



NUMERACY
Using Number: Time
SCQF Level 2
10 Hour Unit (F3GJ 08)

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 SCQF level 2.

Using Number: Time is about applying very simple numerical skills in familiar, everyday personal, workplace, social, and educational situations that 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. In addition, 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-specific Units, motivation for numeracy can be increased if the activities are related to the vocational or

subject-specific Units 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-specific Units, opportunities for assessment of number skills could arise while completing tasks that provide evidence for both the vocational/subject-specific 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 the 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 learners will:

- ◆ recognise and use very simple fractions (eg 45 minutes is 3/4 of an hour)
- ◆ make a very simple comparison between times (eg 4 pm is later than 2 pm)
- ◆ use the 12- and 24-hour clock systems (eg 2 pm or 14.00)
- ◆ 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 in numerical notation such as:

- ◆ twenty-three = 23
- ◆ ten twenty am = 10.20 am
- ◆ one-fifth = 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, eg calculations such as:

$$10.20 \text{ am} + 15 \text{ minutes} = 10.35 \text{ am}$$

$$22.10 - 5 \text{ minutes} = 22.05$$

$$5 \text{ minutes} \times 5 = 25 \text{ minutes}$$

$$48 \text{ minutes} \div 2 = 24 \text{ minutes}$$

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, eg:

- ◆ 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

For verification purposes it is only necessary to retain evidence for each activity stated in the Unit. Learners must meet all of the requirements of the Unit (ie 100% achievement) but they do not have to do so as part of one exercise. Evidence can be collected where it occurs naturally in exercises performed in different contexts or it can be generated through one or more set assessment(s).

Where a tutor collects naturally occurring evidence for the Numeracy Core Skill, they must satisfy themselves that the learner is capable of fulfilling each of the activities stated in the Unit consistently. However, it will only be necessary for the tutor to retain one piece of evidence for each activity.

If a tutor opts to collect evidence through one or more set assessment(s) covering the activities stated in the Unit and a learner is successful in some but not all of the activities, that learner would only need to be reassessed in the activities they did not achieve.

Where a tutor collects evidence through one or more set assessment(s), it would normally be expected that considerable learning and teaching will have taken place prior to the learner undertaking the set assessment(s). As part of the learning and teaching, learners should have successfully completed tasks and exercises of a similar level to those they will tackle in each set assessment, on at least one occasion. In other words, learners will normally have shown in class activities that they are capable of working at the required level before they are deemed ready for each set assessment.

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 that includes all the evidence-gathering items. An alternative is to provide worksheets that 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 this work 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 8 pm or 20.00
- ◆ recognising that 45 minutes is 3/4 of an hour
- ◆ recognising that 2.45 pm is 15 minutes later than 2.30 pm
- ◆ calculating the appropriate time to leave the house for work, based on an expected journey time of 15 minutes and a required arrival time of 8.30 am
- ◆ calculating that five days separate the dates 18/06/09 and 23/06/09
- ◆ calculating how many hours are spent at work each day by someone who arrives at one o'clock in the afternoon and leaves at seven o'clock in the evening
- ◆ Recognising on a train timetable that 13.00 equals 1 pm

Disabled learners and/or those with additional support needs

The additional support needs of individual learners should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Part 2: Assessment guidance

You can use the information given in this section in several ways:

- ◆ to help identify the type and amount of evidence that 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 create an assessment task related to the learner's own situation

You can use the following information to create task sheets to be used with the learners in assessment sessions. The task sheet will contain the assessment items and you can leave appropriate space for the learners to insert their responses.

The guidance given in the rest of this section is based on the example of a centre that chooses to develop two tasks to cover the assessment of this Unit. In the following pages examples are given of the type of calculations and questions that could be set by the centre as part of the tasks.

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
- ◆ 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 11.15 am. 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 15 minutes earlier. What time did Alex leave at?
- 3 Jessica has four turns on the dodgem cars at the fairground. 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 50 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 the whole task.

- 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 the whole task.

- 1 Addition involving time: $11.15 \text{ am} + 25 \text{ minutes} = 11.40 \text{ am}$
- 2 Subtraction involving time: $20.30 - 15 \text{ minutes} = 20.15$
- 3 Simple multiplication: $4 \times 3 \text{ minutes} = 12 \text{ minutes}$
- 4 Simple division: $35 \text{ minutes} \div 5 = 7 \text{ turns}$
- 5 Using a simple fraction: $1 \times 50 \div 5 = 10 \text{ minutes}$

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 that can be used by the learner and the tutor to gather evidence and record assessment decisions. The exemplar assessment Task 1 given in Part 2 above is in a format that can be completed directly by the learner and this can be kept as a record of the assessment.

The form shown on the following page, 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 checklists are for completion by the tutor, to record assessment and Unit progress. In the first checklist, under the heading ‘Activity’ the tutor should insert the requirement that is being assessed, eg notation of whole numbers.

Record sheet

Task 2: Choosing and carrying out appropriate time calculations

- 1 Beth has an appointment for 11.15 am. 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 15 minutes earlier. What time did Alex leave at?

Answer:

- 3 Jessica has four turns on the dodgem cars at the fairground. 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 50 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

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

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

Summary checklist

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

ADMINISTRATIVE INFORMATION



Core Skills

This Unit is part of a suite of four Units that 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

1.5 SCQF credit points (0.25 SQA credits) at SCQF level 2

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Helpdesk: 0845 279 1000
Fax: 0845 213 5000
E-mail: customer@sqa.org.uk
Website: www.sqa.org.uk

Optima Building	Ironmills Road
58 Robertson Street	Dalkeith
Glasgow	Midlothian
G2 8DQ	EH22 1LE

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