



Access 2 Science in the Environment

Draft National Course Specification



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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: Access 2 Science in the Environment

SCQF: level 2 (18 SCQF credit points)

Course code: to be advised

Mandatory Units

Science in the Environment: Earth's Resources (Access 2) 6 SCQF credit points
Science in the Environment: Living Things (Access 2) 6 SCQF credit points

Optional Units

Science in the Environment: Sustainable Lifestyles
(Access 2) 6 SCQF credit points
Science in the Environment: Managing an Environmental Area
(Access 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.

In terms of prior learning and experience, relevant experiences and outcomes may also provide an appropriate basis for doing this Course. Further information on relevant experiences and outcomes will be given in the *Course Support Notes*.

Progression

This Course or its components may provide progression to:

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

Further details are provided in the Rationale section.

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 Access 2 Science in the Environment Course builds on the principles and practice and experiences and outcomes of science; the principles and practice and experiences and outcomes of social studies; and the principles and practice and experiences and outcomes of health and wellbeing across learning.

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 investigative tasks 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 Access 2 Science in the Environment, learners are encouraged to develop the confidence and ability to tackle everyday problems. By using science to tackle everyday problems, learners will use aspects of science, scientific equipment, tools and ICT to make 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 attributes that are complementary for learners in other areas of study, such as the technologies, social studies, and health and wellbeing.

Purpose and aims of the Course

The 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.

There is a strong emphasis on developing an interest in, and understanding of, the living, material and physical world through practical skills and problem solving in everyday contexts. The Course aims to develop learners' awareness of themselves and their environment by using observation, experiments and investigations.

Through observation, experiments and investigations, learners will develop the ability to question, make predictions and suggest solutions to everyday problems 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. In this way, learners will become increasingly scientifically literate, with the ability and confidence to make and communicate scientifically informed choices.

The aims of the Course are 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
- ◆ solve problems involving science in everyday contexts
- ◆ develop an awareness of the Earth's resources and their responsible and sustainable use
- ◆ make scientifically informed choices
- ◆ use technology, tools, equipment and materials safely

In addition, learners will have the opportunity to develop broad, generic and transferable skills including thinking skills, communication, and application of technology.

This Course is also designed to develop learners' skills for learning, skills for life and skills for work in a contextualised, engaging and enjoyable way.

Information about typical learners who might do the Course

The Course is suitable for all 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 further extend their scientific knowledge and skills developed through the experiences and outcomes for science.

successful learner, confident individual, responsible citizen, effective contributor

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, problem solving activities, learners will begin to develop an awareness of the Earth's resources, make scientifically informed choices, and develop scientific literacy to communicate their knowledge and experience of science in everyday contexts.

The science skills within this Course have applications in many other subject areas. Skills developed in this Course support progression to other curriculum areas, as well as to Skills for Work and National Progression Awards.

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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 provide learners with opportunities to apply their scientific knowledge and skills to solve real-life problems 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 technology, tools, equipment and materials safely in practical scientific and environmental activities.

The Course also enables learners to develop skills in: solving problems involving science and the environment in everyday contexts; recognising the value and importance of Earth's resources and their responsible use; 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 variety of ways.

Units can be taught sequentially or in parallel to each other. However, learning and teaching approaches should provide opportunities to integrate skills where possible.

Mandatory Units

Science in the Environment: Earth's Resources (Access 2)

In this Unit, learners will gain an awareness of Earth as a planet and of its resources. They will explore the use of a range of Earth's resources, such as water, oil, wood and metals, by investigating the properties and use of everyday objects and materials. Learners will also develop knowledge of Earth's forces, such as friction, flotation and magnetism, and investigate their effect on everyday objects and materials.

Science in the Environment: Living Things (Access 2)

In this Unit, learners will develop their awareness of the body's systems and organs, and of factors that affect health. By investigating some body systems and potential problems which may develop, learners will make informed choices about their health and wellbeing. Learners will also explore the diversity of living things and develop their understanding of the interdependence between plants and animals.

Optional Units

Science in the Environment: Sustainable Lifestyles (Access 2)

In this Unit, learners will engage in practical, problem solving activities which encourage a sustainable lifestyle. Learners will develop a responsible and caring attitude towards their environment by identifying and exploring opportunities for the responsible use of resources, such as food, water, paper and energy, through conservation and recycling.

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

In this Unit, learners will engage in practical, problem solving activities which encourage a responsible and caring attitude towards a local environmental area. Learners will make informed choices to prepare and maintain an environmental area for plants and/or animals. Learners will practically explore factors that affect plant growth/animal wellbeing.

Conditions of award

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

Access 2 Courses are not graded.

Skills, knowledge and understanding

Full skills, knowledge and understanding for the Course will be given in the *Course Support Notes*. A broad overview of the subject skills, knowledge and understanding that will be covered in the Course includes:

- ◆ using a range of basic scientific skills in guided, practical scientific and environmental activities
- ◆ using basic technology, 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
- ◆ solving clearly staged problems in everyday contexts 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 will be 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 a Unit-by-Unit basis or by combined assessment.

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

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

Science in the Environment: Earth's Resources (Access 2)

For this Unit, learners will be able to:

- ◆ use practical scientific skills to explore the characteristics and use of the Earth's resources in a range of everyday materials
- ◆ show knowledge of the Earth and its resources
- ◆ use practical scientific skills to explore Earth's forces and their effect on everyday objects

Science in the Environment: Living Things (Access 2)

For this Unit, learners will be able to:

- ◆ use practical scientific skills to explore the diversity of living things and the interdependence between plants and animals
- ◆ show knowledge of the main systems and organs in the human body, factors that affect health, and potential health problems
- ◆ make informed choices about their health and wellbeing

Science in the Environment: Sustainable Lifestyles (Access 2)

For this Unit, learners will be able to:

- ◆ explore everyday resources and how they are used in a local environmental area
- ◆ show a responsible and caring attitude towards their environment by identifying and applying opportunities for the responsible use of resources

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

For this Unit, learners will be able to:

- ◆ explore factors that affect plant growth or animal wellbeing
- ◆ show a responsible and caring attitude towards their environment by preparing and maintaining a local environmental area for plants or animals

Exemplification of possible assessment approaches for these Units will be provided in the *National Assessment Resource*.

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

(Note: The information given below reflects the initial thinking on significant opportunities for development of skills for learning, skills for life and skills for work. These may be subject to change as the development process progresses.)

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.

2 Numeracy

- 2.2 Money, time and measurement
- 2.3 Information handling

5 Thinking skills

- 5.1 Remembering
- 5.3 Applying

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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Superclass: to be advised

History of changes to National Course Specification

Course details	Version	Description of change	Authorised by	Date

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