

National Unit Specification: general information

UNIT	Geology: The Study of the Earth (Access 3)
NUMBER	D243 09
CLUSTER	Geology (Access 3)

SUMMARY

This unit seeks to provide candidates with a basic introduction to geology. Candidates will acquire knowledge and understanding of the structure and history of the Earth; minerals, rocks and fossils; geological structures; and Earth resources. Aided by practical work, skills of problem solving, observation, interpretation, recording and communication will be developed. Consideration of the overuse and misuse of resources will allow candidates to develop considered attitudes to environmental problems.

OUTCOMES

- 1 Demonstrate knowledge and understanding related to geology.
- 2 Solve problems related to geology.
- 3 Collect and analyse information related to geology obtained through practical work.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

1 credit at Access 3.

Administrative Information

Superclass:	RF
Publication date:	November 1999
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Version:	04

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National Unit Specification: general information (cont)

UNIT Geology: The Study of the Earth (Access 3)

CORE SKILLS

This unit gives automatic certification of the following:

Complete core skills for the unit	None	
Core skills components for the unit	Critical Thinking	Acc 3
	Using Graphical Information	Acc 3

Additional information about core skills is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

National Unit Specification: statement of standards

UNIT Geology: The Study of the Earth (Access 3)

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

OUTCOME 1

Demonstrate knowledge and understanding related to geology.

Performance criteria

- (a) The description of Earth structure and history is correct.
- (b) The description of how rocks form is correct.
- (c) The description of the formation and use of fossils is correct.
- (d) The description of how folds, faults and dykes form is correct.
- (e) The explanation of the part geology plays in our lives is correct.

Evidence requirements

Evidence should be produced which demonstrates successful achievement of all of the above performance criteria. Such evidence may be generated by any appropriate means, for example, written tests, oral tests or observation by the teacher/lecturer.

OUTCOME 2

Solve problems related to geology.

Performance criteria

- (a) Relevant information is selected, presented and processed in an appropriate way.
- (b) Valid conclusions are drawn and explanations given are supported by evidence.
- (c) The order of formation within pairs of geological structures is correctly established.

Evidence requirements

Evidence should be produced which demonstrates successful achievement of all of the above performance criteria, including the interpretation and communication of graphical information at the appropriate level. With reference to PC (b), the candidates' answers must show that the main features of the situation have been identified and a suitable approach used to deal with it. Such evidence may be generated by any appropriate means, for example, written tests, oral tests, or observation by the teacher/lecturer.

National Unit Specification: statement of standards (cont)

UNIT Geology: The Study of the Earth (Access 3)

OUTCOME 3

Collect and analyse information related to geology obtained through practical work.

Performance criteria

- (a) Minerals and rocks in hand specimen are correctly tested, described and identified.
- (b) Fossils are correctly drawn or described, and identified.

Evidence requirements

PC:

- (a) Minerals: in a practical test, candidates should correctly test, describe and identify three out of five minerals.
Rocks: in a practical test, candidates should correctly test, describe and identify four out of six rocks.
- (b) Fossils: in a practical test, candidates should correctly draw or describe, and identify four out of six fossils.

National Unit Specification: support notes

UNIT Geology: The Study of the Earth (Access 3)

This part of the unit specification is offered as guidance. The support notes are not mandatory.

While the time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

Information on the content and context for this unit, and guidance on learning and teaching approaches, is given in the tables in the cluster details.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Outcomes 1 and 2 may be assessed by any appropriate means (eg, continuous assessment, end of unit test). Whatever style of assessment is adopted, the following approximate percentage mark allocations would be appropriate. (Note that the numbers given express a ratio of marks allocated. Candidates would not be expected to undertake test items with the actual mark allocations shown.)

Outcome 1	(knowledge and understanding)	60%
PC		
(a)	Earth structure and history.	(10)
(b)	Formation of igneous, sedimentary and metamorphic rocks.	
	Igneous rocks.	(8)
	Sedimentary rocks.	(8)
	Metamorphic rocks.	(6)
(c)	Formation and use of fossils.	(8)
(d)	Folds, faults and dykes.	(8)
(e)	Economic, social and environmental factors.	(12)
Outcome 2	(problem solving)	40%
PC		
(a)	Selecting, presenting and processing information.	(16)
(b)	Drawing conclusions and giving explanations.	(16)
(c)	Establishing the sequence of formation within pairs of geological structures.	(8)

Test items should be constructed to allow candidates to generate evidence relating to the performance criteria as follows:

- (a) Selecting, presenting and processing information
 - Sources of information include text; simple tables, diagrams, charts and graphs; numerical information
 - Formats of presentation include written or oral responses; simple tables, diagrams, charts and graphs
 - Calculations include totals, differences, averages and simple percentages.
- (b) From information given, candidates should be able to draw simple conclusions with explanations supported by the evidence.
- (c) From information given, usually in graphical form, candidates should be able to determine which of two geological structures is the younger.

National Unit Specification: support notes (cont)

UNIT Geology: The Study of the Earth (Access 3)

Outcome 3

Collect and analyse information related to geology obtained through practical work.

PC

- (a) Minerals and rocks in hand specimen are correctly tested, described and identified.

Minerals: in a practical test, candidates should correctly test, describe and identify three out of five minerals. Colour, hardness and other distinctive properties should be described.

Rocks: in a practical test, candidates should correctly test, describe and identify four out of six rocks. Colour: grain size, made up of crystals or fragments, type of layering, and presence of fossils should be described.

For the purposes of identification, keys and candidates' records of work may be used.

PC

- (b) Fossils are correctly drawn or described, and identified.

Fossils: in a practical test, candidates should correctly draw or describe, and identify four out of six fossils. Drawings should be made from specimens or from plaster casts of fossils. Drawings should be of an appropriate standard and descriptions should mention distinctive characteristics. It is realised that some candidates may not be able to draw to acceptable standards. In such cases, good descriptions will compensate for drawings which do not meet the appropriate standard.

For the purposes of identification, keys and candidates' records of work may be used.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements for Candidates with Special Needs/Candidates whose First Language is not English* (SQA, 1998).