

National Unit Specification: general information

UNIT Using Mathematics to Handle Information (Access 1)

CODE DM59 07

SUMMARY

This Unit is designed principally for candidates developing basic skills in a supported learning environment. It provides opportunities for the candidate to become familiar with, and practise basic skills in sorting, displaying and interpreting information.

OUTCOME

Interpret information from pictures, graphs and a collection of real items.

RECOMMENDED ENTRY

Entry to this unit is at the discretion of the centre, and as this is an introductory unit, no prior knowledge or experience is required.

CREDIT VALUE

1 credit at Access 1 (6 SCQF credit points at SCQF level 1*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Administrative Information

Superclass: HD

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National Unit Specification: statement of standards

UNIT Using Mathematics to Handle Information (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 1

Interpret information from pictures, graphs and a collection of real items.

Performance Criteria

- a) Read and use information from pictures.
- b) Read and use information from a pictograph.
- c) Convey information by sorting real objects into sets.
- d) Convey information as a pictograph.

EVIDENCE REQUIREMENTS FOR THIS UNIT

Written and/or oral and/or performance evidence to show that the candidate can:

- PC (a) extract four pieces of information from a picture
- PC (b) extract three pieces of information from a pictograph
- PC (c) sort into sets a number of real objects
- PC (d) complete a pictograph from given information.

For each performance criterion the candidate should provide evidence of competence on one occasion.

National Unit Specification: support notes

UNIT Using Mathematics to Handle Information (Access 1)

This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact 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 unit should be integrated into everyday activities wherever possible. For example, information about pets, holidays, transport, favourite TV programmes, pop-stars, food etc could be collected and displayed in the form of charts, pictures and other pictorial forms. Candidates should also be given opportunities to interpret information displayed in this way.

The pictures and graphs should be basic:
For example:

Pictures should be simple and uncluttered with too much unnecessary information.

Graphs should be pictographs

The information displayed in the pictures and pictographs should involve number handling and one to one correspondence to no more than 12.

A candidate who successfully completes this unit may progress to one or more of the Access 1 Mathematics units:

D9ET 07 Handling Money (Access 1)

D9EV 07 Recognising Time (Access 1)

DM58 07 Recognising Number

DM57 07 Problem Solving in Mathematics

DM53 07 Investigating Measurement

DM54 07 Investigating Length in Familiar Situations

DM55 07 Investigating Weight in Familiar Situations

DM56 07 Investigating Volume in Familiar Situations

or to the Derived Access 1 Mathematics units:

D3KO 07 Using Mathematics in Everyday Situations 1 — Time

National Unit Specification: support notes (cont)

UNIT Using Mathematics to Handle Information (Access 1)

D3K1 07 Using Mathematics in Everyday Situations 1 — Money

D3K2 07 Using Mathematics in Everyday Situations 1 — Weight and Measurement

For further information on progression please see Appendix 1.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Candidates should be given the opportunity to work individually, in pairs or in small groups depending on the activity.

Teachers/lecturers should provide opportunities throughout the unit for candidates to use pictures, symbols or concrete materials.

Candidates with teacher/lecturer support should be given the opportunity to extract information displayed in the form of pictures, charts and graphs and should be given the opportunity to extract information from these. They should also be encouraged to collect their own information and display their findings in any of the above forms.

Photographs taken of candidates at work or during educational outings could be interpreted in a numerical way.

Candidates should be presented with a selection of related concrete objects, for example a selection of cutlery, or clothes they could sort into sets and count them to find out how many items are in each set.

Information gathering and interpreting could form the basis of a project relating to the preferences in food, drink, TV Programmes, pop stars etc. The results could then be displayed as simple pictographs and the information analysed.

Concrete graphs could be made from real items. For example keep the empty cans and packets after the class has been to the tuck shop. Work together to arrange them into sets in the form of a graph then use the graph to discover information such as —How many bottles of water were sold? — How many chocolate bars? — Which item on sale was the most popular? Etc.” (These could then be mounted on backing paper. For display purposes).

Pictures in a photograph could be taken then arranged to form a pictograph of the people wearing glasses. These pictures could also be used to indicate preferences eg, by placing the person’s picture above a picture from the internet of their favourite pop group, TV soap, activity, drinks etc.

Symbols or pictures from the internet could be used in the same way eg each person chooses a picture of their favourite group and then work together to make a pictograph and the information analysed. (These activities could be taught using an interactive smart board).

Pictures of 4 pop groups could be placed on the board. A vote could be taken using a show of hands and the results recorded in numbers or by using a tick or tally system. A pictograph could then be made by the people selecting the corresponding number of symbols from a pile containing a few more than they need and pasting them onto a grid to form a pictograph.

National Unit Specification: support notes (cont)

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GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Teachers/lecturers should provide adequate opportunities for formative assessment to take place prior to candidates undertaking the required unit assessment which is recorded for assessment purposes.

Teachers/lecturers may give the candidate advice and support during formative assessment in order to prepare them for the formal unit assessment.

Oral and/or written questions should be used to gather evidence for performance criteria (a) and (b). The candidate can answer orally, sign the answer, use a symbol card or write the answer.

Practical exercises should be used to gather evidence for performance criteria (c) and (d).

Where appropriate, video or photographic evidence may be recorded for assessment purposes.

Records of all assessment instruments used and evidence produced by each candidate should be retained for moderation purposes. As candidate evidence may be generated by written and/or oral and/or performance evidence for this unit, records should be kept of candidate performance. These could be in the form of checklists completed by a responsible person observing the performance or recording the answers to questions, or they may also be in the form of video or audio recordings of candidate performance. All checklists must be signed and dated by the teacher/lecturer who assesses the evidence and authenticates the record as an accurate record of the work of the named candidate.

PC(a) The candidate should answer four questions which relate to a picture.

PC(b) The candidate should answer three questions which relate to a pictograph.

PC(c) The candidate should sort concrete materials into like sets.

PC(d) The candidate should use the information given numerically in straight tally form to select and paste the correct number of symbols to make their own pictograph.

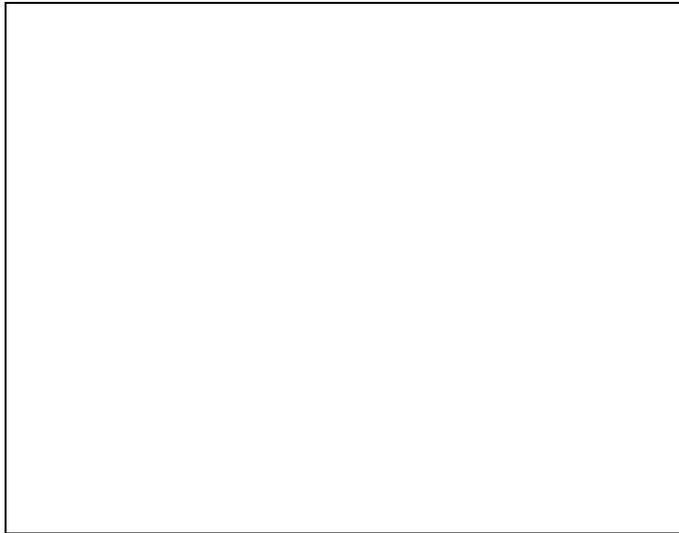
CANDIDATES WITH ADDITIONAL SUPPORT NEEDS

This Unit Specification is intended to ensure that there are no artificial barriers to learning or assessment. The additional support 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 document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (SQA, 2004).

Curriculum Descriptors (not certificated)	<p>Curriculum Descriptors provide a framework for describing the learning process for candidates for whom an Access 1 unit is not appropriate. They use performance criteria from Access 1 units as <i>Learning Targets</i>. Progress within the Curriculum Descriptor framework may be recorded by means of Progress File or by a centre's own systems for recording achievement. Curriculum Descriptors belong to Learning and Teaching Scotland and are not certificated by SQA.</p> <p>Some candidates may progress from Curriculum Descriptors to free-standing Access 1 units.</p>
Independent Access 1 units	<p>Independent Access 1 units are designed principally for candidates who are developing basic skills in a supported learning environment. Candidates are not required to have completed any other units prior to undertaking these units. Independent Access 1 units are not derived from the outcomes of Access 2 units. They may provide progression from Curriculum Descriptors for some candidates or be delivered within an integrated programme comprising a mixture of units and Curriculum Descriptors according to the needs of the candidate. On completion of an independent Access 1 unit, candidates may progress to other independent units at Access 1, such as:</p> <p>D9ER 07 Sampling Work: An Introduction D9EV 07 Recognising Time D9EW 07 Basic Communication in a Familiar Setting D9EX 07 Using Basic Computer Skills D9EY 07 Personal Profiling: An Introduction D9F0 07 Working with Others on a Group Activity</p> <p>Alternatively, progression may be to Access 1 units which are derived from Access 2 outcomes or to Access 2 units.</p>
Access 1 units derived from Access 2 outcomes	<p>These Access 1 units are based on outcomes of Access 2 units. This allows candidates to build up to an Access 2 unit in a step by step approach as they achieve the appropriate component outcomes. Access 1 units derived from Access 2 outcomes may be a starting point for some candidates or may provide progression from the above independent Access 1 units.</p>
Access 2 units	<p>Access 2 units enable progression from Access 1 units although for some candidates, they may be a starting point. Candidates who have achieved an Access 2 unit may progress to other Access 2 units or to Access 3 units. They may also progress laterally to a Scottish Group Award at Access 2 (single, double or triple) or to the more vocational Skillstart Group Award at Access 2.</p>

Exemplar assessment

PC(a) Read and use information from pictures.



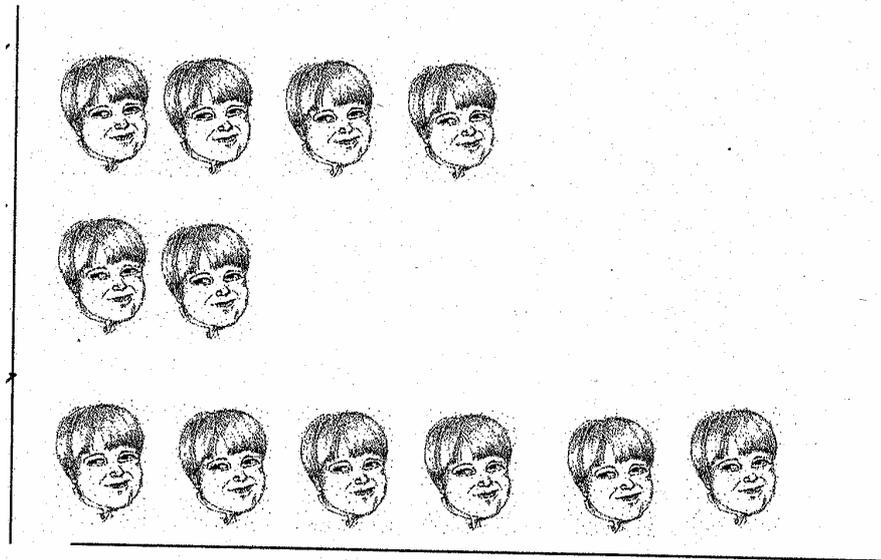
Photograph

Suggested Questions

- ◆ How many people are in the picture?
- ◆ How many people are wearing glasses?
- ◆ How many men are there?
- ◆ How many women are there?

PC(b) Read and use information from a pictograph.

Our class did a survey of their favourite TV programmes. They made this pictograph to show the results of their survey.



(1) How many people like (use a TV programme as an example)

(2) How many people like this programme (give another example)

(3) How many people voted?

(4) Which programme did most people like?

PC(c) Convey information by sorting real objects into sets.

For example:

- ◆ Sort a collection of knives, forks, spoons into sets

or

- ◆ Sort the following items into colours for washing

- ◆ Sort containers into sets:

- Tin cans

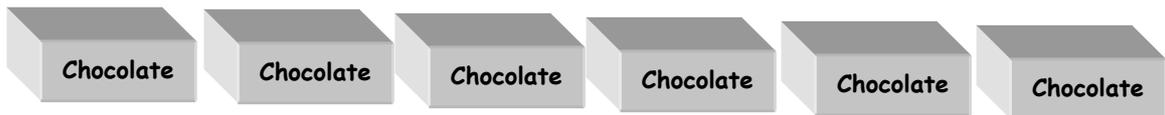
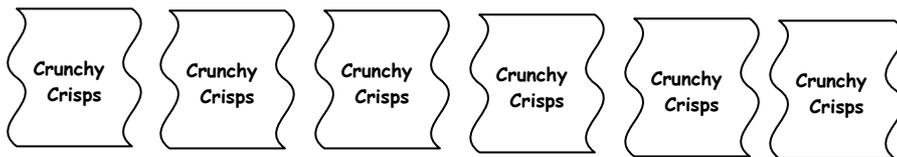
- Boxes eg. juice cartons, soap powder

- Plastic containers eg. bottles

PC(d) Convey information as a pictograph

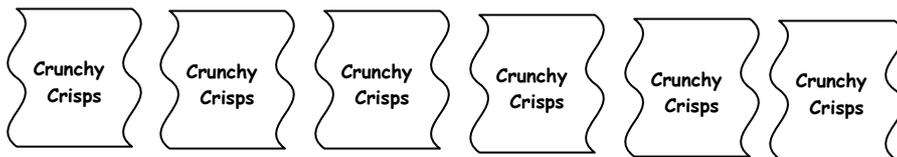
Today the shop sold:

	<p>5 bags of crisps</p>
	<p>3 Oranges</p>
	<p>2 Chocolate Bars</p>
	<p>2 Bottles of Water</p>



Or
 PC(d) Today the tuck shop sold:



Use the information and symbols to complete this pictograph of the day's sales.

