific product.</p>	

Activity 2: Developing a design brief, constraints, considerations and evaluation criteria

Activities	Supporting the activities	Assessment
<p>Discuss the design brief pro forma with students.</p> <p>Provide an opportunity for students to ask any clarifying questions about the brief.</p>	<p>Provide each student with a copy of the <u>Design brief pro forma</u> (See <i>Unit Resources</i> page 12).</p> <p>Students could also consider factors such as:</p> <ul style="list-style-type: none"> • aesthetics, safety features, functionality, and quality. • suitability of materials and techniques. 	
<p>Ask students to individually complete all sections of the design brief pro forma with the exception of the evaluation criteria.</p>		
<p>Explain to students that they will need to make links between the design brief and the evaluation criteria.</p>	<p>Links between the design brief and evaluation criteria will depend on the content of the brief but could include:</p> <ul style="list-style-type: none"> • is the storage unit of a suitable size to hold the required number of CD's? • is the style of the garment suitable for the occasion? • is the snack suitable for a young child and what main nutrients does it include? <p>Students can highlight key words in the design brief that could be used in the development of evaluation criteria.</p>	
<p>Ask students to develop the evaluation criteria on the design brief pro forma.</p>	<p>In small groups or through a <u>Think, Pair, Share</u> activity, students develop a list of criteria to assist with evaluating the product effectively.</p> <p>Students could consider:</p> <ul style="list-style-type: none"> • product • process • function • safety. 	<p>Collect students' design brief pro forma to assess Design, Creativity and Technology – <i>Investigating and designing And Communication – Presenting</i>. See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).</p>

Activity 3: Research

Activities	Supporting the activities	Assessment
<p>Ask students to use their design briefs to identify the areas of research they need to consider in order to design and develop a product.</p> <p>Ask students to record their research in their folios.</p>	<p>Students could select a thinking tool that is suitable for organising their ideas or research such as:</p> <ul style="list-style-type: none"> • <u>Mind map</u> • <u>Concept map</u> • <u>Fishbone</u> • <u>PMI</u> <p>These and other examples of thinking tools can be found in the <u>Teaching and Learning Resource</u> section.</p> <p>Provide students with relevant sources of information to research product design and development such as:</p> <ul style="list-style-type: none"> • magazines • catalogues • books • Internet sites. <p>If time allows, ask students to locate their own sources of information.</p> <p>Research could include:</p> <ul style="list-style-type: none"> • images and notes of existing products that meet similar design requirements • notes on materials/ ingredients that could potentially be used to make the product • experimentation or testing of materials and/or processes. 	

Activity 4: Designing the product

Activities	Supporting the activities	Assessment
<p>Ask each student to develop at least three annotated drawings for the product that address the specifications outlined in the design brief pro forma.</p>	<p>Suggestions for annotations include:</p> <ul style="list-style-type: none"> • sizes • materials/ingredients • colour • construction techniques. 	<p>Collect students' annotated drawings to assess Design, Creativity and Technology – <i>Investigating and designing</i> – And Communication – <i>Presenting</i>. See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).</p>

Ask students to individually present their design ideas to the client or to another designated 'client' (for example, another class member) and have them identify their preferred design option.	Preferred options may be an amalgamation of two or more options.	
Ask students to individually develop the client's preferred option, for example, a working drawing.	Students may use a range of communication methods (for example, using the draw function in MS Word or Computer -aided design (CAD) software to convey their ideas.	Collect students' preferred option to assess Design, Creativity and Technology – <i>Investigating and designing</i> and Communication – <i>Presenting</i> . See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).
Instruct students to individually write a paragraph that explains their reasons for selecting the preferred option. This explanation needs to relate directly to the design brief.		Collect students' explanations to assess Design, Creativity and Technology – <i>Investigating and designing</i> . See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).

Activity 5: Complete the sequencing table

Activities	Supporting the activities	Assessment
<p>Students individually complete the sequencing table and explain each section.</p> <p>Explain to students that they will be writing a reflection on how well they allocated their time based on the evidence collected in this table.</p>	<p>Provide each student with a copy of the <u>Sequencing table</u>. (See <i>Unit Resources</i> page 14)</p> <p>A sequencing table is used to:</p> <ul style="list-style-type: none"> • list in order the steps needed to make a product • list resources and equipment required • estimate the time required for each step • record actual time taken. 	<p>Collect students' Sequencing tables to assess Communication – <i>Presenting</i> and Personal Learning – <i>Managing personal learning</i>. See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).</p>

Activity 6: Making the product and evaluating use of time

Activities	Supporting the activities	Assessment
Ask students to construct their product to incorporate: <ul style="list-style-type: none"> • the design specifications and standards • a range of techniques and equipment to specified levels of accuracy and precision • management of resources such as, tools and equipment. 	Remind students to refer back to their design brief, preferred design option drawing and sequencing table as they make their product.	
Ask students to keep a record of how they have used their time in the right side column of their sequencing tables.	Students could use a digital camera to record their progress throughout the production process. Students will need to document any discrepancies between the proposed time to complete tasks and the actual time taken. They will need to explain why these differences occurred.	Collect students' Sequencing tables to assess Communication – <i>Presenting and Personal Learning - Managing personal learning</i> . See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).
After students have made their product, ask them to write a short paragraph reflecting on how well they allocated their time and what changes, if any, were required.		Collect students' short paragraphs to assess Personal Learning - <i>Managing personal learning</i> . See <u>Assessment rubric</u> (See <i>Assessment</i> page 9).

Assessment

The Victorian Essential Learning Standards support a combination of assessment practices:

- Assessment of learning (summative)
- Assessment for learning (formative)
- Assessment as learning (formative).

The assessment tasks in this unit focus on collection of evidence of student learning for summative purposes. Some components could also be used to support assessment for learning and assessment as learning.

Assessment guide

When assessing student achievement, assessment criteria can be developed from relevant standards and associated tasks or activities. The table below shows the assessment criteria related to the assessment task/s and relevant Standards and the expected evidence to be used as the basis for assessment.

The table can also be used to assist teachers to make judgments about whether students are working *at* the standard (achieved the Standard), progressing *towards* the standard (have not met expectations of the Standard) or progressing *beyond* the Standard (have exceeded expectations of the Standard) for specific assessment criteria. It is provided as a guide only and may be adapted or modified to suit particular classrooms and/or student reporting.

See the Assessment Resource for advice on developing rubrics.

Assessment Task: Designing for a client

Evidence	Element of standard	Assessment criteria	Progressing towards the standard	At the standard	Progressing beyond the standard
Communication – Presenting					
All written materials Activity (2–6)	... use subject-specific language and conventions in accordance with the purpose of their presentation to communicate complex information.	Ability to use appropriate terminology correctly and consistently in all facets of the design process.	Limited and/or inconsistent use of appropriate terminology.	Use of appropriate terminology consistent with purpose.	Use of appropriate terminology integral to development of ideas and purpose.

Personal Learning – Managing personal learning					
Written reflection on time allocation (Activity 6)	... allocate appropriate time and identify and utilise appropriate resources to ...complete tasks, including learner - directed projects within set timeframes.	Ability to effectively forecast and manage their time.	Limited ability to forecast time required for making the product.	Based on research able to forecast time required for making the product and make adjustments as required.	Efficient allocation of time, including analysis of production processes and modifications.
Design, Creativity and Technology (DCT) – Investigating and designing					
Design brief pro forma (Activity 2)	... identify considerations and constraints within a design brief.	Ability to make links between design brief and considerations and constraints.	Limited understanding of the components of the design brief.	Make clear links between design brief and considerations and constraints.	Extensive range of relevant considerations and constraints.
Evaluation criteria on design brief pro forma (Activity 2)	... identify a range of criteria for evaluating their products and/or technological systems.	Ability to identify a range of criteria for evaluating their products.	Some criteria listed.	Range of criteria demonstrating relevance to design brief considerations and constraints.	Extensive range of criteria demonstrating high level of relevance to design brief considerations and constraints.
Annotated drawings (Activity 4)	... generate a range of alternative possibilities.	Ability to generate a range (3) of alternatives to address requirements of the design brief.	Alternatives have annotations that show a limited understanding of the requirements of the design brief.	Alternatives have relevant annotations that explain the requirements of the design brief.	Alternatives have annotations that demonstrate a sophisticated knowledge of the requirements of the design brief.
Written justification of preferred optionn (Activity 4)	... justify their preferred design option, explaining how it provides a solution to the problem.	Ability to give reasons for selection of the preferred design option.	Reasons that show a limited understanding of the requirements of the design brief.	Reasons that show a clear understanding of the requirements of the design brief.	Sophisticated justification for selection of the preferred option.

Unit Resources

Websites

At the time of publication the URLs (website addresses) cited were checked for accuracy and appropriateness of content. However, due to the transient nature of material placed on the Internet, their continuing accuracy cannot be verified. Teachers are strongly advised to prepare their own indexes of sites that are suitable and applicable to this unit of work, and to check these addresses prior to allowing student access.

For information on the Department of Education and Early Childhood Development's Assessment Advice (www.education.vic.gov.au/studentlearning/assessment/default.htm)

For information on the Department of Education and Early Childhood Development's Principles of Learning and Teaching (PoLT) (www.education.vic.gov.au/studentlearning/teachingprinciples/default.htm)

Teacher resources

Teaching and Learning Resource

This material provides information about teaching and learning strategies referred to in the task.

Assessment Resource

This document provides information about assessment strategies referred to in the task.

Design Awareness in Schools

Student resources

Design brief pro forma (See page 12)

Sequencing table (See page 14)

Design situation

Give a brief outline of the design problem, situation or need in two or three sentences.

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Now provide more detail about each aspect of the problem, situation or need.

Client

Describe the client for this product.

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Function

Explain the purpose of the product. What should it do and what will it be used for?

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Situation

Explain how, where and when the product is likely to be used or experienced.

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Limitations or constraints

Unchangeable aspects based on client needs and wants.

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Considerations

Using the information above, list the questions you will need to answer while researching and planning your possible solutions. Questions may relate to the intended user, the product, resources or processes.

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Evaluation criteria

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