



National 3  
Unit  
Specification



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## Constructing and Testing (National 3)

**SCQF:** level 3 (6 SCQF credit points)

**Unit code:** H230 73

### Unit outline

The general aim of this Unit is for learners to develop an understanding of structures and mechanisms by solving simple engineering problems. They will construct (or simulate) and test simple solutions demonstrating strengthening, energy transfer and/or movement. Learners will draw conclusions based on the test results. Learners will also develop and apply safe working practices in a workshop, or similar, environment.

Learners who complete this Unit will be able to:

- 1 Construct and test simple engineered objects involving strengthening, energy transfer or movement

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 Construct and test simple engineered objects involving strengthening, energy transfer or movement by:**
  - 1.1 Selecting, with guidance, components and/or suitable materials
  - 1.2 Applying basic engineering knowledge of mechanisms and structures
  - 1.3 Devising, with guidance, appropriate methods of testing
  - 1.4 Recording the results of testing
  - 1.5 Drawing conclusions from the test results

### 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 one completed engineered object (which must demonstrate at least one of strengthening, energy transfer or movement), and written or oral evidence of testing, supplemented by observational evidence of the Assessment Standards. Simulation software may be used to 'construct' the engineered object if this provides the possibility of achieving all 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

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**Published:** April 2012 (version 1.0)

**Superclass:** VF

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## History of changes to National Unit Specification

Version	Description of change	Authorised by	Date

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