

MATHEMATICS
Access 1

Third edition – published October 2001

**NOTE OF CHANGES
THIRD EDITION - PUBLISHED OCTOBER 2001**

SUBJECT TITLE: Mathematics (Access 1)

Introductory Information:

No change.

National Unit Specification:

*D3K1 07 Using Mathematics in
Everyday Situations 1 – Money*

Minor text changes (PC (c), Support
Notes).

*D3K2 07 Using Mathematics in
Everyday Situations 1 – Weight
and Measurement*

Minor text changes (Support Notes).

MATHEMATICS (ACCESS 1)

The Mathematics provision at Access 1 comprises three units:

<i>D3K1 07 Using Mathematics in Everyday Situations 1 – Money (Acc 1)</i>	<i>1 credit (40 hours)</i>
<i>D3K0 07 Using Mathematics in Everyday Situations 1 – Time (Acc 1)</i>	<i>1 credit (40 hours)</i>
<i>D3K2 07 Using Mathematics in Everyday Situations 1 – Weight and Measurement (Acc 1)</i>	<i>1 credit (40 hours)</i>

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

Administrative Information

Publication date:	October 2001
Source:	Scottish Qualifications Authority
Version:	03

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Introductory Information: Mathematics (Access 1)

RATIONALE

It is anticipated that Access 1 Mathematics provision will suit a range of potential candidates, particularly those who wish to develop basic mathematical skills.

In the Access 2 Mathematics Cluster there are three units:

D556 08 Using Mathematics in Everyday Situations 1 (Acc 2)

D557 08 Using Mathematics in Everyday Situations 2 (Acc 2)

D558 08 Using Mathematics in Everyday Situations 3 (Acc 2)

Access 1 Mathematics provision consists of three units which are derived from the unit:

D556 08 Using Mathematics in Everyday Situations 1 (Access 2).

AIMS

The aims of the Access 1 provision are to develop a range of mathematical skills at an introductory level suitable for use in everyday situations.

CONTENT

Across the three units there are opportunities to provide experiences of the following aspects of mathematics in everyday situations:

- identifying aspects of time in everyday living and developing understanding of recurring events
- using money to plan and meet everyday expenses
- carrying out weighing and measuring of everyday items.

APPROACHES TO LEARNING AND TEACHING

Each of the three units can be taught as free-standing units. It is recommended that, if possible, the candidate assembles a personal folder of information and work done. The teacher/lecturer should use opportunities from a variety of contexts and settings in the candidate's daily learning experiences in order to provide practical experiences, and an informal and flexible approach should be adopted.

Materials/equipment

Candidates will experience working with a range of resources. Examples include actual money, copy money used for learning purposes, clocks, calendars, worksheets, computer programs, models and measuring instruments.

ASSESSMENT

There is no external assessment at Access level.

Candidates should be aware of assessment criteria and instruments. It is anticipated that ongoing assessment will take place, informing and supporting candidates. Holistic approaches to assessment should be adopted. A variety of approaches to assessment may be appropriate. Details of assessment requirements are provided in each unit specification. Candidates will prepare for the outcome of each unit, which may evolve through learning and teaching activities across the units.

Introductory Information (cont): Mathematics (Access 1)

Assessment instruments can be used across the three units, offering opportunities for a more integrated and holistic approach. Whenever possible, evidence for assessment is gathered as part of an integrated programme.

The instruments of assessment which might be used in this way include:

- practical demonstration of mathematical skills
- candidate log/diary for record keeping
- personal interview
- short answer questions.

Further detail of the assessment is given in the unit specifications.

GUIDANCE ON CERTIFICATION AND MODERATION

Each Access 1 unit will normally be certificated as an individual unit. However, as Access 1 units are derived from units at Access 2, it will also be possible to allow the evidence of achievement of Access 1 units to be used to count towards achievement of the relevant Access 2 unit. To allow this to happen for Access 2 Mathematics provision, candidates would require evidence of attainment of two out of the following three units:

<i>D3K1 07</i>	<i>Using Mathematics in Everyday Situations 1 – Money (Access 1)</i>
<i>D3K0 07</i>	<i>Using Mathematics in Everyday Situations 1 – Time (Access 1)</i>
<i>D3K2 07</i>	<i>Using Mathematics in Everyday Situations 1 – Weight and Measurement (Access 1)</i>

Following achievement of two of these units, candidates should be entered for *D556 08 Using Mathematics in Everyday Situations 1 (Access 2)* and **not** for the remaining Access 1 unit. They should then complete the remaining outcome of the Access 2 unit. Before submitting results for the Access 2 unit, centres should ensure that candidates' skills are still current.

Evidence of achievement for all units should be available for moderation. Part of this evidence may be in the form of a candidate's Scottish Qualifications Certificate showing achievement of the Access 1 units, or actual evidence from doing the units if this is still within the timescale for centres to retain evidence. (See *Putting Assessment Moderation Policy into Operation* April 1999.)

SPECIAL NEEDS

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 for whom English is an additional language* (SQA, 2000).

National Unit Specification: general information

UNIT Using Mathematics in Everyday Situations 1 – Money (Access 1)

NUMBER D3K1 07

SUMMARY

This unit provides opportunities for the candidate to develop and apply basic numeracy skills relating to money in the context of everyday living.

OUTCOME

Use money to plan everyday expenses.

RECOMMENDED ENTRY

Entry is at the discretion of the centre. However, it would be beneficial if a candidate has already been involved in a mathematics programme, for example, a programme using Access 1 curriculum descriptors.

CREDIT VALUE

1 credit at Access 1.

Administrative Information

Superclass: RB

Publication date: October 2001

Source: Scottish Qualifications Authority

Version: 03

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Additional copies of this unit specification can be purchased from the Scottish Qualifications Authority. The cost for each unit specification is £2.50 (minimum order £5).

National Unit Specification: statement of standards

UNIT Using Mathematics in Everyday Situations 1 – Money (Access 1)

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

Use money to plan everyday expenses.

Performance criteria

- (a) Identification of coins and banknotes is correct.
- (b) The selection of coins and banknotes to make up sums of money is correct.
- (c) The selection of coins and banknotes is greater than the required price of a purchase but not excessively so.
- (d) Calculation of the amount of money due in change from a purchase is correct.

Evidence requirements

Performance evidence for each performance criterion should be gathered from direct observation of the candidate in the learning environment. When evidence cannot be gathered from performance evidence alone, for example ensuring the accuracy of calculations, additional evidence should be gathered from the candidate's answers to questions. This evidence may be gathered during the full range of learning activities experienced by the candidate.

PC (a) coins and banknotes identified should cover the range currently in use, up to £20.

PCs (b) and (c) selection of currency should be up to £5.

PC (d) calculation should include situations where the change due is £2 or more.

PCs (b), (c) and (d) the candidate should provide evidence of competence on two occasions for each performance criterion.

National Unit Specification: support notes

UNIT Using Mathematics in Everyday Situations 1 – Money (Access 1)

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.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This is one of three units which are derived from the Mathematics unit *D556 08, Using Mathematics in Everyday Situations 1 (Access 2)*. Candidates may find this an appropriate unit to undertake on its own or together with the other Access 1 units which are:

D3K0 07: Using Mathematics in Everyday Situations 1 – Time (Access 1)

D3K2 07: Using Mathematics in Everyday Situations 1 – Weight and Measurement (Access 1).

This unit focuses on practising using money for everyday expenditure.

The unit should be seen in the context of the range of skills needed for daily living and should be integrated into practical activities in the learning environment wherever possible.

The learning programme should provide a variety of content and contexts for practising basic numeracy skills. Practical exercises in using basic numeracy skills will occur naturally in the candidate's overall programme. Opportunities might include practical work, work experience, simulations or residential stays.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Candidates should be given the opportunity to achieve the level of competence of handling money to meet the requirements of routine everyday living. To this end, the teacher or lecturer should use opportunities from a variety of contexts and settings to provide candidates with practical experience in using basic numeracy skills related to handling money.

The sums of money handled by the candidate should reflect his/her daily, or frequent purchases or expenditure, such as bus or train tickets, telephone calls, snacks and meals, journals and other personal choices of purchases. Actual currency or simulated money (copy money used for learning purposes), may be used for the identification of coins and banknotes, for the selection of coins and banknotes to make up sums of money, and for the selection of currency for the price of a purchase.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Theoretically, any relevant context might be the subject of investigation for this unit, if delivered as a stand alone unit. In practice, choice will be constrained by the availability of suitable learning and teaching resources and by the assessment requirements.

An integrated approach to assessment should be used whenever possible. This should involve practical exercises in using basic numeracy skills related to handling money as they occur naturally in the candidate's learning programme.

National Unit Specification: support notes (cont)

UNIT Using Mathematics in Everyday Situations 1 – Money (Access 1)

Performance evidence for each performance criterion could be gathered from direct observation of the candidate in the learning environment. This evidence may be gathered during the full range of learning activities experienced by the candidate.

Where evidence cannot be gathered from performance alone, additional evidence should be gathered from the candidate's answers to questions.

Practical exercises should be used to gather evidence for all performance criteria. Examples are:

- identifying a selection of coins and banknotes up to a value of £20
- identifying the necessary coins and banknotes to come to a given sum up to £5
- identifying a correct selection of coins and banknotes to meet or exceed the price of a purchase up to £5
- calculating the change due from a purchase, including situations where this is £2 or more.

Questioning by the teacher/lecturer could be used to confirm the candidate's recognition of coins and banknotes when making calculations or selections, to ensure the correct values are not arrived at by chance. Teachers/lecturers should note that it is not necessary to use actual coins and banknotes – simulated money may be used instead.

Please refer to Guidance on Certification and Moderation given in the Introductory Information of these Arrangements for further details about certification and moderation when Access 1 units are being used to contribute to an Access 2 unit.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no 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 further information on these, please refer to the document *Guidance on Special Assessment and Certification Arrangements for: Candidates with Special Needs/Candidates for whom English is an additional language* (SQA, 2000).

National Unit Specifications: general information

UNIT Using Mathematics in Everyday Situations 1 – Time (Access 1)

NUMBER D3K0 07

SUMMARY

This unit provides opportunities for the candidate to develop and apply basic numeracy skills relating to time, in the context of everyday living.

OUTCOME

Use time in everyday living.

RECOMMENDED ENTRY

Entry is at the discretion of the centre. However, it would be beneficial if a candidate has already been involved in a mathematics programme, for example, a programme using Access 1 curriculum descriptors.

CREDIT VALUE

1 credit at Access 1.

Administrative Information

Superclass: RB
Publication date: December 2000
Source: Scottish Qualifications Authority
Version: 02

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National Unit Specification: statement of standards

UNIT Using Mathematics in Everyday Situations 1 – Time (Access 1)

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

Use time in everyday living.

Performance criteria

- (a) Times, days and dates for daily, weekly and annual events are stated accurately.
- (b) Days of the week are stated in correct sequence.
- (c) Interpretation of the monthly calendar is correct.
- (d) Time read from a display is stated correctly.

Evidence requirements

Written and/or oral evidence, as follows:

PC (a) time is stated accurately with regard to use of times in the day, days in the week and dates in the year

PC (b) days of the week are stated in correct sequence

PC (c) using a monthly calendar, the following are interpreted correctly

- a day of the week, identified from its date
- the time interval in days within a month is identified correctly

PC (d) information given on a digital (12-hour only) display, analogue display and simple timetable. Each is stated correctly on two occasions

National Unit Specification: support notes

UNIT Using Mathematics in Everyday Situations 1 – Time (Access 1)

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.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This is one of three units which are derived from the Mathematics unit *D556 08, Using Mathematics in Everyday Situations 1 (Access 2)*. Candidates may find this an appropriate unit to undertake on its own or together with the other Access 1 units which are:

D3K1 07 Using Mathematics in Everyday Situations 1 – Money (Access 1)

D3K2 07 Using Mathematics in Everyday Situations 1 – Weight and Measurement (Access 1).

This unit focuses on identifying aspects of time in everyday living and developing understanding of recurring events.

The unit should be seen in the context of the range of skills needed for daily living and should be integrated into practical activities in the learning environment wherever possible.

The learning programme should provide a variety of content and contexts for practising basic numeracy skills. Practical exercises in using basic numeracy skills will occur naturally in the candidate's overall programme. Opportunities might include practical work, work experience, simulations or residential stays.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Candidates should be given the opportunity to achieve the level of competence of keeping time to meet the requirements of routine everyday living. To this end, the teacher or lecturer should use opportunities from a variety of contexts and settings to provide candidates with practical experience in using basic numeracy skills related to time.

This unit should be carried out during the candidate's normal learning programme.

Daily occurrences relating to time could include the start and finish of the candidate's day and breaks, and use of transport such as catching buses or trains or meeting personal transport.

Weekly occurrences/times could include events at weekends, favourite television programmes, and sports or club meetings.

Annual events could include dates of personal importance, for example birthdays, or national importance, for example Christmas.

National Unit Specification: support notes (cont)

UNIT Using Mathematics in Everyday Situations 1 – Time (Access 1)

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Theoretically, any relevant context might be the subject of investigation for this unit, if delivered as a stand alone unit. In practice, choice will be constrained by the availability of suitable learning and teaching resources and by the assessment requirements.

An integrated approach to assessment should be used whenever possible. This should involve practical exercises in using basic numeracy skills related to time as they occur naturally in the candidate's learning programme.

Performance evidence for each performance criterion could be gathered from direct observation of the candidate in the learning environment. This evidence may be gathered during the full range of learning activities experienced by the candidate.

Where evidence cannot be gathered from performance alone, additional evidence should be gathered from the candidate's answers to questions.

Short answer questions could be used to gather evidence for all performance criteria. Examples are:

- a time of day which is important to the candidate
- a day of the week which is important to the candidate
- the date of an annual event important to the candidate
- the date of a national holiday
- days of the week stated in the correct sequence
- a day of the week to be identified from its date in the monthly calendar
- a time interval within a month (answers which include both dates are acceptable provided the candidate states which dates are included - the candidate may be prompted to do this)
- the correct time read from both 12-hour digital and analogue displays
- the correct time read from a simple timetable.

Please refer to the Guidance on Certification and Moderation given in the Introductory Information of these Arrangements for further details about certification and moderation when Access 1 units are being used to contribute to an Access 2 unit.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no 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 further information on these, please refer to the document *Guidance on Special Assessment and Certification Arrangements for: Candidates with Special Needs/Candidates for whom English is an additional language* (SQA, 2000).

National Unit Specification: general information

UNIT Using Mathematics in Everyday
Situations 1 – Weight and Measurement (Access 1)

NUMBER D3K2 07

SUMMARY

This unit provides opportunities for the candidate to develop and apply basic numeracy skills relating to weighing and measuring in the context of everyday living.

OUTCOME

Weigh and measure everyday items.

RECOMMENDED ENTRY

Entry is at the discretion of the centre. However, it would be beneficial if a candidate has already been involved in a mathematics programme, for example, a programme using Access 1 curriculum descriptors.

CREDIT VALUE

1 credit at Access 1.

Administrative Information

Superclass: RB
Publication date: October 2001
Source: Scottish Qualifications Authority
Version: 03

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National Unit Specification: statement of standards

UNIT Using Mathematics in Everyday Situations 1 – Weight and Measurement (Access 1)

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

Weigh and measure everyday items.

Performance criteria

- (a) The selection of measuring devices is appropriate to their purpose.
- (b) The use of measuring devices is demonstrated correctly.
- (c) Weighing and measuring are to a functional degree of accuracy.

Evidence requirements

The candidate should provide performance evidence of competence on two occasions for each performance criterion. Length, weight and volume must be covered on two occasions for each performance criterion.

National Unit Specification: support notes

UNIT Using Mathematics in Everyday Situations 1 – Weight and Measurement (Access 1)

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.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This is one of three units which are derived from the Mathematics unit *D556 08, Using Mathematics in Everyday Situations 1 (Access 2)*. Candidates may find this an appropriate unit to undertake on its own or together with the other Access 1 units which are

D3K0 07: Using Mathematics in Everyday Situations 1 – Time (Access 1)

D3K1 07: Using Mathematics in Everyday Situations 1 – Money (Access 1).

This unit focuses on carrying out the weighing and measuring of everyday items.

The unit should be seen in the context of the range of skills needed for daily living and should be integrated into practical activities in the learning environment wherever possible.

The learning programme should provide a variety of content and contexts for practising basic numeracy skills. Practical exercises in using basic numeracy skills will occur naturally in the candidate's overall programme. Opportunities might include practical work, work experience, simulations, or residential stays.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Candidates should be given the opportunity to achieve the level of competence of measuring to meet the requirements of routine everyday living. To this end, the teacher or lecturer should use opportunities from a variety of contexts and settings to provide candidates with practical experience in using basic numeracy skills related to weighing and measuring.

Teachers/lecturers may find the following contexts useful to candidates practising measurement.

Tape measures and rulers could be used to measure the length and breadth of furniture, the dimensions of a room, or short distances in circulation space inside or outside the building.

Measuring jugs could be used to measure liquids up to one litre or two pints in volume.

Kitchen scales and measuring spoons could be used to measure dry goods up to one kilogram or two pounds in weight.

It might be useful to introduce a 'pinch' of seasoning and how to measure small volumes in cupfuls.

National Unit Specification: support notes (cont)

UNIT Using Mathematics in Everyday Situations 1 – Weight and Measurement (Access 1)

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Theoretically, any relevant context might be the subject of investigation for this unit, if delivered as a stand alone unit. In practice, choice will be constrained by the availability of suitable learning and teaching resources and by the assessment requirements.

An integrated approach to assessment should be used whenever possible. This should involve practical exercises in using basic numeracy skills related to weight and measurement as they occur naturally in the candidate's learning programme.

Performance evidence for each performance criterion could be gathered from direct observation of the candidate in the learning environment. This evidence may be gathered during the full range of learning activities experienced by the candidate.

Where evidence cannot be gathered from performance alone, for example ensuring the correct reasoning for the selection of measuring devices, additional evidence should be gathered from the candidate's answers to questions.

The candidates are not required to select the units in which the measurements are made. The measuring situations should only require the candidate to measure to a numbered division on the instrument, for example 300ml, 600g, 6cm.

Please refer to Guidance on Certification and Moderation given in the Introductory Information of these Arrangements for further details about certification and moderation when Access 1 units are being used to contribute to an Access 2 unit.

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 further information on these, please refer to the document *Guidance on Special Assessment and Certification Arrangements for: Candidates with Special Needs/Candidates for whom English is an additional language* (SQA, 2000).