



NUMERACY
Using number: Time
SCQF Level 2
10 Hour Unit

CORE SKILLS UNIT

ASSESSMENT SUPPORT PACK

Part 1: Information for tutors

What is involved?

This Unit is one of a group of four 10 hour Units:

- ◆ Using number: time
- ◆ Using number: money
- ◆ Using number: measuring
- ◆ Using graphical information.

Together these deliver the complete Numeracy Core Skill at Access 2 [SCQF level 2]. Using number: time is about applying very simple numerical skills in familiar, everyday personal, workplace, social and educational situations which involve calculations with time. It is designed for delivery in schools, colleges, workplaces, community and other learning environments.

The learner will be expected only to work with familiar concepts. The numerical tasks involving time should be familiar to the learner and only involve one numerical operation.

Learner motivation can be maximised by making the numeracy activities as relevant as possible to the learner's likely uses for numeracy. The activities should consist of an appropriate mix from: personal, workplace, social and educational examples. Additionally, integration of the numeracy activities with those of other SQA Units being undertaken should be explored. For example, when a learner is undertaking vocational or subject based Units, motivation for numeracy can be increased if the activities are related to the vocational or subject based Unit and the learner can see the direct relevance of the numeracy.

Assessment and evidence

Learners at SCQF level 2 are required to deal only with very simple concepts in familiar situations. You may provide considerable prompting at this level.

The learners:

- ◆ may carry out the calculations mentally, in writing, using a calculator or another electronic device eg a computer
- ◆ must give correct answers
- ◆ should check their answers, although evidence of this checking is not required.

You should try to identify naturally-occurring opportunities for assessment where possible. For learners who are also working towards vocational or subject based Units, opportunities for assessment of number skills could arise while completing vocational or subject based tasks which provide evidence for both the vocational Unit or subject based Unit and this Unit. Some of the exemplars in this pack could be used or contextualised for this purpose.

The assessment process is likely to involve one or more of:

- ◆ written tasks
- ◆ oral questioning
- ◆ observation.

When assessing by observation, you must keep a detailed checklist. Similarly if you use oral questioning, you must keep a record of both the questions and learner responses. All evidence, whether produced by the learner or a record made by yourself must be retained, signed and dated by you.

Planning

You should work out where opportunities for meeting the standards are likely to arise. Where possible these should be built into the assessment process. You should discuss this assessment process with the learners so that they are quite clear about what is expected from them.

Guidance on the Unit

What learners need to know or to be able to do

The Unit states that on completion the learner will know how to:

- ◆ recognise and use very simple fractions
- ◆ make a very simple comparison between times (eg 4pm is later than 2pm)
- ◆ use the 12 hour and 24 hour clock systems (eg 2pm or 1400hrs)
- ◆ express dates in both words and numbers (eg 5 October 2007 is 05/10/07)
- ◆ solve a problem using time (eg choosing to add, subtract, multiply or divide.)

Notation

Learners should be able to read and understand the notation for:

- ◆ whole numbers
- ◆ times and dates
- ◆ simple fractions.

They should be able to convert between values written in words and numerical notation such as:

- ◆ twenty three = 23
- ◆ ten twenty am = 10:20 am
- ◆ one fifth = $\frac{1}{5}$.

The numbers used in calculations are related to the clock and calendar. No decimals are used.

Basic operations

The learners should be familiar with the four basic arithmetic operations of addition, subtraction, very simple multiplication and very simple division using only whole numbers. Calculations such as:

$$10:20 \text{ am} + 15 \text{ minutes} = 10:35 \text{ am}$$

$$22:10 - 5 \text{ minutes} = 22:05$$

5 minutes \times 5 = 25 minutes

48 minutes \div 2 = 24 minutes.

Comparisons

In this Unit comparisons should be restricted to times and a date being later or earlier, such as 09:35 is later than 03:19.

Time and date

Many learners at this level will have experienced little success in the past in dealing with time calculations. It is important to limit the activities to truly simple calculations. The learners should know that one hour consists of 60 minutes but calculations should not result in a different hour. Adding 20 minutes on to the time 7.20 am results in 7.40 am. Adding the 20 minutes to the time 7.50 am results in 8.10 am requiring two numerical operations. The latter calculation is too complex for this Unit.

The learners should be able to convert between the 12 and 24 hour clock formats. These should be direct conversions without any additional calculation involved. ie

- ◆ 10:34 am = 10:34
- ◆ 7:30 pm = 19:30
- ◆ 22:15 = 10:15 pm.

The activities involving date should involve very simple concepts such as:

- ◆ 23/12/06 is later in the month than 15/12/06
- ◆ 17/03/06 is earlier in the year than 19/06/06
- ◆ three days after 13/05/07 is 16/05/07.

Gathering evidence

It may be appropriate for you to gather written evidence produced by the learner carrying out practical exercises. However, written evidence is not essential for this Unit and is inappropriate if it disadvantages the learner.

You may wish instead to observe the learner carrying out a task and question them on completion. This requires you to create and complete record sheets comprising a checklist, questions asked and learner responses.

From the learner's point of view, it is very useful to be provided with a means of keeping all the work relevant to this Unit together. You can help here by creating and providing the learner with a workbook which includes all the evidence gathering items. An alternative is to provide worksheets which can be made into a portfolio or e-portfolio.

If you have chosen to integrate the numeracy work with that of other Units being undertaken by the learner, it may be possible to assess the numeracy as part of a larger single activity. In this case you must keep separate assessment records for this Unit.

Evidence for this Unit may be gathered in a variety of ways. Some typical activities might be:

- ◆ working out that eight o'clock in the evening can be expressed as 8pm or 2000hrs
- ◆ recognising that 45 minutes is $\frac{3}{4}$ of an hour
- ◆ recognising that 2.45pm is 15 minutes later than 2.30pm
- ◆ calculating the appropriate time to leave the house for work, based on the expected journey time of 15 minutes and a required arrival time of 8.30am
- ◆ calculating that 5 days separate the dates 18/06/07 and 23/06/07
- ◆ calculating how many hours are spent at work each day by someone who arrives at 1 in the afternoon and leaves at 7 in the evening.
- ◆ Recognising on a train timetable that 1300hrs equals 1pm.

Part 2: Exemplar assessment tasks

Note

You can use the exemplar assessments given in this section in several ways:

- ◆ to help identify the type and amount of evidence which the learner needs to produce
- ◆ to help identify the level of complexity in evidence required for this Core Skill at this level
- ◆ to help you to create an assessment task related to the learner's own situation
- ◆ as an off-the-shelf assessment, although every effort should be made to source/provide learners with their own meaningful contexts.

Exemplar assessment

Task 1: Time representation, conversion and comparison

- 1 Write the fraction one quarter down as a number in the box provided.

- 2 Convert the time 2:30 pm to the 24 hour clock. Write your answer down in the box provided.

- 3 Convert the time 22:30 to the 12 hour clock. Write your answer down in the box provided.

- 4 The date is the fifth of October 2007. Write that down using only numbers in the box provided.

- 5 Jim arrives at school at 9.15 am. Joe arrives at school at 8.45 am. Who arrives later? Write your answer down in the box provided.

- 6 Today's date is 05/10/08. Which packet of crisps should you use first?

- ◆ Packet A with a sell by date of 11/10/08 or
- ◆ Packet B with a sell by date of 06/11/08.

Write your answer down in the box provided.

Task 2: Choosing and carrying out appropriate time calculations

- 1 Beth has an appointment for 11.15am. If she is 25 minutes late, what time does she arrive at?
- 2 Jack arrives to meet Alex in the cafe at 20.30. Unfortunately Alex left fifteen minutes earlier. What time did Alex leave at?
- 3 Jessica has four turns on the dodgem cars at the fair ground. Each turn lasts three minutes. How long did she spend on the dodgems?
- 4 Jodie spent 35 minutes on the trampoline. Each turn on the trampoline lasts for five minutes. How many turns did she get?
- 5 Andy has to do fifty minutes of circuit training. After a while he looks at the clock and realises he has done one fifth of his time. How long has he done?

Notes for assessment

The learner must successfully complete the two tasks to achieve this Unit. The worked out questions here are not presented as model answers but have the purpose of illustrating the way in which the questions satisfy the requirements of the Unit.

Task 1

Each of the questions in this task targets a specific part of what the learner will know or be able to do, so, the learner must successfully complete all six of the elements in the task to achieve it.

- 1 $\frac{1}{4}$ — Notation of a simple fraction.
- 2 14:30 — Conversion from 12 to 24 hour clock.
- 3 10:30 pm — Conversion from 24 to 12 hour clock
- 4 05/10/07 — Notation of date.
- 5 Jim — Comparison of times.
- 6 Packet A — Comparison of dates.

Task 2

Each of the questions in this task targets a specific part of what the learner will know or be able to do, so, the learner must successfully complete all five of the elements in the task to achieve it.

- 1 Addition involving time: 11.15 am + 25 minutes = 11.40 am
- 2 Subtraction involving time: 20:30 – 15 minutes = 20:15
- 3 Simple multiplication: 4 x 3 minutes = 12 minutes
- 4 Simple division: 35 minutes ÷ 5 = 7 turns
- 5 Using a simple fraction: 1 x 50 ÷ 5 = 10 minutes

The questions in task 2 require the learner to decide on the operation to be carried out.

Part 3: Exemplar recording documentation

This section provides example forms which can be used by the learner and tutor to gather evidence and record assessment decisions. The first form, the record sheet, is an example of a form for the learner to complete when being assessed for task 2. Alternatively, it can be completed by the tutor to record oral responses. The exemplar for task 1 can be completed directly by the learner.

The two checklists are for completion by the tutor, recording assessment and Unit progress. In the first checklist, under the heading 'Activity' the tutor should insert the component of the skill eg notation of whole numbers.

Record sheet

Task 2: Choosing and carrying out appropriate time calculations

- 1 Beth has an appointment for 11.15am. If she is 25 minutes late, what time does she arrive at?

Answer:

- 2 Jack arrives to meet Alex in the cafe at 20.30. Unfortunately Alex left fifteen minutes earlier. What time did Alex leave at?

Answer:

- 3 Jessica has four turns on the dodgem cars at the fair ground. Each turn lasts three minutes. How long did she spend on the dodgems?

Answer:

- 4 Jodie spent 35 minutes on the trampoline. Each turn on the trampoline lasts for five minutes. How many turns did she get?

Answer:

- 5 Andy has to do fifty minutes of circuit training. After a while he looks at the clock and realises he has done one fifth of his time. How long has he done?

Answer:

Tutor signature:..... Date:.....

Assessment checklists

Candidate:		
Task 1: Time representation, conversion and comparison.		
Activity	Evidence	Tutor comment / Date
1		
2		
3		
4		
5		
6		

Candidate:		
Task 2: Choosing and carrying out appropriate time calculations.		
Activity	Evidence	Tutor comment / Date
1		
2		
3		
4		
5		
Tutor signature: Date:		

Summary checklist

Candidate:		
Candidate number:		
Centre:		
Task	Date achieved	Tutor signature
Task 1: Time representation, conversion and comparison.		
Task 2: Choosing and carrying out appropriate time calculations.		

Part 4: Information for learners

Your tutor will help you with what you have to do. As you work through this Unit, your tutor will need to gather evidence that you are successfully completing the various tasks you do.

This can be done:

- ◆ by you completing an exercise
- ◆ by the tutor watching you work
- ◆ by the tutor asking you questions
- ◆ by you filling in a work book or diary.

By the end of the Unit you must have shown that you can:

- ◆ make a very simple comparison between times (eg 4pm is later than 2pm)
- ◆ recognise and use very simple fractions
- ◆ use the 12 hour and 24 hour clock systems (eg 2pm or 1400hrs)
- ◆ express dates in both words and numbers (eg 5 October 2007 is 05/10/07)
- ◆ solve a problem using time eg choosing to add, subtract, multiply or divide.

These are some of the things you might do to provide the evidence:

- ◆ working out that eight o'clock in the evening can be expressed as 8pm or 2000hrs
- ◆ recognising that 45 minutes is $\frac{3}{4}$ of an hour
- ◆ recognising that 2.45pm is 15 minutes later than 2.30pm
- ◆ calculating the appropriate time to leave the house for work, based on the expected journey time of 15 minutes and a required arrival time of 8.30am
- ◆ calculating that 5 days separate the dates 18/06/07 and 23/06/07
- ◆ calculating how many hours are spent at work each day by someone who arrives at 1 in the afternoon and leaves at 7 in the evening.

- ◆ Recognising on a train timetable that 1300hrs equals 1pm.

Learners with disabilities and/or additional support needs

The additional support needs of individual learners should be taken into account when planning learning experiences, selecting the most appropriate assessment activity and considering any reasonable steps which might be necessary to allow the learner to meet the assessment standard.

Further advice can be found in SQA's Assessment Arrangements' web pages (www.sqa.org.uk)

ADMINISTRATIVE INFORMATION

Core Skills

This Unit is part of a suite of four Units which when completed give automatic certification of the Core Skill of Numeracy at SCQF Level 2. The other Units in this suite are:

Using number: Measuring at SCQF Level 2

Using number: Money at SCQF Level 2

Using Graphical Information at SCQF Level 2

Credit Value

0.25 Credit(s) at (SQA Level 08) (1.5 SCQF credit points at SCQF Level 2)

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