



# **Access 2 Science in the Environment — draft Course rationale and summary**

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# Course rationale

## Background

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<sup>1</sup>; the principles and practice and experiences and outcomes of social studies<sup>2</sup> and the principles and practice and experiences and outcomes of health and wellbeing across learning<sup>3</sup>.

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 through the underlying principles 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 the underlying principles 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 provides 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.

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<sup>1</sup> Science:

<http://www.ltscotland.org.uk/learningteachingandassessment/curriculumareas/sciences/principlesandpractice/index.asp>

<sup>2</sup> Social studies:

<http://www.ltscotland.org.uk/learningteachingandassessment/curriculumareas/socialstudies/principlesandpractice/index.asp>

<sup>3</sup> Health and wellbeing:

<http://www.ltscotland.org.uk/learningteachingandassessment/learningacrossthecurriculum/responsibilityofall/healthandwellbeing/principlesandpractice/index.asp>

## **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 so doing, 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 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.

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.

On successful completion of this Course, the learner could progress to:

- ◆ other Units, Courses and Awards at Access 2
- ◆ Access 3 Science Course
- ◆ Access 3 Environmental Science Course
- ◆ Access 3 Biology Course
- ◆ Access 3 Chemistry Course
- ◆ Access 3 Physics Course
- ◆ other Units and Courses at Access 3

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.

## Course summary

### Course title: Access 2 Science in the Environment

### SCQF level 2 (18 SCQF credit points)

#### Course outline

##### Mandatory Units

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

##### Optional Units (any one from the following)

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)

To provide flexibility of choice and opportunities for lateral progression, the Course comprises **two** mandatory Units and **one** optional Unit from the list above.

#### Course structure and conditions of award

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.

### **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 Environment (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.

### **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.

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.

## **Assessment**

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

They will be assessed pass/fail within centres.

SQA will provide rigorous external quality assurance, including external verification, to ensure assessment judgements are consistent and meet national standards.

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

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