Higher
Unit
Specification

Environmental Science: Sustainability (Higher) Unit

SCQF: level 6 (6 SCQF credit points)

Unit code: H24S 76

Unit outline

The general aim of this Unit is to develop skills of scientific inquiry, investigation and analytical thinking, along with knowledge and understanding sustainability. Learners will apply these skills when considering the applications of sustainability on our lives, as well as the implications on society/the environment. This can be done by using a variety of approaches, including investigation and problem solving.

The Unit covers the key areas of:
food, water, energy and waste management. Learners will research issues, apply scientific skills and communicate information related to their findings, which will develop skills of scientific literacy.

Learners who complete this Unit will be able to:

1 Apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of this Unit to carry out an experiment/practical investigation
2 Draw on knowledge and understanding of the key areas of this Unit and apply scientific skills

This Unit is a mandatory Unit of the Higher Environmental Science 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.

The *Course Assessment Specification* for the Higher Environmental Science Course gives further mandatory information on Course coverage for learners taking this Unit as part of the Higher Environmental Science Course.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- National 5 Environmental Science Course or relevant component Units
- National 5 Geography Course or relevant component Units

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 Apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of this Unit to carry out an experiment/practical investigation by:

1.1 Planning an experiment/practical investigation
1.2 Following procedures safely
1.3 Making and recording observations/measurements correctly
1.4 Presenting results in an appropriate format
1.5 Drawing valid conclusions
1.6 Evaluating experimental procedures

Outcome 2

The learner will:

2 Draw on knowledge and understanding of the key areas of this Unit and apply scientific skills by:

2.1 Making accurate statements
2.2 Solving problems

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.

Evidence can be drawn from a variety of sources and presented in a variety of formats.

Evidence may be presented for individual Outcomes or gathered for the Unit as a whole, through combining assessment holistically in a single activity. If the latter approach is used, it must be clear how the evidence covers each Outcome.

Transfer of evidence: Since the Outcomes and Assessment Standards are the same for all Units of the Course, differing only by context, evidence for Outcome 1 and Assessment Standard 2.2 for one Unit in this Course can be used as evidence of the achievement of Outcome 1 and Assessment Standard 2.2 in the other Units of this Course.

The key areas covered in this Unit are:

- food
- water
- energy
- waste management

The table below describes the evidence for the Assessment Standards which require exemplification.

Assessment Standard	**Evidence required**
Planning an experiment/practical investigation	The plan should include: ♦ a clear statement of the aim ♦ a hypothesis ♦ a dependent and independent variable ♦ variables to be kept constant ♦ measurements/observations to be made ♦ the equipment/materials ♦ a clear and detailed description of how the experiment/practical investigation should be carried out, including safety considerations
Presenting results in an appropriate format	one format from: table, line graph, chart, key, diagram, flow chart, summary, extended text or other appropriate format
Drawing a valid conclusion	Include reference to the aim
Evaluating experimental procedures	Suggest two improvements with justification
Making accurate statements	At least half of the responses should be correct across the key areas for the set of questions provided.
Solving problems	One of each: ♦ make generalisation/prediction ♦ select information ♦ process information, including calculations, as appropriate ♦ analyse information

Exemplification of assessment is provided in Unit assessment support packs.
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.

1 Literacy

1.2 Writing

2 Numeracy

2.1 Number processes
2.2 Money, time and measurement
2.3 Information handling

4 Employability, enterprise and citizenship

4.6 Citizenship

5 Thinking skills

5.3 Applying
5.4 Analysing and evaluating
5.5 Creating

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: June 2014 (version 3.0)

Superclass: QA

History of changes to National Unit Specification

Version	Description of change	Authorised by	Date
2.0	Page 1 – the description of key areas under 'Unit outline' has been revised to give more information Page 3 – in Outcome 1.3, the word 'accurately' has been replaced by 'correctly'; the Evidence requirements have been rewritten to better explain what is required, and information has been added on Transfer of Evidence	Qualifications Development Manager	April 2014
3.0	Assessment Standards 2.2 & 2.3 removed	Qualifications Development Manager	June 2014

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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.

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