



Designing and Modelling (National 3)

SCQF: level 3 (6 SCQF credit points)

Unit code: H22Y 73

Unit outline

The general aim of this Unit is for learners to follow, with guidance, a simple design process. They will make a simple physical model from design drawings, and refine the design based on simple evaluation of the model. Through these activities, learners will develop awareness of sustainability and recycling. Learners will also learn and apply safe working practices in a workshop, or similar, environment.

Learners who complete this Unit will be able to:

- 1 Make, with guidance, a simple physical model from design drawings and sketches
- 2 Amend a design based on simple evaluation of a model

This Unit is a mandatory Unit of the National 3 Design and Technology Course and is also available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Unit Support Notes*, which provide advice and guidance on delivery, assessment approaches and development of skills for learning, skills for life and skills for work. Exemplification of the standards in this Unit is given *in Unit Assessment Support*.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, relevant experiences and outcomes may provide an appropriate basis for doing this Unit.

Equality and inclusion

This Unit Specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. For further information, please refer to the *Unit Support Notes*.

Standards

Outcomes and assessment standards

Outcome 1

The learner will:

- 1 Make, with guidance, a simple physical model from design drawings and sketches by:**
 - 1.1 Extracting dimensions from given drawings
 - 1.2 Selecting suitable materials, giving consideration to issues of sustainability
 - 1.3 Selecting and using appropriate tools and equipment
 - 1.4 Applying safe working practices

Outcome 2

The learner will:

- 2 Amend a design based on simple evaluation of a model by:**
 - 2.1 Assessing the effectiveness of the model against given design criteria
 - 2.2 Identifying improvements which could be made to the design
 - 2.3 Producing sketches to communicate an amended design

Evidence Requirements for the Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

For this Unit, learners must provide evidence (which could be photographic) of the completed physical model, and sketches showing the amended design, supplemented by observational evidence of the Assessment Standards.

Exemplification of assessment is provided in *Unit Assessment Support*. Advice and guidance on possible approaches to assessment is provided in the *Unit Support Notes*.

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

2 Numeracy

2.2 Money, time and measurement

4 Employability, enterprise and citizenship

4.2 Information and communication technology (ICT)

5 Thinking skills

5.2 Understanding

5.3 Applying

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level of the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes*.

Administrative information

Published: April 2012 (version 1.0)

Superclass: VF

History of changes to National Unit Specification

Version	Description of change	Authorised by	Date

This specification may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged. Additional copies of this Unit can be downloaded from SQA's website at www.sqa.org.uk.

Note: readers are advised to check SQA's website: www.sqa.org.uk to ensure they are using the most up-to-date version of the Unit Specification.

© Scottish Qualifications Authority 2012