



National 2
Course
Specification



National 2 Science in the Environment Course Specification (C766 72)

Valid from August 2013

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Please refer to the note of changes at the end of this Course Specification for details of changes from previous version (where applicable).

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Course outline

Course title: National 2 Science in the Environment

SCQF: level 2 (18 SCQF credit points)

Course code: C766 72

Mandatory Units

H26B 72	Science in the Environment: Resources, Forces and Energy (National 2)	6 SCQF credit points
H26C 72	Science in the Environment: Living Things (National 2)	6 SCQF credit points

Optional Units

H26D 72	Science in the Environment: Sustainable Lifestyles (National 2)	6 SCQF credit points
H26E 72	Science in the Environment: Managing an Environmental Area (National 2)	6 SCQF credit points

The Course comprises **two** mandatory Units and **one** optional Unit from the list above.

Recommended entry

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

Progression

This Course or its Units may provide progression to:

- ◆ other qualifications in science or science-related areas
- ◆ further study, employment and/or training

Equality and inclusion

This Course 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 *Course Support Notes*.

Rationale

All new and revised National Courses reflect Curriculum for Excellence values, purposes and principles. They offer flexibility, provide more time for learning, more focus on skills and applying learning, and scope for personalisation and choice.

In this Course, and its component Units, there will be an emphasis on skills development and the application of those skills. Assessment approaches will be proportionate, fit for purpose and will promote best practice, enabling learners to achieve the highest standards they can.

This Course provides learners with opportunities to continue to acquire and develop the attributes and capabilities of the four capacities as well as skills for learning, skills for life and skills for work.

All Courses provide opportunities for learners to develop breadth, challenge and application, but the focus and balance of the assessment will be appropriate for the subject area.

Relationship between the Course and Curriculum for Excellence values, purposes and principles

The National 2 Science in the Environment Course builds on the principles and practice and experiences and outcomes of science, social studies and health and wellbeing.

Science is an important part of our everyday lives at work, at home, in learning and in leisure. Through science, learners develop a curiosity and awareness of their environment and recognise the impact science makes on themselves, on others and on everyday life.

Learners experience and engage in science through observation, practical investigation and discovery. Through practical activities such as these, learners develop an inquisitiveness and understanding of how science impacts on health, wellbeing and the environment. Learners also develop an understanding of the living, material and physical world, drawing on aspects of biology, chemistry and physics.

Through the study of National 2 Science in the Environment, learners are encouraged to develop the confidence and ability to tackle everyday situations involving science. Learners will use their knowledge of science, equipment, tools and materials to make scientifically informed choices in a range of personal and social situations. Learners will also begin to develop their awareness of some of the social, moral and environmental issues involving science, and begin to communicate their knowledge and experience of science to others.

This Course also develops the skills, knowledge and capacities that are complementary for learners in other areas of study, such as technology, social studies, and health and wellbeing, as well as skills for learning, skills for life and skills for work.

Purpose and aims of the Course

This Course is practical and experiential, aiming to develop an awareness and understanding of science through a range of everyday contexts. By relating science to a range of everyday contexts, learners will begin to understand how it affects and influences lifestyle, society and the environment.

The Course aims to develop learners' awareness of themselves and their environment through observation, practical investigative tasks and discovery with a strong emphasis on developing an interest in, and understanding of, the living, material and physical world.

Through observation, investigations and discovery, learners will develop the ability to question, make predictions and suggest solutions to tackle everyday situations involving science. In this way the Course provides opportunities for learners to acquire and develop an awareness of the principles and concepts of science and the environmental issues around them. Learners will also become increasingly scientifically literate, with the ability and confidence to make and communicate scientifically informed choices.

This Course aims to enable learners to:

- ◆ engage in practical scientific activities
- ◆ begin to develop scientific literacy through the use of scientific and environmental language in everyday contexts
- ◆ recognise the use and value of science in the environment, and how it affects everyday life
- ◆ tackle real-life situations involving science
- ◆ develop an awareness of resources and their responsible and sustainable use
- ◆ make scientifically informed choices
- ◆ use tools, equipment and materials safely

In addition, learners will have the opportunity to develop broad, generic and transferable skills for learning, skills for life and skills for work including thinking skills, listening and talking, numeracy and citizenship in a contextualised, engaging and enjoyable way.

Information about typical learners who might do the Course

The Course is suitable for learners with an interest in science. It is suitable for learners with a general interest in the subject and for those wanting to progress to higher levels of study.

The Course may also be suitable for those wishing to work towards a science qualification for the first time.

This qualification will allow learners to consolidate and extend their scientific knowledge and skills developed through the experiences and outcomes for science.

The Course takes account of the needs of all learners by providing sufficient flexibility to enable learners to achieve in different ways and at a different pace.

On completing the Course, learners will begin to recognise the use and value of science in the environment and how it affects everyday life. Through practical, investigative activities, learners will begin to develop an awareness of science in their environment, to make scientifically informed choices, and to develop the scientific literacy to communicate their knowledge and experience of science in everyday contexts.

Skills developed in this Course support progression to other curriculum areas, as well as to Skills for Work, Personal Achievement Awards and Personal Development Awards.

Course structure and conditions of award

Course structure

This Course consists of a combination of mandatory and optional Units. Learners who complete the mandatory Units and any combination of optional Units will be able to demonstrate their ability in the same skills. The mandatory Units provide breadth by introducing learners to the range of skills and contexts available within science. The optional Units provide depth, with scope for personalisation and choice, and opportunities for learners to apply their scientific knowledge and skills to real-life situations relevant to themselves and their environment.

Some learners may choose to complete additional optional Units from within the Course. Learners will benefit from this opportunity to extend their learning.

This Course enables learners to develop skills in: recognising the use and value of science in the environment, and how it affects everyday life; using and understanding scientific literacy in everyday contexts; and using, tools, equipment and materials safely in practical scientific and environmental activities.

The Course also enables learners to develop skills in: observation, questioning, making predictions and suggesting solutions to tackle real-life situations involving science and the environment; recognising the value and importance of science; and making scientifically informed choices.

Units are statements of standards for assessment and not programmes of learning and teaching. They can be delivered in a number of ways.

Mandatory Units

Science in the Environment: Resources, Forces and Energy (National 2)

The general aim of this Unit is to develop learners' awareness, through practical activities, of resources and forces and how everyday objects work (eg a kettle, a calculator or a bicycle). Through practical activities, learners will explore the properties and use of resources, such as air, water, oil and wood. Learners will also develop their awareness of forces such as pushing and pulling and identify how a range of everyday objects work and the type of energy they use. By exploring science through practical activities, learners will begin to develop their scientific literacy.

Science in the Environment: Living Things (National 2)

The general aim of this Unit is to enable learners to develop an awareness and knowledge of living things. Learners will explore the diversity of living things and the dependence between them. Learners will also develop an awareness of themselves as living beings by finding out about the main parts of the human body and factors that affect their health and wellbeing. By exploring living things through practical activities, learners will begin to develop their scientific literacy.

Optional Units — any one from the following two Units:

Science in the Environment: Sustainable Lifestyles (National 2)

The general aim of this Unit is for learners to engage in a practical activity which encourages a sustainable lifestyle. Learners will identify and carry out an opportunity to use a resource responsibly in a local area. Resources could include for example: food, water, energy or an environmental resource such as a nature trail or park. By using resources responsibly in a local area, learners will continue to develop their scientific literacy.

Science in the Environment: Managing an Environmental Area (National 2)

The general aim of this Unit is for learners to engage in a practical activity which encourages a responsible attitude towards a local environmental area. Learners will prepare and maintain a local environmental area for living things. In doing this, learners will explore the conditions necessary for maintaining life and will continue to develop their scientific literacy.

Conditions of award

To achieve the National 2 Science in the Environment Course, learners must pass all of the required Units. The required Units are shown in the Course outline section.

National 2 Courses are not graded.

Skills, knowledge and understanding

Full skills, knowledge and understanding for the Course are given in the *Course Support Notes*. A broad overview of the subject skills, knowledge and understanding that will be covered in the Course is given in this section. These include:

- ◆ using a range of basic scientific skills in guided, practical scientific and environmental activities
- ◆ using tools and equipment safely in guided, practical scientific and environmental activities
- ◆ recognising underlying scientific ideas and how they affect everyday life for self and others
- ◆ using scientific literacy in everyday contexts
- ◆ suggesting solutions to tackle real-life situations involving science and the environment
- ◆ recognising resources available in everyday life including their responsible and sustainable use
- ◆ making scientifically informed choices

Skills, knowledge and understanding to be included in the Course will be appropriate to the SCQF level of the Course. The SCQF level descriptors give further information on characteristics and expected performance at each SCQF level (www.sqa.org.uk/scqf).

Assessment

Further information about assessment for the Course is included in the *Course Support Notes*.

Unit assessment

All Units are internally assessed against the requirements shown in the Unit Specification.

They can be assessed on an individual Unit basis or by using other approaches which combine the assessment for more than one Unit.

They will be assessed on a pass/fail basis within centres. SQA will provide rigorous external quality assurance, including external verification, to ensure assessment judgements are consistent and meet national standards.

The assessment of the Units in this Course will be as follows:

Science in the Environment: Resources, Forces and Energy (National 2)

For this Unit, learners will be able to:

- ◆ participate in practical activities to explore resources
- ◆ participate in practical activities to explore forces and energy

Science in the Environment: Living Things (National 2)

For this Unit, learners will be able to:

- ◆ participate in practical activities to explore living things
- ◆ participate in practical activities to explore the human body and factors that affect health and wellbeing

Science in the Environment: Sustainable Lifestyles (National 2)

For this Unit, learners will be able to:

- ◆ use resources responsibly in a local area

Science in the Environment: Managing an Environmental Area (National 2)

For this Unit, learners will be able to:

- ◆ prepare and maintain a local environmental area for living things

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

It is expected that learners will develop broad, generic skills through this Course. The skills that learners will be expected to improve on and develop through the Course 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 Course where there are appropriate opportunities.

1 Literacy

1.3 Listening and talking

2 Numeracy

2.2 Money, time and measurement

2.3 Information handling

4 Employability, enterprise and citizenship

4.6 Citizenship

5 Thinking skills

5.1 Remembering

5.3 Applying

5.4 Analysing and evaluating

Amplification of these skills is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills will be appropriate to the level of the Course. Further information on building in skills for learning, skills for life and skills for work for the Course is given in the *Course Support Notes*.

Administrative information

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History of changes to National Course Specification

Course details	Version	Description of change	Authorised by	Date

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