Course Support Notes

National 2 Lifeskills Mathematics Course Support Notes

Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Contents

Introduction

These Support Notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the National 2 Lifeskills Mathematics Course. They are intended for teachers and lecturers who are delivering the Course and its Units. They should be read in conjunction with the *Course Specification*, and the *Unit Specifications* for the Units in the Course.

General guidance on the Course

Aims

The aims of this Course are to enable learners to:

- know when to use mathematics and numeracy in everyday situations
- select the most appropriate mathematical and numerical skills to tackle real-life situations
- use a range of numeracy skills involving number, money, time and measurement to make choices for personal life and life in the community
- recognise and use shape, space and data in everyday life
- interpret data and the results of calculations to make informed choices

In addition, learners will have the opportunity to develop generic and transferable skills for learning, skills for life and skills for work including numeracy, thinking skills and listening and talking in a contextualised, engaging and enjoyable way.

Progression into this Course

Entry to this Course is at the discretion of the centre.

The Course is suitable for learners who want to develop their mathematical and numerical skills. It is suitable for learners with a general interest in the subject and for those wanting to progress to higher levels of study. It takes account of the needs of all learners by providing sufficient flexibility to enable learners to achieve in different ways and at a different pace.

This qualification may be suitable for learners who have successfully completed qualifications in mathematics and numeracy or related areas at SCQF level 1. It may also be suitable for those wishing to work towards a mathematics qualification for the first time.

Experiences and outcomes from the Early and First level mathematics curriculum area may provide an appropriate basis for doing this Course. The following prior skills, knowledge and understanding are particularly relevant:

- a basic understanding that numbers represent quantities, and can be used to describe order
- an ability to count on and back
- an awareness of how money is used and can recognise and use a range of coins
- an awareness of time, and the timing of routine events
- experience of measuring everyday items using standard or non-standard measures
- an awareness of information and how it can be used to plan and make choices

Skills, knowledge and understanding covered in this Course

This section provides further advice and guidance about the skills, knowledge and understanding in the Course. Some Units may offer more opportunities than others for the development of skills, knowledge and understanding. The table below shows where there are opportunities to develop these within the individual Units.

✓✓✓ Significant opportunities to develop within the Unit
✓✓ Some opportunities to develop within the Unit
✓ Limited opportunities to develop within the Unit

Skills, knowledge and understanding	**Lifeskills Mathematics: Number and Number Processes**	**Lifeskills Mathematics: Shape, Space and Data**	**Lifeskills Mathematics: Money**	**Lifeskills Mathematics: Time**	**Lifeskills Mathematics: Measurement**
knowing when to use basic mathematics and numeracy in everyday situations	✓✓	✓	✓✓	✓✓	✓✓
selecting the most appropriate mathematical and numerical skills to use	✓✓	✓	✓✓✓	✓✓✓	✓✓✓
using a range of numeracy skills to make choices for personal life and life in the community	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓
recognising and using shape, space and data in real-life situations	✓	✓✓✓	✓	✓	✓
reading and interpreting data and the results of calculations to make informed choices	✓	✓✓✓	✓✓	✓✓	✓
communicating basic numerical information	✓✓✓	✓✓✓	✓	✓	✓
being aware of the likelihood of events happening in a range of everyday situations		✓✓✓		✓	

Suggested learning and teaching approaches for the development of the above skills, knowledge and understanding for each Unit can be found in the *Unit Support Notes* and later in this document in the section entitled: 'Approaches to learning and teaching'. A summary of the skills development across the Course can be found in Appendix 1 of this document.

Progression from this Course

On successful completion of this Course, the learner could progress to:

- other qualifications in mathematics or mathematics related areas
- National 3 Lifeskills Mathematics Course
- further study, training and/or employment opportunities

The diagram below shows SQA Courses and Awards at SCQF levels 2 and 3 which could provide progression opportunities in mathematics and mathematics related areas. Further details about these Courses and Awards can be found on the SQA website.

Details of progression opportunities from the component Units of the National 2 Lifeskills Mathematics Course are contained within the *Unit Support Notes*.

Diagram 1: Possible progression opportunities to other mathematics related Courses and Awards at SCQF level 2

Hierarchies

Hierarchy is the term used to describe Courses and Units which form a structured sequence involving two or more SCQF levels.

It is important that any content in a Course and/or Unit at one particular SCQF level is not repeated if a learner progresses to the next level of the hierarchy. The skills and knowledge should be able to be applied to new content and contexts to enrich the learning experience. This is for centres to manage.

Relationships between National 3 and National 2 Units
Some National 3 Units can substitute for the National 2 Units and so contribute to the Course Award.

The table below shows the relationships between these National 3 and National 2 Units.

National 2 Unit Title	**Substitute Unit from National 3**
Lifeskills Mathematics: Number and Number Processes	Numeracy
Lifeskills Mathematics: Money	Lifeskills Mathematics: Manage Money and Data
Lifeskills Mathematics: Measurement	Lifeskills Mathematics: Shape, Space and Measures

Alternatively a National 3 Unit may provide some evidence which can be used for a National 2 Unit but cannot be a substitute for it. Where this occurs, teachers/lecturers should refer to the Outcomes and Assessment Standards of the National 2 Unit to determine what additional evidence is required.

(NB: Additional information about hierarchies between National 2 and National 1 Units will be published at a later date.)

Approaches to learning and teaching

The purpose of this section is to provide general advice and guidance on approaches to learning and teaching which can be used for any of the components Units within the Course.

Effective learning and teaching will draw on a variety of approaches to enrich the experience of learners. In particular, a mix of approaches which provide opportunities for personalisation and choice will help to motivate and challenge learners.

The skills based focus of the Course readily lends itself to a variety of approaches to learning and teaching which reflect those used within broad general education and the values and principles of Curriculum for Excellence.

Learning should, where possible, be relevant to the learner's everyday life, their overall learning programme, and/or work and leisure. Teachers/lecturers could also consider interdisciplinary and cross-curricular approaches to learning and teaching and explore how extra-curricular activities or the personal interests of learners could be included and recognised.

Learners should be given the opportunity to using their normal mode of communication and have access to appropriate resources for support where they would normally be available in real-life situations in which the learning is being carried out.

The distribution of time between the various Units is a matter of professional judgement and is entirely at the discretion of the centre. Each Unit is likely to require an approximately equal time allocation, although this may depend on the learners' prior learning in the different topic areas, learning and teaching methods adopted and the design of the Course.

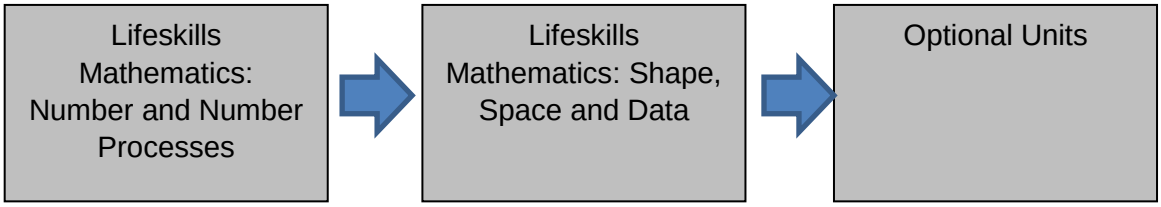
Learning about Scotland and Scottish culture will enrich the learners' learning experience and help them to develop the skills for learning, life and work they will need to prepare them for taking their place in a diverse, inclusive and participative Scotland and beyond. Where there are opportunities to contextualise approaches to learning and teaching to Scottish contexts, teachers and lecturers should consider this.

Sequencing and integration of Units
Sequencing and integration of the delivery and assessment of the Units within the Course is at the discretion of the centre. However, learning and teaching approaches should provide opportunities to integrate skills wherever possible.

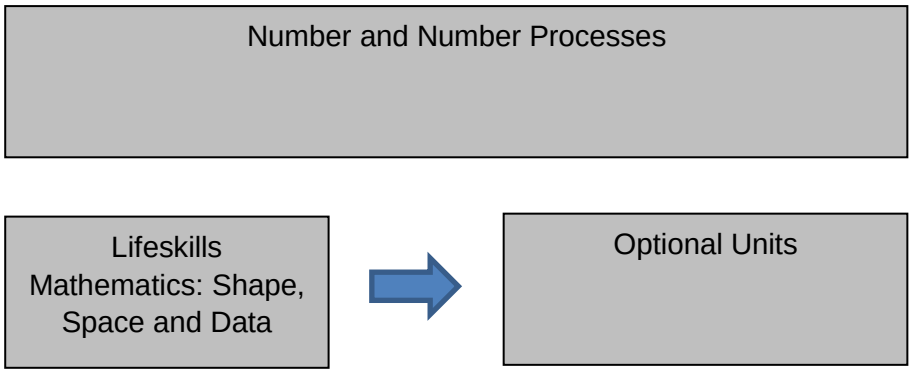
The following 'Learner Journeys' illustrate how the Units within the Course may be sequenced and/or integrated. Please note that other combinations are also possible.

Learner Journey 1:
This Learner Journey shows the possibility of delivering the two mandatory Units: 'Number and Number Processes' and 'Lifeskills Mathematics: Shape, Space and Data' sequentially, followed by at least two of the Optional Units. The Optional Units can be delivered in any order. Completion of all three Optional Units would increase the breadth and depth of experience for the learner.

This sequence may be particularly suitable for learners who would benefit from a reinforcement of their numerical skills at the beginning of the Course or for those learners who have limited experience of using mathematics in context. This order of delivery may provide opportunities for the gradual development of mathematical skills which can then be applied and reinforced within the optional Units.

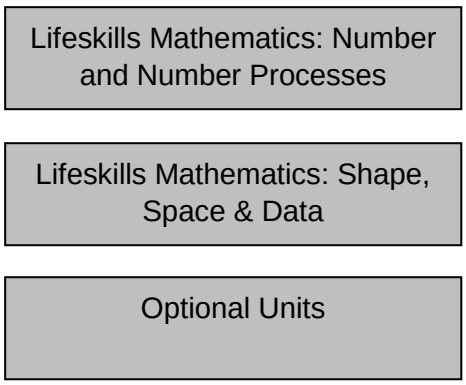


Learner Journey 2:
This Learner Journey shows the possibility of delivering the 'Lifeskills Mathematics: Shape, Space and Data' Unit and the Optional Units sequentially; with the 'Number and Number Processes' Unit being delivered throughout the duration of the Course. This sequence may improve the relevance and coherence of learning and provide the opportunity to reinforce and consolidate numerical skills throughout the Course. The Optional Units can be delivered in any order.



Learner Journey 3:
This Learner Journey shows the possibility of delivering the two mandatory Units and the Optional Units, concurrently. This approach would be particularly suitable if a thematic or topic based approach to learning and teaching is used. For example, learners could evidence their Lifeskills Mathematics Outcomes and Assessment Standards through the study of a social studies topic, preparation for Sports Day or whole school events such as Trade Fairs or concerts.

This model has the potential of maximising the relevance and transferability of mathematics, reinforcement and consolidation of numerical skills, and can promote interdisciplinary learning.



Possible approaches to learning and teaching

It is important that learners at this level have the opportunity to engage in a range of learning and teaching approaches to suit their needs, taking into account their communication abilities, their likely pace of learning and the level of support required. A varied approach to the teaching of mathematics should, where possible, be relevant to the learner's everyday life, their overall learning programmes, and/or work and leisure.

Teachers/lecturers may want to consider drawing on, for example, interdisciplinary opportunities, cross-curricular approaches, investigative/ problem solving approaches, individual or collaborative work, resource based or e-learning. Some possible contexts for these approaches are given below.

Interdisciplinary approaches could be used to develop mathematical skills through events which take place throughout the year, for example:

- Trade Fairs and Christmas or Summer Fairs could be used to develop confidence in handling money, managing time or working with data.
- Coffee mornings which involve cooking or baking could be used to develop measuring skills using a range of measuring instruments.
- Shows and plays could be used as contexts to support the development knowledge and understanding of money and time, handling data and work with shape and space on stage.
- Fund raising activities could provide the opportunity to handle money and record financial transactions such as sponsorship activities.
- Sports Days which involve a range of events could be used for large scale measuring tasks and recording of the results, such as distances and times.
- Visiting speakers or external visits to learn about how mathematics is used in different careers or job roles such as nursing, sports coaching or the building industry.
- Learning about mathematics in the environment by observing where numbers are used around us and what they are used for eg signs, food packaging, speed limits, distances, buying and selling, and sequencing of items such as pages in a book or magazine.
- Setting up a book club or savings club which could involve learners in handling money and recording transactions.

Cross-curricular approaches using topics or themes which build on the relationship between mathematics and other curriculum areas such as technology, art, geography, health and wellbeing, science, physical education and social studies may also be considered. For example:

Curriculum area	Possible cross-curricular learning and teaching links
Technologies	Use measuring instruments to measure quantities of materials Use understanding of time to manage practical tasks Use understanding of fractions to work out halves and quarters of shapes or quantities
Art and Design	Use knowledge of shape and space to create drawings or models Use knowledge of patterns and symmetry to create pictures or decorative patterns Use measuring instruments to measure the size of materials such as paper, card or textiles
Geography	Use understanding of number to read weather charts Record rainfall and temperature readings Use shapes to record objects on a plan or map Collect and record data from the local area eg traffic survey or land use survey
Health and Wellbeing	Use measuring instruments when cooking Use numerical skills in a range of hobbies and interests eg making models, music or sports
Science	Record information gathered from practical activities Use a range of measuring instruments Carry out calculations to compare data collected during practical activities Collect and record data from field samples
Physical Education	Measure breathing and heart rates Use measuring instruments to measure distances Record scores or results from various sporting events
Social Studies	Collect data from a range of sources Present data in different forms

Investigative and/or problem solving approaches may provide the opportunity for learners to observe, explore and discuss how mathematics can be used to solve real-life problems or tackle real-life situations. For example:

- By asking 'what would happen if….?' learners could explore the concepts of chance and uncertainty.
- Investigating how different sized shapes could fit together.
- Creating a set of instructions to a place or an object using vocabulary which describes position.
- Creating a pattern using 2D shapes for a new wallpaper design.
- Investigating how many sandwiches need to be made for a group of four people if each person needs two sandwiches each.
- Sharing out a number of biscuits equally to a group of children.

Using a simplified bus timetable to find out what time to leave the house for an appointment at a given time.

This approach has the potential to stimulate mathematical thinking and could be supported by questioning, practical activities and resources. As support is

gradually removed, learners will become increasingly independent in their approach to situations involving mathematics. Probing questions/statements which ask learners to explain their thinking such as: 'Show me what you did' could be used to confirm understanding.

Individual and/or collaborative working could provide learners with the opportunity to 'think, pair and share' mathematical strategies for tackling real-life situations. For example, learners could be asked to work in pairs or groups to make shape patterns, fit shapes together without spaces or create plans using 2D shapes or models using 3D objects. Group work approaches can be used within Units and across Courses where it is helpful to simulate real-life situations, share tasks and promote team working skills. However, there must be clear evidence to show that the learner has met the required assessment standards for the Unit or Course. A collaborative approach may also be particularly helpful in developing learners' confidence in using mathematical literacy. Quizzes, competitions or online interactive tasks which sharpen an individual's recall of number facts and numerical mental calculation strategies could also be used.

Resource based learning could include for example:

- Using technology to collect, organise and represent real-life data and information.
- Using 'real-life' and/or simulated environments to develop skills in handling money eg shopping or using measuring instruments for cooking.
- Using technology such as calculators or computers to explore or work with larger numbers or to correct other learner's work. Calculators often help learners to process numbers, freeing up time for them to interpret situations, and make informed decisions. Learners should also be encouraged, however, to develop and improve their skills in carrying out calculations in writing or in their head to develop numerical confidence and fluency.
- Using real-life materials such as invoices, timetables, bills and adverts.
- Identifying and using materials to support mathematical thinking or calculations such as a ruler, a number line, coins and banknotes, mobile phones for dates and times, smartphone applications for event timetables and schedules and calendars for dates and days of the week etc.

E-learning

Where resources permit, centres could use technology to support learning and teaching. For the National 2 Lifeskills Mathematics Course this could include:

- Using ICT and other technologies such as calculators and computers for handling data and performing more complex calculations.
- Using multi-media to help learners visualise contexts for learning.
- Assistive technologies such as voice activated software to support learners with limited capacity to write.
- Adaptive technologies such as braille measuring instruments.
- Computer games or simulations involving mathematics eg SQA Solar to motivate learners.
- Interactive programmes to engage learners and improve their ability to contextualise their learning.

Specific examples of learning and teaching contexts that could be used for the Units in this Course can be found in the *Unit Support Notes*.

Examples of suggested learning and teaching resources can be found in Appendix 2 of this document.

Developing skills for learning, skills for life and skills for work

The *Course Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Course. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and should be built into the Course where there are appropriate opportunities.

Throughout the Course there are significant opportunities to develop the following skills for learning, skills for life and skills for work:

- **Listening and talking —** the ability to access, engage in and understand learning and to communicate thoughts, ideas and opinions. This Course will provide learners with the opportunity to listen to the mathematical ideas and thoughts of others and communicate their own mathematical thinking.
- **Understanding —** the ability to demonstrate the meaning of information, to explain the order of events, and to interpret in a different setting or context. This Course will provide learners with the opportunity to use their mathematical skills, knowledge and understanding to tackle real-life situations. Learners will have the opportunity to interpret data, the results of calculations and measurements to make informed decisions.
- **Applying —** the ability to use information to solve a problem in a different context and to plan, organise and complete a task. Learners will have the opportunity to apply their knowledge and understanding of number to tackle real-life situations involving money, time and measurement.
- **Numeracy** — the ability to select and apply number processes, money, time and measurement, and information handling skills in real-life contexts. Numeracy underpins all aspects of this Course.

Further guidance on the development of skills for life, skills for learning and skills for work for each Unit can be found in the *Unit Support Notes*.

Approaches to assessment

Learners will benefit from receiving accurate and regular feedback regarding their learning. This helps to ensure they are actively involved in the assessment process. It is also important that different approaches to assessment are adopted to suit the varying needs of learners.

Assessment strategies and methods

There may be opportunities in the day-to-day delivery of the Course to gather evidence which satisfies a number of Units, a Unit or part of a Unit. This is naturally occurring evidence and teachers/lecturers are encouraged to record this where possible. Assessment could therefore mirror those approaches suggested earlier in this document in the section on 'Approaches to learning and teaching'.

Learners should be given the opportunity to using their normal mode of communication and have access to appropriate resources for support where they would normally be available in the real-life situations in which the learning is being carried out.

Suggested approaches to assessment relevant for any of the component Units of the Course could include:

- Observation during practical tasks
- Oral questioning during and after completion of tasks
- Using a project/extended activities to assess a range of Outcomes or Units together
- Using real-life activities and events such as gardening, sport or making items such as meals or household items
- Identifying opportunities for assessment in scheduled whole centre activities and events eg coffee morning/Christmas fair/events and running a tuck shop
- Identifying opportunities for assessment within extra-curricular activities both within the centre and/or the community
- Integrating assessment across curriculum areas eg a topic being studied in Geography could provide the opportunity to generate evidence for Lifeskills Mathematics

Whatever assessment method is used, teachers/lecturers are encouraged to be as inclusive as possible taking into account the needs and experiences of their learners. In particular, assessment should:

- Use content, resources and materials that recognise different groups and avoid bias or stereotyping
- Where possible provide a balance of assessment methods and adopt alternative approaches to gather evidence which build in opportunities for personalisation and choice.

Authentication

For guidance on authentication of evidence which is gathered outwith the direct supervision of the teacher/lecturer responsible for the learner, eg outside the school or classroom, refer to SQA's *Guide to Assessment*.

Combining assessment across Units

When Units are delivered as part of a Course, assessment can be combined.

The pattern of combined assessment can mirror that for integrated delivery as suggested in the section of 'Approaches to learning and teaching'.

A combined approach to assessment is recommended because it has the potential to:

- enrich the assessment process for both learners and teachers/lecturers by bringing together elements of different Units
- make assessment more meaningful for learners by building up linkages and highlighting the transferability of skills, knowledge and understanding

Opportunities for interdisciplinary and cross-curriculum working can provide a framework for integrated approaches to assessment. For example, learners could be involved in:

- Christmas fairs
- Coffee mornings
- Shows and concerts
- Fund raising or sponsored events
- Trade fairs

Centres may also wish to integrate the assessment of Lifeskills Mathematics with other curriculum areas such as Physical Education, Health and Wellbeing and Technology. Cross curriculum opportunities for gathering evidence can mirror those used for learning and teaching, refer to the section on 'Approaches to learning and teaching' for more information.

Gathering evidence

One approach to gathering evidence might involve creating a portfolio or workbook for the Course as a whole, or for each Unit.

The portfolio, workbook or similar method of collating evidence could include the following types of evidence. Please note this list is not exhaustive:

- Written evidence including calculations or discrete mathematical tests or quizzes
- Oral evidence from discussions between the teacher/lecturer and the learner, or between learners
- Observation notes/checklists used during group or collaborative tasks
- Annotated workbooks or jotters which show evidence generated during day-to-day teaching and learning activities
- Computer generated assessment records or printouts from simulations, games or on-line tests
- Photographs of project or investigative work
- Spreadsheets and simple computer generated graphics
- A learner record (completed by the teacher/lecturer)
- Photographs to record milestone achievement
- Diagrams or illustrations

- Video recordings of practical activities
- Learner responses to prompt questions before, during and on completion of work
- Reviews by others (eg involvement of external specialists, other subject specialists if interdisciplinary working is involved

When evidence is collected using a thematic approach or when Outcomes are being combined across Units, the use of a combined assessment recording sheet to record learner's achievement may be helpful. An exemplar combined assessment recording sheet is provided in Appendix 3.

Guidance on approaches to assessment and gathering evidence for the Units within the Course can be found in the *Unit Support Notes*.

Equality and inclusion

The additional support needs of learners should be taken into account when planning learning experiences or when considering any reasonable adjustments that may be required. Assessment methods should offer all learners an equal opportunity to demonstrate their achievement. This should be reflected in the language used, the use of different assessment presentation methods and the use of appropriate illustrative materials which reflect an inclusive view.

Learners undertaking qualifications at SCQF level 2 are likely to require more support with their learning than at other levels, and learners should be given as much support as they need to engage with learning, teaching and assessment activities whilst maintaining the integrity of the Outcome and Assessment Standards.

Examples of support might include:

- allowing extra time to complete activities
- practical helpers under direct learner instruction could assist with practical activities (this could also include a reader or scribe as appropriate)
- the use of specialised and adapted equipment
- the use of ICT and other assistive technologies

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Course Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Course.

It is important that centres are aware of and understand SQA's assessment arrangements for disabled learners, and those with additional support needs, when making requests for adjustments to published assessment arrangements. Centres will find more guidance on this in the series of publications on *Assessment Arrangements* on SQA's website: www.sqa.org.uk/sqa//14977.html.

Appendix 1: Skills development summary

This Course will help learners to become numerate, to make sense of the world, to function responsibly and independently in life and to contribute to society. National 2 Lifeskills Mathematics includes the exploration and application of number, shape, space and data, and money, time and measurement in real-life contexts. It allows individuals to use mathematics and numeracy to tackle real-life situations and to make informed decisions.

Aims	SfLLW	Unit Titles	Mandatory Optional	Unit Outcomes and assessment standards
The aims of this Course are to enable learners to: ♦ know when to use mathematics and numeracy in everyday situations ♦ select the most appropriate mathematical and numerical skills to tackle real-life situations ♦ use a range of numeracy skills involving number, money, time and measurement to make choices for personal life and life	**Literacy:** ♦ Listening and talking **Numeracy:** ♦ Number processes ♦ Money, time and measurement ♦ Information handling **Thinking skills:** ♦ Understanding ♦ Applying	Lifeskills Mathematics: Number and Number Processes	Mandatory	**1 Recognise and use number in real-life contexts** ♦ Recognising and using whole numbers ♦ Recognising very simple fractions ♦ Carrying out calculations involving addition and subtraction of whole numbers ♦ Carrying out very simple tasks involving multiplication or division **2 Tackle situations involving number in real-life contexts** ♦ Selecting appropriate calculations ♦ Using numerical notation ♦ Carrying out very simple calculations ♦ Using the results of calculations to make a decision
		Lifeskills Mathematics: Shape, Space and Data	Mandatory	**1 Recognise and use shape and space in real-life contexts** ♦ Recognising and using common 2D shapes and 3D objects ♦ Describing the position of shapes or objects appropriately ♦ Using appropriate vocabulary to compare shapes or

in the community ♦ recognise and use shape, space and data in everyday life ♦ interpret data and the results of calculations to make informed choices				objects ♦ Continuing a simple pattern **2 Use data in real-life contexts** ♦ Adding to data given in basic graphical form ♦ Interpreting simple data to make a choice ♦ Using data to make a choice based on the likelihood of an event happening
		Lifeskills Mathematics: Money	Optional	1 **Recognise and use money in real-life contexts** ♦ Counting up manageable amounts of money ♦ Using coins and banknotes to make up manageable amounts of money ♦ Calculating basic cost ♦ Calculating basic change **2 Tackle situations involving money in real-life contexts** ♦ Selecting appropriate calculations involving money ♦ Carrying out calculations ♦ Using the results of calculations to make a decision
		Lifeskills Mathematics: Time	Optional	**1 Recognise and use time in real-life contexts** ♦ Recognising and ordering days of the week and months of the year ♦ Recognising and ordering time using an analogue or digital clock ♦ Using resources to work out very simple date intervals ♦ Using resources to work out very simple time intervals **2 Tackle situations involving time in real-life contexts** ♦ Selecting appropriate resources for the situation ♦ Using appropriate resources

				♦ Making a decision
		Lifeskills Mathematics: Measurement	Optional	**1 Recognise and use measurement in real-life contexts** ♦ Using measuring instruments for real-life tasks ♦ Interpreting scales to the nearest marked and numbered division ♦ Recording measurements, using appropriate units ♦ Using appropriate vocabulary to compare measured items **2 Tackle situations involving measurement in real-life contexts** ♦ Selecting appropriate measuring instruments ♦ Using measuring instruments appropriately ♦ Making a decision based on the results of measurements

Appendix 2: Suggested resources

The following resources were correct at the time of print and may be subject to change.

Suggested organisation available through the web	Possible resources or support materials
BBC Scottish Bitesize Maths	Provides lots of on-line resources for teaching and learning mathematics.
Teaching Ideas	Provides lots of on-line resources for Mathematics and Numeracy for free. Many examples of contextualised and age graded.
Office of Fair Trading Skilled to Go	Skilled to go uses real life consumer situations, such as choosing a mobile phone, to help learners develop consumer skills, knowledge and confidence alongside literacy and numeracy. A free toolkit of resources includes games, quizzes, role plays and case studies, plus video and audio content.
National Centre for Excellence in the Teaching of Mathematics (NCETM)	The NCETM aims to meet the needs of teachers of mathematics and realise the potential of learners through a sustainable national infrastructure for mathematics-specific continuing professional development (CPD). The NCETM provides and signposts resources to teachers, mathematics education networks, HEIs and CPD providers. At the same time, the National Centre encourages schools and colleges to learn from their own best practice through collaboration and by sharing good practice locally, regionally and nationally. A significant number of resources are available.
Personal Finance Education Group (pfeg)	pfeg is an independent charity helping schools to plan and teach personal finance relevant to learners' lives and needs. pfeg provides free support, resources and consultancy to make learning about money easy. pfeg also works with government, key bodies and campaigns for consistent, quality finance education for children and young people across the UK. It is not affiliated and does not market or sell any financial products or services. Teaching resources, video clips and case studies are free to order or download

Additional examples of resources relevant to each Unit are available in the *Unit Support Notes*.

Appendix 3: Exemplar combined assessment record

This exemplar combined assessment recording sheet may be useful if an integrated or thematic approach is used to assess the National 2 Lifeskills Mathematics Course.

Outcomes and Assessment Standards	Comments
Lifeskills Mathematics: Number and Number Processes Unit (Mandatory)	
Recognise and use number in real-life contexts by: ♦ Recognising and using whole numbers ♦ Recognising very simple fractions ♦ Carrying out calculations involving addition and subtraction of whole numbers ♦ Carrying out very simple tasks involving multiplication or division	
Tackle situations involving number in real-life contexts by: ♦ Selecting appropriate calculations ♦ Using numerical notation ♦ Carrying out very simple calculations ♦ Using the results of calculations to make a decision	
Lifeskills Mathematics: Shape, Space and Data Unit (Mandatory)	
Recognise and use shape and space in real-life contexts by: ♦ Recognising and using common 2D shapes and 3D objects ♦ Describing the position of shapes or objects appropriately ♦ Using appropriate vocabulary to compare shapes or objects ♦ Continuing a simple pattern	
Use data in real-life contexts by: ♦ Adding to data in a given basic graphical form ♦ Interpreting simple data to make a choice ♦ Using data to make a choice based on the likelihood of an event happening	

Lifeskills Mathematics: Money Unit (Optional)	
Recognise and use money in real-life contexts by: ♦ Counting up manageable amounts of money ♦ Using coins and banknotes to make up manageable amounts of money ♦ Calculating basic cost ♦ Calculating basic change	
Tackle situations involving money in real-life contexts by: ♦ Selecting appropriate calculations involving money ♦ Carrying out calculations ♦ Using the results of calculations to make a decision	
Lifeskills Mathematics: Time Unit (Optional)	
Recognise and use time in real-life contexts by: ♦ Recognising and ordering days of the week and months of	

the year ♦ Recognising and ordering time using an analogue or digital clock ♦ Using resources to work out very simple data intervals ♦ Using resources to work out very simple time intervals	
Tackle situations involving time in real-life contexts by: ♦ Selecting appropriate resources for the situation ♦ Using appropriate resources ♦ Making a decision	
Lifeskills Mathematics: Measurement Unit (Optional)	
Recognise and use measurement in real-life contexts by: ♦ Using measuring instruments for real-life tasks ♦ Interpreting scales to the nearest marked and numbered division ♦ Recording measurements using appropriate units ♦ Using appropriate vocabulary to compare measured items	
Tackle situations involving measurement in real-life contexts by: ♦ Selecting appropriate measuring instruments ♦ Using measuring instruments appropriately ♦ Making a decision based on the results of measurements	

Appendix 4: Reference documents

The following reference documents will provide useful information and background.

- Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications are available on SQA's website at: www.sqa.org.uk/sqa//14977.html.
- *Building the Curriculum 4: Skills for learning, skills for life and skills for work*
- *Building the Curriculum 5: A framework for assessment*
- Course Specifications
- Design Principles for National Courses
- *Guide to Assessment* (June 2008)
- Overview of Qualification Reports
- Principles and practice papers for curriculum areas
- *SCQF Handbook: User Guide* (published 2009) and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- *SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*
- *Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool*

Administrative information

Published: April 2012 (version 1.0)

History of changes to Course Support Notes

Course details	Version	Description of change	Authorised by	Date

Unit Support Notes

Unit Support Notes — Lifeskills Mathematics: Number and Number Processes (National 2)

Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Lifeskills Mathematics: Number and Number Processes* (National 2) Unit. They are intended for teachers and lecturers who are delivering this Unit.

They should be read in conjunction with:

- the *Unit Specification*
- the *Course Specification*
- the *Course Support Notes*
- appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to enable learners to recognise and use number in real-life contexts. Learners will select and use their knowledge of number, basic numerical notation and number processes to tackle real-life situations.

Learners who successfully complete this Unit will be able to:

1 Recognise and use number in real-life contexts
2 Tackle situations involving number in real-life contexts

Progression into this Unit

Entry into this Unit is at the discretion of the centre.

Prior learning, life and work experiences may provide an appropriate basis for entry into this Unit. This could include relevant skills, knowledge and understanding and appropriate experiences and outcomes from the Mathematics Curriculum Area. Further information is available in the *Course Support Notes*.

This Unit may also be appropriate for learners with mathematics or numeracy related qualifications at SCQF level 1.

Skills, knowledge and understanding covered in the Unit

Information about skills, knowledge and understanding is given in the National 2 Lifeskills Mathematics *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Content and contexts which are used in the teaching of this Unit are at the discretion of the centre. Content and contexts, must, however provide evidence of all Outcomes and the Assessment Standards in the Unit.

At this level, content and contexts for the development of skills, knowledge and understanding should be simple or basic. This may include for example: familiar or routine situations for the learner or use of commonly available resources, some of which may need to be simplified.

Progression from this Unit

This Unit may provide progression to:

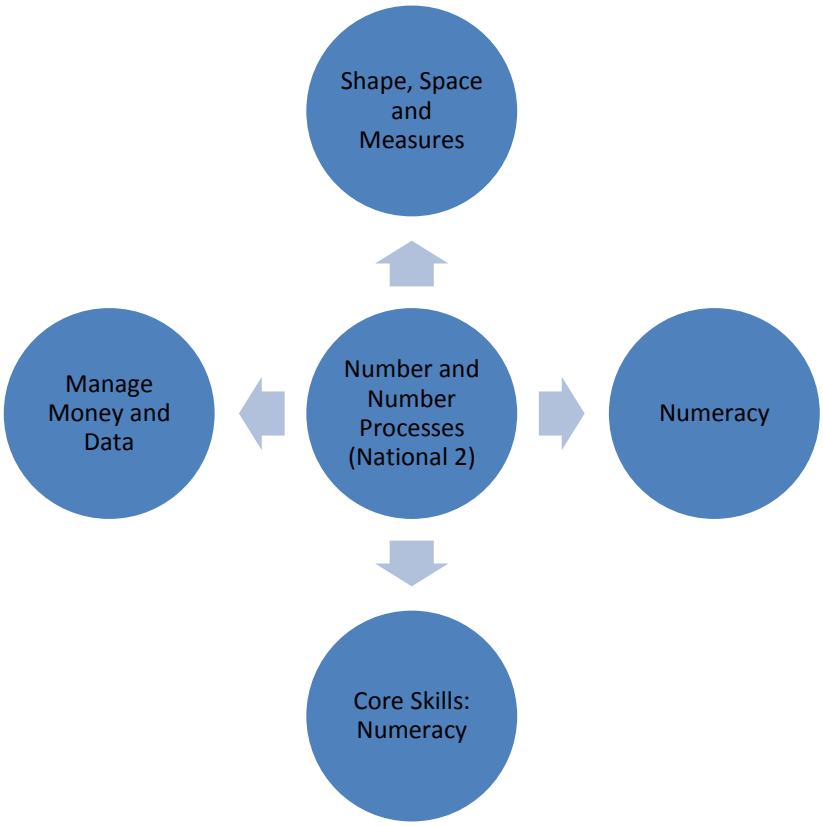
- other Units in the National 2 Lifeskills Mathematics Course
- other mathematics related Units at SCQF level 2
- other mathematics and mathematics related Units at SCQF level 3
- Core Skills Numeracy (SCQF level 3)

Number and number processing has applications in a variety of other subject areas including life and work. The skills, knowledge and understanding developed in this Unit could support both breadth and depth of learning in other curriculum areas such as science, technology and health and wellbeing in addition to life and work contexts.

Examples of possible progression opportunities to other Units at SCQF levels 2 and 3 are provided in the following diagrams.

Diagram 1: Progression opportunities from the Lifeskills Mathematics: Number and Number Processes Unit into related SCQF level 2 Units

Diagram 2: Progression opportunities from the Lifeskills Mathematics: Number and Number Processes Unit into related SCQF level 3 Units



Approaches to learning, teaching and assessment

The purpose of this section is to provide general advice and guidance on approaches to learning, teaching and assessment for this Unit.

There are a variety of learning and teaching approaches which can be used to deliver this Unit. This section of the *Unit Support Notes* provides advice and guidance and includes examples of some approaches that could be used.

Teachers/lecturers should support and provide opportunities for personalisation and choice to ensure that learning is relevant and motivating. Learning should where possible be relevant to the learner's everyday life, their overall learning programme and/or work and leisure.

Individual needs of learners should be taken into account when planning learning, teaching and assessment activities. Evidence can be gathered and presented in a variety of formats using the learner's usual means of communication.

The *Course Support Notes* provide generic advice on approaches to learning, teaching, assessment, gathering evidence and authentication which apply to all component Units of the Course. It is recommended that the *Course Support Notes* are read before delivering this Unit.

Combining and sequencing learning, teaching and assessment within the Unit

The combination of delivery and assessment of this Unit is entirely at the discretion of the centre. Two main approaches are suggested here, but other possibilities may exist:

Outcomes 1 and 2 combined

In this approach, the two Outcomes could be combined to provide a holistic approach to delivery and assessment. Learners could be given the opportunity to recognise and carry out calculations during a task. Tasks could include craftwork, simulated shopping activities or cooking. When cooking, for example, learners could be asked to work out the amount of ingredients required from a simple recipe. The task could be designed to require learners to recognise whole numbers, perform simple calculations and make decisions.

Outcomes 1 and 2 delivered sequentially

In this approach, the two Outcomes could be delivered sequentially. In this case, it is recommended that Outcome 1 is delivered prior to Outcome 2. This would be particularly useful for learners who would benefit from a step-by-step approach to learning. This approach would allow basic number and number processing skills to be practised and consolidated prior to their application in a wider context. It is suggested that Outcome 2 is assessed holistically using one context rather than as separate assessment standards.

Assessment evidence could be collected at the end of the Unit or during the delivery or at the end of each Outcome.

It is recommended that the evidence for this Unit is collected as a natural part of the learning and teaching. Where assessment is carried out as a discrete activity, this could be as a single event or it may be broken up into smaller, more manageable sections. In this case care must be taken to avoid duplication of evidence and potential over-assessment.

For the Lifeskills Mathematics: Number and Number Processes Unit, centres may draw on the contexts of money, time and measurement. Some suggested examples of learning, teaching and assessment activities are described in Appendix 1.

Probing questions could also be used to establish a learner's level of understanding and provide a basis for consolidation or remediation where necessary. Examples of probing questions could include:

1 Can you tell me why you did it that way?
2 Can you show me what you did?
3 What problems did you have?

Further details about generic approaches to learning, teaching and assessment and gathering evidence applicable to all component Units in the Course are given in the *Course Support Notes.*

Information about resources for learning, teaching and assessment can be found in Appendix 2.

Developing skills for learning, skills for life and skills for work

For this Unit there are significant opportunities to develop the following skills for learning, skills for life and skills for work, and some of these opportunities are described in the table below.

Skills for learning, skills for life and skills for work framework definition	Suggested approaches for learning and teaching
Literacy	
Listening and talking Listening means the ability to understand and interpret ideas, opinions and information presented orally for a purpose and within a context, drawing on non-verbal communication as appropriate. Talking means the ability to communicate orally ideas, opinions and information for a purpose and within a context. In the context of qualifications, 'communicating orally' is defined as ways of using words for transactions that are spoken (or signed through British Sign Language (BSL)), which are presented in a way that is accessible for the intended audience.	The practical nature of this Unit lends itself to a wide range of opportunities to develop listening and talking. Learners will have the opportunity to access, engage in and understand their learning and to communicate their thoughts, ideas and opinions. This Unit will provide learners with the opportunity to explore numbers and number processes in real-life contexts. By using real-life contexts, learners will be able to draw on familiar vocabulary to develop their confidence with mathematics and the use of mathematical literacy.
Numeracy	
Number processes Number processes means solving problems arising in everyday life through: ♦ carrying out calculations involving addition, subtraction, multiplication, and division ♦ using whole numbers, fractions, decimal fractions, and percentages ♦ making informed decisions based on the results of these calculations ♦ understanding these results	In the Lifeskills Mathematics: Number and Number Processes Unit, learners may be encouraged to carry out a range of calculations involving addition and subtraction of whole numbers. For multiplication and division, practical tasks involving the use of resources may aid understanding. Based on these calculations, learners could be encouraged to make choices or decisions for themselves. At National 2, learners will begin to appreciate simple fractions of shapes and quantities such as halves or quarters.
Thinking skills	
Understanding Understanding is the ability to demonstrate the meaning of items of information, to explain the order of events in a sequence, and to	Wherever possible, learners should be given the opportunity to demonstrate their understanding. This can be done to tackle a situation for example, by deciding which calculations need to be carried out, the order in which the calculations need to be

interpret in a different setting or context.	done and then determining what the answers mean in relation to the context. Estimating is also important in determining whether their answer is correct or not.
Applying Applying is the ability to use existing information to solve a problem in a different context, and to plan, organise and complete a task.	Wherever possible, learners should be given the opportunity to apply the skills, knowledge and understanding they have developed to tackle situations involving number in a range of real-life contexts. Learners should be encouraged to decide which number process to use and then carry out the calculations to complete the task. To determine a learner's level of understanding, learners should be encouraged to show or discuss their thinking.

There may also be further opportunities for the development of additional skills for learning, skills for life and skills for work in the delivery of this Unit. However, this may vary across centres depending on approaches being used to deliver the Unit. Decisions regarding development opportunities will be made by teachers and centres.

Equality and inclusion

Learners undertaking qualifications at SCQF level 2 are likely to require more support with their learning than at other levels. Learners should be given as much support as they need to engage with learning, teaching and assessment whilst maintaining the integrity of the Outcomes and Assessment Standards.

Examples of the type of support which may be appropriate for this Unit are as follows:

- The use of a calculator or similar aid
- ICT and assistive technologies
- Number squares and multiplication grids
- Use of real materials where possible
- Practical helper to manipulate items or resources under the direct instruction of the learner

Other types of support are also possible and would be determined by the teacher/lecturer in response to the specific needs of the learner.

It is recognised that Centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Unit Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Suggested examples of learning, teaching and assessment activities

Outcome 1: The learner will recognise and use number in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
1.1 Recognising and using whole numbers	Recognising whole numbers in word and/or digit format. Learners could order numbers according to their value supported by using number lines and squares and match figures to words. Observing and recording when and why numbers are used in the learner's environment eg signs, timetables, room numbers, advertisements, clocks, page numbers, and posters or pictures. Number puzzles and games could be also used to practise recall of number facts and improve agility with addition and subtraction. Using online computer quizzes and scenarios which use whole numbers in simulated contexts such as SQA Solar. Participating in a shopping scenario to find out how much a set of items will cost and what change will be due and whether you can afford to buy the items with a given amount of money. Using page numbers to locate information. Checking the number of items in a delivery or in storage (eg stock check). Read distances and speed limits on road signs. Make a collection of numbers in the local area by using photographs or illustrations.
1.2 Recognising very simple fractions	Learners could be asked to recognise halves and quarters of regular shapes and quantities. This could be done practically, with learners having the opportunity to manipulate objects, everyday items or by using computer games which require learners to shade fractions of shapes or work out fractions of quantities. Discussing how items such as a cake or quantities such as a bag of apples can be shared with two or four people. This approach could also be used as a practical activity where a cake needs to be cut into quarters so that each person gets the same amount. Relating halves to lines of symmetry in the Lifeskills Mathematics: Shape, Space and Data Unit. Asking learners to complete the missing half of the picture could introduce learners to symmetry. Explore halves of shapes in art. Investigating how whole items such as a piece of paper, apples, oranges etc can be physically divided by cutting or folding or splitting. Make links with measurement in science or home economics by estimating when various jugs, bottles and boxes are half or a quarter full. Make links with time by discussing half past and quarter past or quarter to on an analogue clock. Discuss 'half time' in games such

	as football or netball. Link to shopping eg half-price sale or ½ price.
1.3 Carrying out calculations involving addition and subtraction of whole numbers	Learners should be able to carry out very simple calculations involving addition and subtraction of whole numbers in real-life contexts by counting on or back. Learners should be encouraged to perform calculations, mentally or in writing and by using a number line or concrete resources for support. Consider combining this assessment standard with 1.1 The contexts of money could be used to develop addition and subtraction skills such as adding amounts of money together or calculating the change due, using subtraction. The context of time could develop addition and subtraction skills by adding the time it would take for a two stage journey (bus ride and walking). Working out when they would need to leave home to reach school by a certain time by taking away the travelling time. Measurement provides a wide range of contexts for the addition and subtraction of whole numbers. This could be incorporated in practical activities such as cooking, craft work and physical education.
1.4 Carrying out very simple tasks involving multiplication or division	Learners could have the opportunity to engage in practical activities such as serving food and drinks, and creating collections of items which demonstrate multiplication or division of whole numbers. Activities could include sharing a number of items between people in a group. Consider combining this assessment standard with 1.2. Learners should also be shown in practical contexts that multiplication is the same as repeated addition. Investigations could be used to find out how many common items are in a collection, for example how many shoes a group of four people have altogether. Science could also be used to investigate how many different types of minibeasts can be found in a given field sample. Sets of minibeasts could be created and then multiplied to find the total. Learners could build on their understanding of fractions to 'equally share' given quantities using actual items such as money, or pictures. Explore the use of multipacks in shops or supermarkets and how totals can be calculated using multiplication or repeated addition. Use concepts of money by buying a number of tickets for a show, how much is the total cost? Introduce a 10x10 multiplication grid and use this to check answers from practical activities. Work out the number of cars need to transport a group of people.

Outcome 2: The learner will tackle situations involving number in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
2.1 Selecting appropriate calculations	Learners should be encouraged to work with contexts they are familiar with. Where possible, and with support, learners could choose the topic themselves. As an aid to understanding, where practicable, learners should be encouraged to choose and perform calculations in a real-life situation or role play context. These calculations can be carried out using the contexts of money, time and measurement. Learners should be encouraged to discuss when they see or use numbers in real-life eg when going shopping or using public transport, when doing DIY or cooking at home or when participating in sport. Contexts such as these could be used as a basis for this Outcome. Using a selected scenario or real-life contexts learners could work collaboratively or on their own to decide which calculations are necessary – addition, subtraction, multiplication or division.
2.2 Using numerical notation	Learners should be able to record their calculations using appropriate numerical notation such as +, -, and = and associated vocabulary such as plus, altogether, subtract, take away, equals etc. Discussions about how the task is going to be managed will help the learner to articulate the numerical processes involved.
2.3 Carrying out very simple calculations	Learners should be encouraged to perform calculations, mentally or in writing. They may also use a number line or concrete resources such as calculators for support. Encourage estimation and then checking to see how sensible the estimation has been.
2.4 Using the results of calculations to make a decision	Based on the results of calculations, learners should be able to make a decision or choice. For example, deciding whether more or less ingredients are needed for a recipe, deciding if they have enough money to buy an item, deciding how many biscuits can be shared equally between a group of people at a coffee morning.

Appendix 2: Suggested resources

These suggested resources were correct at the time of print and may be subject to change.

Suggested organisation available from the web	**Possible resources or support materials**
BBC Scottish Bitesize Maths	Provides lots of on-line resources for teaching and learning mathematics.
Teaching Ideas	Provides lots of on-line resources for Mathematics and Numeracy for free. Many examples of contextualised and age graded.
Office of Fair Trading Skilled to Go	Skilled to go uses real life consumer situations, such as choosing a mobile phone, to help learners develop consumer skills, knowledge and confidence alongside literacy and numeracy. A free toolkit of resources includes games, quizzes, role plays and case studies, plus video and audio content.
National Centre for Excellence in the Teaching of Mathematics (NCETM)	The NCETM aims to meet the needs of teachers of mathematics and realise the potential of learners through a sustainable national infrastructure for mathematics-specific continuing professional development (CPD). The NCETM provides and signposts high quality resources to teachers, mathematics education networks, HEIs and CPD providers throughout England. At the same time, the National Centre encourages schools and colleges to learn from their own best practice through collaboration among staff and by sharing good practice locally, regionally and nationally. A significant number of resources are also available.
Personal Finance Education Group (pfeg)	pfeg is an independent charity helping schools to plan and teach personal finance relevant to learners' lives and needs. pfeg provides free support, resources and expert consultancy to make learning about money easy. pfeg also works with government, opinion formers and key bodies and campaigns for consistent, quality finance education for children and young people across the UK. It is not affiliated to any one organisation and does not market or sell any financial products or services. Teaching resources, video clips and case studies – free to order or download

Appendix 3: Reference documents

The following reference documents will provide useful information and background.

- Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications on SQA's website: http://www.sqa.org.uk/sqa/14976.html
- *Building the Curriculum 4: Skills for learning, skills for life and skills for work*
- *Building the Curriculum 5: A framework for assessment*
- Course Specifications
- Design Principles for National Courses
- *Guide to Assessment* (June 2008)
- Overview of Qualification Reports
- *Overview of Qualification Reports*
- *Principles and practice papers for curriculum areas*
- *Research Report 4 — Less is More: Good Practice in Reducing Assessment Time*
- *Coursework Authenticity — a Guide for Teachers and Lecturers*
- *SCQF Handbook: User Guide (published 2009)* and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- *SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*
- *Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool*
- SQA Guidelines on e-assessment for Schools
- SQA Guidelines on Online Assessment for Further Education
- SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

Published: April 2012 (version 1.0)

Superclass: H21R 72

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date

Unit Support Notes

Unit Support Notes — Lifeskills Mathematics: Shape, Space and Data (National 2)

Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Lifeskills Mathematics: Shape, Space and Data* (National 2) Unit. They are intended for teachers and lecturers who are delivering this Unit.

They should be read in conjunction with:

- the *Unit Specification*
- the *Course Specification*
- the *Course Support Notes*
- appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to enable learners to recognise and use basic shape, space and data to organise and plan a range of everyday activities. This will include interpreting and communicating information to make informed choices. Learners will also make informed choices by developing an awareness of chance and uncertainty in everyday contexts.

Learners who successfully complete this Unit will be able to:

1 Recognise and use shape and space in real-life contexts
2 Use data in real-life contexts

Progression into this Unit

Entry into this Unit is at the discretion of the centre.

Prior learning, life and work experiences may provide an appropriate basis for entry into this Unit. This could include relevant skills, knowledge and understanding and appropriate experiences and outcomes from the Mathematics Curriculum Area. Further information is available in the *Course Support Notes.*

This Unit may also be appropriate for learners with mathematics and numeracy related qualifications at SCQF level 1.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 2 Lifeskills Mathematics *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Content and contexts which are used in the teaching of this Unit are at the discretion of the centre. Content and contexts must however provide evidence of all Outcomes and the Assessment Standards in the Unit.

At this level content and contexts for the development of skills, knowledge and understanding should be very simple or basic. This may include for example: the use of shape, space and data in familiar or routine situations; the use of regular and commonly experienced 2D shapes or 3D objects; and the use of data in simplified tables, charts or diagrams.

Progression from this Unit

This Unit may provide progression to:

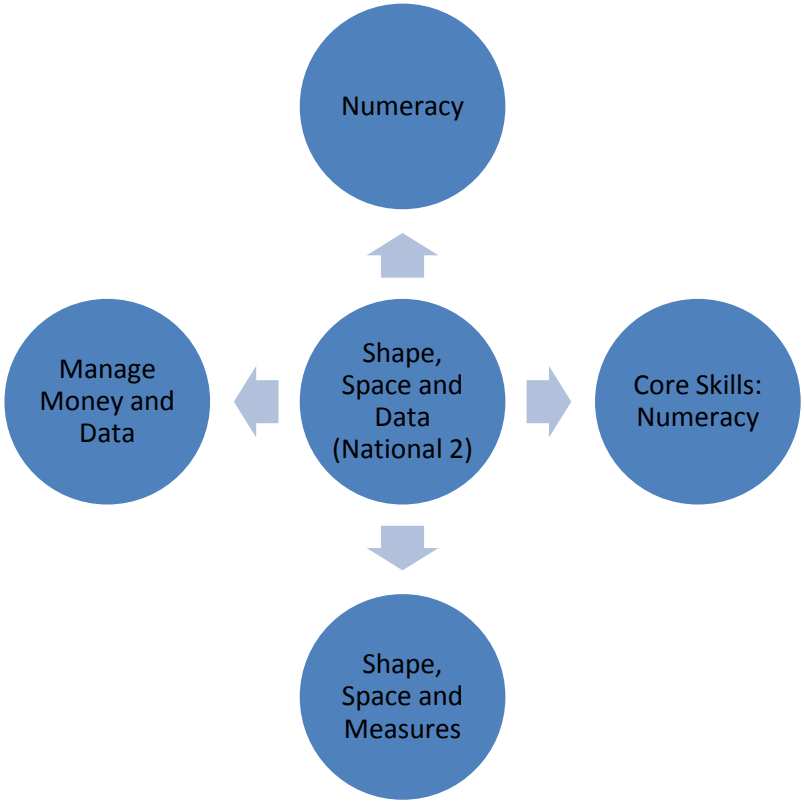
- other Units in the National 2 Lifeskills Mathematics Course
- other mathematics related Units at SCQF level 2
- other mathematics and mathematics related Units at SCQF level 3
- Core Skills Numeracy (SCQF level 3)

Shape, space and data handling has applications in a variety of other subject areas including life and work. The skills, knowledge and understanding developed in this Unit could support both breadth and depth of learning in other curriculum areas such as science, health and wellbeing, art, craft skills and technology, in addition to life and work contexts.

Examples of possible progression routes to other Units at SCQF levels 2 and 3 are provided in the following diagrams:

Diagram 2: Progression opportunities from the Lifeskills Mathematics: Shape, Space and Data Unit into related SCQF level 2 Units

Diagram 2: Progression opportunities from the Lifeskills Mathematics; Shape, Space and Data Unit into related SCQF level 3 Units



Approaches to learning, teaching and assessment

The purpose of this section is to provide advice and guidance in approaches to learning, teaching and assessment for this Unit.

There are a variety of learning and teaching approaches which can be used to deliver this Unit. This section of the *Unit Support Notes* provides advice and guidance and includes examples of several approaches that could be used.

Teachers/lecturers should provide opportunities for personalisation and choice to ensure that learning is relevant and motivating. Learning should where possible be relevant to the learners' everyday life, their overall learning programme and/or work and leisure.

Individual needs of learners should be taken into account when planning learning, teaching and assessment activities. Evidence can be gathered and presented in a variety of formats using the learners' usual means of communication.

The *Course Support Notes* provide generic advice on approaches to learning, teaching, assessment, gathering evidence and authentication which apply to all component Units of the Course. It is recommended that these should be read before delivering this Unit.

Combining and sequencing learning, teaching and assessment within the Unit

The combination of delivery and assessment of this Unit is entirely at the discretion of the centre. Two main approaches are suggested here, but other possibilities may exist.

Outcomes 1 and 2 combined

In this approach, the two Outcomes could be combined to provide a holistic approach to delivery and assessment. Learners could be given the opportunity to recognise and use shape, space and data using a single context. Examples could include working with a range of 2D shapes and 3D objects and using them for a specific purpose according to their characteristics. For example, learners could use information about the shapes and objects they have worked with to complete a pictogram, plan or model. Alternatively, learners could be asked to use various 2D shapes to create a simple pattern, map or plan. Learners could then use their pattern, map or plan to give simple instructions to someone else. Decisions could be made based on what shape would appear next in the pattern or how the map or plan could be used or expanded.

Outcomes 1 and 2 delivered sequentially

In this approach, the two Outcomes could be delivered sequentially. Because each Outcome can be treated exclusively, it does not matter what order they are delivered in.

In some cases, however, you may wish to reinforce concepts of shape and space through handling data involving 2D shapes or 3D objects. This approach will be particularly useful in developing and reinforcing vocabulary associated with shape and space in different contexts.

Assessment evidence could be collected at the end of the Unit or during the delivery or at the end of each Outcome.

It is recommended that the evidence for this Unit is collected as a natural part of the learning and teaching. Where assessment is carried out as a discrete activity, this could be as a single event or it may be broken up into smaller, more manageable sections. In this case care must be taken to avoid duplication of evidence and potential over-assessment.

For the Lifeskills Mathematics: Shape, Space and Data Unit, centres may draw on the contexts of money, time and measurement. Some suggested approaches to learning, teaching and assessment are described in Appendix 1.

Probing questions could also be used to establish a learner's level of understanding and provide a basis for consolidation or remediation where necessary. Examples of probing questions could include:

1 Can you tell me why you thought or said that?
2 Can you show me what you did?
3 What problems did you have?

Further details about possible approaches to learning, teaching and assessment and gathering evidence applicable to all component Units in the Course are given in the *Course Support Notes.*

Exemplification of assessment can be found in the *Unit Assessment Support.*

Information about resources for learning, teaching and assessment can be found in Appendix 2.

Developing skills for learning, skills for life and skills for work

For this Unit there are significant opportunities to develop the following skills for learning, skills for life and skills for work, and some of these opportunities are described in the table below.

Skills for learning, skills for life and skills for work framework definitions	Suggested opportunities for learning and teaching
Literacy	
Listening and talking Listening means the ability to understand and interpret ideas, opinions and information presented orally for a purpose and within a context, drawing on non-verbal communication as appropriate. Talking means the ability to communicate orally ideas, opinions and information for a purpose and within a context. In the context of qualifications, 'communicating orally' is defined as ways of using words for transactions that are spoken (or signed through British Sign Language (BSL)), which are presented in a way that is accessible for the intended audience.	The practical nature of this Unit lends itself to a wide range of opportunities to develop listening and talking. Learners will have the opportunity to access, engage in and understand their learning and to communicate their thoughts, ideas and opinions. This Unit will provide learners with the opportunity to explore the use of shape, space and data in real-life contexts. By using real-life contexts, learners will be able to draw on familiar vocabulary to develop their confidence with mathematics and the use of mathematical literacy.
Numeracy	
Information handling Information handling means being able to interpret data in tables, charts and other graphical displays to draw sensible conclusions. It involves interpreting the data and considering its reliability in making reasoned deductions and informed decisions. It also involves an awareness and understanding of the chance of events happening.	In the Lifeskills Mathematics: Shape, Space and Data Unit, learners could be encouraged to explore a wide range of data encountered in real-life situations such as timetables, lists, and calendars. Discussion about the data and what it means may provide a sound basis on which learners can understand its purpose and make informed decisions. The use of ICT would be particularly helpful for learners to access data and to make simple graphs, tables or charts
Thinking skills	
Understanding Understanding is the ability to demonstrate the meaning of items of information, to explain the order of events in a sequence, and to interpret in a different setting or context.	Wherever possible, learners may be given the opportunity to demonstrate their understanding. This can be done to tackle a situation for example, by deciding what mathematical skills to use and then determining what the answer means in relation to the context. For example, a learner will understand that a square has four equal sides. The use of probing questions could help to establish a learner's level of understanding.

Applying Applying is the ability to use existing information to solve a problem in a different context, and to plan, organise and complete a task.	Wherever possible, learners could be given the opportunity to apply the skills, knowledge and understanding they have developed to tackle situations involving shape and space in real-life contexts. Learners could be encouraged to decide which mathematical skills to use to complete a task. To determine a learner's level of understanding, learners could be encouraged to show or share their thinking at all times verbally, in writing or through their actions. For example, a learner will be able to apply their understanding of a square by knowing that 'one side of the square is 6 cm then I know the length of the other sides, because they are all the same.'

There may also be further opportunities for the development of additional skills for learning, skills for life and skills for work in the delivery of this Unit. However, this may vary across centres depending on approaches being used to deliver the Unit. Decisions regarding development opportunities will be made by teachers and centres.

Equality and inclusion

Learners undertaking qualifications at SCQF level 2 are likely to require more support with their learning than at other levels. Learners should be given as much support as they need to engage with learning, teaching and assessment whilst maintaining the integrity of the Outcomes and Assessment Standards

Examples of the type of support which may be appropriate for this Unit are as follows:

- The use of a calculator or similar aid
- ICT and assistive technologies
- Actual shapes or real-life objects
- Use of alternative practical activities
- Practical helper to manipulate shapes and objects under the direct instruction of the learner

Other types of support are also possible and would be determined by the teacher/lecturer in response to the specific needs of the learner.

It is recognised that Centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Unit Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and where the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Suggested examples of learning, teaching and assessment activities

Outcome 1: The learner will recognise and use shape and space in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
1.1 Recognising and using common 2D shapes and 3D objects	♦ Opportunities for working with 2D shapes and 3D objects could include surveying, using and discussing why different shapes are used according to their characteristics including corners, edges and lines eg using oblong rulers for drawing straight lines, using spheres for balls, cuboids for radiators and cubes for packaging. ♦ Learners could investigate the strength of different types of shapes such as triangles and boxes and associate what they find with shapes used in buildings and bridges. ♦ Learners could draw plans for a bedroom or kitchen or a garden using a range of 2D shapes to represent 3D objects. ♦ Making 3D models from given 2D plans. ♦ Matching 2D shapes and 3D objects to everyday items such as packaging or signage. ♦ Surveying different 2D shapes used for road signs such as warning triangles, directional signs and speed limits. ♦ Sorting different types of packaging and discuss why particular shapes are used. ♦ Investigating the volume of different kinds of containers. ♦ Making 3D shapes from 2D nets to create own packaging for items such as food or household goods ♦ Using a blindfold try and work out what an object might be. Have the learner describe what they feel so that another has to tell what it is from their description. ♦ Work with others to connections game (need 2D shapes of different size, thickness and shape) share out the shapes between players – someone starts with a shape. The next player has to place next to it a shape that connects in some way – shape, thickness, number of sides, size – but also explain to the rest how their shape connects. ♦ Describe a shape drawing to another person who has to copy it when given the instructions and description only. Then compare to see how they got on. ♦ Describe a shape drawing to another person who has to copy it when given the instructions and description only. Then compare to see how they got on.
1.2 Describing the position of shapes or objects appropriately	♦ Use contexts within physical education or technology or cooking to develop positional vocabulary such as next to, behind, above, in front of, on top of and underneath etc. Use learners to model position. ♦ Follow directions from others to place objects around a room. ♦ Create a set of instructions to find places around the school,

	college or local area. ♦ Use a science context to give directions to different areas or instruction on how to work within a local environmental area. ♦ Make models or items by following a set of given instructions.
1.3 Using appropriate vocabulary to compare shapes or objects	♦ Compare items in terms of their properties. This may include for example, smaller, bigger, longer, shorter, wider, thinner and heavier or lighter. ♦ Use packaging to make comparisons – which one is taller/shorter; heavier/lighter? ♦ Make collections of different zips, buttons and ribbons. This could also include items of clothing. Whose coat has the longer/shorter sleeves? Whose shoe or scarf is wider/narrower? ♦ Use materials to build towers, bridges and houses and compare. ♦ Use cooking contexts – to make longer loaves or taller cakes etc.
1.4 Continuing a simple pattern	♦ Use knowledge of 2D shapes and 3D objects to create continue simple patterns. This could include creating a tiling patter for a bathroom or kitchen. ♦ Creating a repeated pattern along a straight line for a border around a picture or living room wall. ♦ Design wallpaper or wrapping paper for a special occasion. ♦ Introduce idea of symmetry. Complete symmetrical patterns or pictures.

Outcome 2: The learner will use data in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
2.1 Adding to data given in a basic graphical form	♦ Add data to a partially completed table, bar chart, diagram or plan. ♦ Use data from other Units within the Course to complete a simple timetable or measurement chart. ♦ Complete open and closing times for a shop or café. ♦ Complete a tally chart in physical education to record for example, points scored or number of hits made. ♦ Complete a weather chart or pictogram to record the pattern of weather over a period of a week or month. ♦ Create an emergency telephone list for use at home. ♦ Classify items for recycling. ♦ Collect own data eg favourite music, clothes or drinks and present in different ways using tallies, pictures or colour coding.
2.2 Interpreting simple data to make a choice	♦ This may include learners interpreting information given in very simple tables, bar charts, diagrams or plans to make a choice. For example, deciding what bus to catch from a timetable, or working out the total cost of items need to be bought from a shopping list and whether there is enough money available. ♦ Resources could include timetables, menus, calendars, diary entries, price lists, weather charts/maps. ♦ Use labels on clothing to decide how an item needs to be cared for.

	♦ Use labelling on food packaging to decide whether an item is healthy or not. ♦ Read film and TV schedules to decide what programmes to watch and when they will be viewed. ♦ Use the Met Office weather application for smartphones to choose what clothes to wear on a particular day. ♦ Use customer review star ratings to choose what item would be best to buy. ♦ Produce a simple timetable to plan and manage own learning.
2.3 Using data to make a choice based on the likelihood of an event happening	♦ Identifying risk in pictures or photographs related to health and safety at home, in school or the workplace. Discuss what could happen if…? ♦ Suggest possible options for what to do over a weekend after looking at the weather forecast or find out how much money is available to spend. ♦ Use vocabulary to describe the likelihood of an event such as: whether it is going to rain; whether the bus might be late; or whether they might oversleep if they don't set an alarm in the morning. ♦ Run a competition and discuss the likelihood that the same person will win. ♦ Investigate the probability of numbers arising when a die is thrown, record results on a tally chart and predict what number might come up next. ♦ Investigate chance by using playing cards including trump cards. Discuss the likelihood of turning over a particular card. ♦ Use patterns to predict what might come next. ♦ Use weather data to decide where to go for a beach holiday. ♦ Interpret a simple plan of a bedroom or living room to decide where a piece of furniture will go.

Appendix 2: Suggested resources

These suggested resources were correct at the time of print and may be subject to change.

Suggested organisation available from the web	**Possible resources or support materials**
BBC Scottish Bitesize Maths	Provides lots of on-line resources for teaching and learning mathematics.
Teaching Ideas	Provides lots of on-line resources for Mathematics and Numeracy for free. Many examples of contextualised and age graded.
Office of Fair Trading Skilled to Go	Skilled to go uses real life consumer situations, such as choosing a mobile phone, to help learners develop consumer skills, knowledge and confidence alongside literacy and numeracy A free toolkit of resources includes games, quizzes, role plays and case studies, plus video and audio content.
National Centre for Excellence in the Teaching of Mathematics (NCETM)	The NCETM aims to meet the needs of teachers of mathematics and realise the potential of learners through a sustainable national infrastructure for mathematics-specific continuing professional development (CPD). The NCETM provides and signposts high quality resources to teachers, mathematics education networks, HEIs and CPD providers throughout England. At the same time, the National Centre encourages schools and colleges to learn from their own best practice through collaboration among staff and by sharing good practice locally, regionally and nationally. A significant number of resources are also available.

Appendix 3: Reference documents

The following reference documents will provide useful information and background.

- Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications on SQA's website: http://www.sqa.org.uk/sqa/14976.html
- *Building the Curriculum 4: Skills for learning, skills for life and skills for work*
- *Building the Curriculum 5: A framework for assessment*
- Course Specifications
- Design Principles for National Courses
- *Guide to Assessment* (June 2008)
- Overview of Qualification Reports
- *Overview of Qualification Reports*
- *Principles and practice papers for curriculum areas*
- *Research Report 4 — Less is More: Good Practice in Reducing Assessment Time*
- *Coursework Authenticity — a Guide for Teachers and Lecturers*
- *SCQF Handbook: User Guide (published 2009)* and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- *SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*
- *Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool*
- SQA Guidelines on e-assessment for Schools
- SQA Guidelines on Online Assessment for Further Education
- SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

Published: April 2012 (version 1.0)

Superclass: H21T 72

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date

Unit Support Notes

Unit Support Notes — Lifeskills Mathematics: Money (National 2)

Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Lifeskills Mathematics: Money* (National 2) Unit. They are intended for teachers and lecturers who are delivering this Unit.

They should be read in conjunction with:

- the *Unit Specification*
- the *Course Specification*
- the *Course Support Notes*
- appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to enable learners to manage money in real-life contexts. Learners will recognise and use coins and banknotes, carry out basic calculations and compare costs. Learners will also apply their skills, knowledge and understanding of money to tackle real-life situations.

Learners who successfully complete this Unit will be able to:

1 Recognise and use money in real-life contexts
2 Tackle situations involving money in real-life contexts

Progression into this Unit

Entry into this Unit is at the discretion of the centre.

Prior learning, life and work experiences may provide an appropriate basis for entry into this Unit. This could include relevant skills, knowledge and understanding and appropriate experiences and outcomes from the Mathematics Curriculum Area. Further information is available in the *Course Support Notes*.

This Unit may also be appropriate for learners with mathematics or numeracy related qualifications at SCQF level 1.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 2 Lifeskills Mathematics *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Content and contexts which are used in the teaching of this Unit are at the discretion of the centre. Content and contexts, must, however provide evidence of all Outcomes and the Assessment Standards in the Unit.

At this level, content and contexts for the development of skills, knowledge and understanding should be very simple or basic. This may include for example: the use of money in familiar or routine situations to the learner such as making a journey or buying and selling.

Progression from this Unit

This Unit may provide progression to:

- Other Units in the National 2 Lifeskills Mathematics Course
- Other mathematics related Units at SCQF level 2
- Other mathematics and mathematics related Units at SCQF level 3
- Core Skills: Numeracy (SCQF level 3)

Money has applications in a variety of other subject areas including life and work. The skills, knowledge and understanding developed in this Unit could therefore support both breadth and depth of learning in other curriculum areas such as health and wellbeing, home economics and personal development in addition to life and work contexts.

Examples of possible progression opportunities to other Units at SCQF levels 2 and 4 are provided in the following diagrams:

Diagram 1: Progression opportunities from the Lifeskills Mathematics: Money Unit into related SCQF level 2 Units

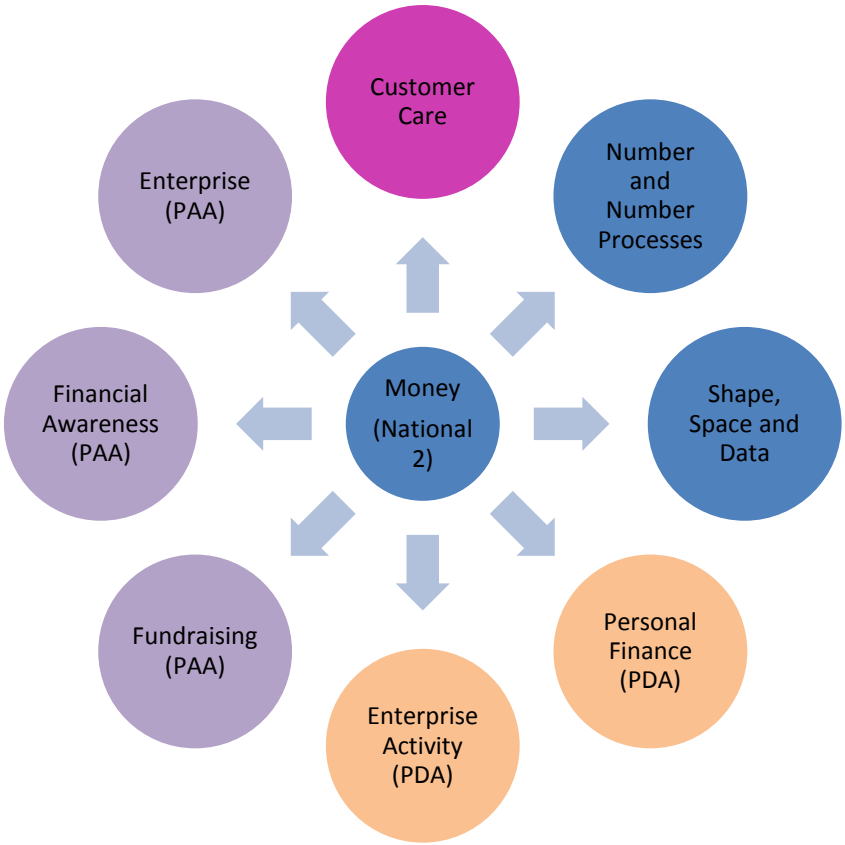
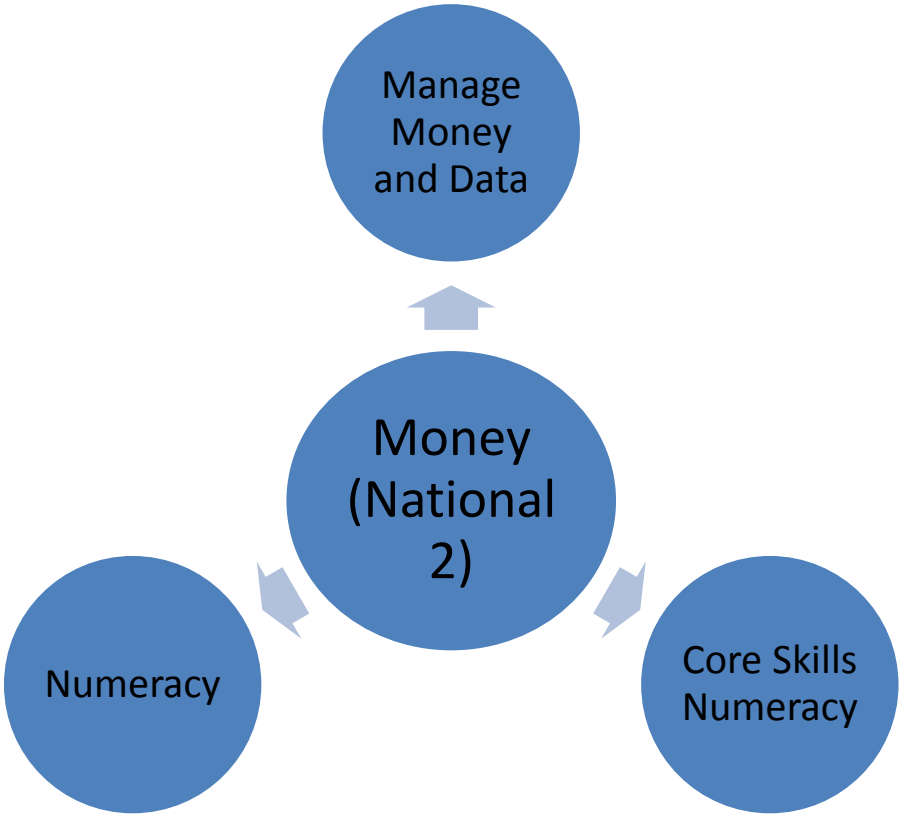


Diagram 2: Progression opportunities from the Lifeskills Mathematics: Money Unit into related SCQF level 3 Units



Approaches to learning, teaching and assessment

The purpose of this section is to provide advice and guidance in approaches to learning, teaching and assessment for this Unit.

There are a variety of learning and teaching approaches which can be used to deliver this Unit. This section of the *Unit Support Notes* provides advice and guidance and includes examples of some approaches that could be used.

Teachers/lecturers should provide opportunities for personalisation and choice to ensure that learning is relevant and motivating. Learning should where possible be relevant to the learners' everyday life, their overall learning programme and/or work and leisure.

Individual needs of learners should be taken into account when planning learning, teaching and assessment activities. Evidence can be gathered and presented in a variety of formats using the learner's usual means of communication.

The *Course Support Notes* provide generic advice on approaches to learning, teaching, assessment, gathering evidence and authentication which apply to all component Units of the Course. It is recommended that these should be read before delivery of this Unit.

Combining and sequencing learning, teaching and assessment within the Unit

The combination of delivery and assessment of this Unit is entirely at the discretion of the centre. Two main approaches are suggested here, but other possibilities may exist.

Outcomes 1 and 2 combined

In this approach, the two Outcomes could be combined to provide a holistic approach to delivery and assessment. Learners could be given the opportunity to recognise and use coins and banknotes whilst carrying out tasks involving money. For example, learners could be given a real or simulated task which requires them to calculate cost and work out change, they could also be required to make up amounts of money for particular items. To complete the task learners could be given the opportunity to carry out relevant calculations and make a decision as to whether an item or items are affordable or not.

Outcomes 1 and 2 delivered sequentially

In this approach, the two Outcomes could be delivered sequentially. In this case, it is recommended that Outcome 1 is delivered prior to Outcome 2. This would be particularly useful for learners who would benefit from a gradual increase in demand and a step-by-step approach to learning. This approach would allow basic money knowledge and understanding to be developed and practised prior

to their application in a given context.

Assessment evidence could be collected at the end of the Unit or during the delivery or at the end of each Outcome.

It is recommended that the evidence for this Unit is collected as a natural part of the learning and teaching. Where assessment is carried out as a discrete activity, this could be as a single event or it may be broken up into smaller, more manageable sections. In this case care must be taken to avoid duplication of evidence and potential over-assessment.

For the Lifeskills Mathematics: Money Unit, some suggested approaches to learning, teaching and assessment are described in Appendix 1.

Probing questions could also be used to establish a learner's level of understanding and provide a basis for consolidation or reinforcement where necessary. Examples of probing questions could include:

1 Can you tell me why you did it that way?
2 Can you show me what you did?
3 What problems did you have?

Further details about possible approaches to learning, teaching and assessment and gathering evidence applicable to all component Units in the Course are given in the *Course Support Notes.*

Information about resources for learning, teaching and assessment can be found in Appendix 2.

Developing skills for learning, skills for life and skills for work

For this Unit there are significant opportunities to develop the following skills for learning, skills for life and skills for work, and some of these opportunities are described in the table below:

Skills for learning, skills for life and skills for work framework definition	**Suggested approaches for learning and teaching**
Literacy	
Listening and talking Listening means the ability to understand and interpret ideas, opinions and information presented orally for a purpose and within a context, drawing on non-verbal communication as appropriate. Talking means the ability to communicate orally ideas, opinions and information for a purpose and within a context.	The practical nature of this Unit lends itself to a wide range of opportunities to develop listening and talking. Learners will have the opportunity to access, engage in and understand their learning and to communicate their thoughts, ideas and opinions. This Unit will provide learners with the opportunity to explore the use of money in real-life and simulated contexts. By using real-life and simulated contexts, learners will be able to draw on familiar vocabulary to develop their confidence with handling money and the use of vocabulary associated with money.
Numeracy	
Number processes Number processes means solving problems arising in everyday life through: ♦ carrying out calculations involving addition, subtraction, multiplication, and division ♦ using whole numbers, fractions, decimal fractions, and percentages ♦ making informed decisions based on the results of these calculations ♦ understanding these results	In the Lifeskills Mathematics: Money Unit, learners could be encouraged to select appropriate calculations for simple buying and selling activities. Learners could also be made aware that counting up and making up amounts of money can be done through addition and giving change through subtraction. Where learners have the capacity to understand, they could also be taught that change can also be calculated by counting on.
Money, time and measurement This means using and understanding money, time and measurement to solve practical problems in a variety of contexts using relevant units and suitable instruments, and to appropriate degrees of accuracy.	Learners could be encouraged to develop the confidence to manage money in a range of real-life contexts. This could include simple shopping trips, travel, and buying and selling activities. Where relevant, learners could also explore simple forms of income and expenditure. Estimation and checking of answers is very important part of this process which can include asking questions such as 'How sensible is the total bill or amount of change?', or by estimating the amount of change they should receive.

Thinking skills	
Understanding Understanding is the ability to demonstrate the meaning of items of information, to explain the order of events in a sequence, and to interpret in a different setting or context.	Wherever possible, learners may be given the opportunity to demonstrate their understanding. This can be done for example, by deciding what numerical calculations to use and then determining what the answer means in relation to the context.
Applying Applying is the ability to use existing information to solve a problem in a different context, and to plan, organise and complete a task.	Wherever possible, learners could be given the opportunity to apply the skills, knowledge and understanding they have developed to manage money in real-life contexts. Learners could be encouraged to decide which numerical skills to use to complete a task. To determine a learner's level of understanding, learners could be encouraged to show or share their thinking verbally, in writing or through their actions.

There may also be further opportunities for the development of additional skills for learning, skills for life and skills for work in the delivery of this Unit. However, this may vary across centres depending on approaches being used to deliver the Unit. Decisions regarding development opportunities will be made by teachers and centres.

Equality and inclusion

Learners undertaking qualifications at SCQF level 2 are likely to require more support with their learning than at other levels. Learners should be given as much support as they need to engage with learning, teaching and assessment whilst maintaining the integrity of the Outcomes and Assessment Standards.

Examples of the type of support which may be appropriate for this Unit are as follows:

- The use of a calculator or a mobile phone with a calculator facility
- ICT and assistive technologies
- Actual or simulated coins and banknotes to handle
- Use of alternative practical activities
- Use of computer aided programmes involving money
- Practical helper during tasks or activities which require physical support

Other types of support are also possible and would be determined by the teacher/lecturer in response to the specific needs of the learner.

It is recognised that Centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Unit Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and where the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Suggested examples of learning, teaching and assessment activities

Outcome 1: The learner will recognise and use money in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
1.1 Counting up manageable amounts of money 1.2 Using coins and banknotes to make up manageable amounts of money 1.3 Calculating basic cost 1.4 Calculating basic change	Learners could be given the opportunity to count up various amounts of money using a range of coins and banknotes. Practical activities involving counting up money may provide the opportunity for learners to gain confidence in handling cash as well as building up vocabulary associated with managing money. Learners may be given the opportunity to set up shop in the school or classroom. They may be given the opportunity to price items and buy and sell to each other. An important part of this process may involve learners making up variable amounts of money to buy items up to the value £20. This process could involve exact amounts of money to buy an item or the nearest amount of money above the value of the item, so change is given. Participating in shopping board games, scenarios or role play activities. Learners could also be given the opportunity to calculate the cost of a number of items. This could be simulated in shopping activities for items frequently used by learners such as food. Working out the correct fare for a journey and having the correct money ready. Exchange coins or notes for their equivalent value using smaller coins. Finding the total of a selection of mixed coins. Counting up money taken during an organised sale event. Making up different amounts of money using a selection of coins and notes. Visiting a local shop to buy specific items and working out how much change is due prior to the visit.

Outcome 2: The learner will tackle situations involving money in real-life contexts by:	
2.1 Selecting appropriate calculations involving money 2.2 Carrying out calculations	Learners could be asked to identify opportunities of when money is handled in their daily life. These contexts could then be used as a starting point for managing money in real-life contexts. Situations or contexts could be simulated in the classroom or where resources permit, real-life activates such as a shopping trip could be carried out.

2.3 Using the results of calculations to make a decision	Learners could for example be exposed to a situation where they have to use public transport from the school to a venue. Prior to the event, learners could be asked to work out what the cost of the return journey would be and how much money they would need in total. They could then find out how much money they have for the trip and calculate how much change they would receive. Based on the amount of change they would have, the learners could be encouraged to decide what they would do with the remaining balance eg buy some sweets or save it for something else. Creating a very simple savings plan for a wanted item over a set period of time. Deciding how long it will take to save up the money and to discuss what might happen if weekly savings are spent on something else.

Appendix 2: Suggested resources

These suggested resources were correct at the time of print and may be subject to change.

Suggested organisation available through the web	Possible resources or support materials
BBC Scottish Bitesize Maths	Provides lots of on-line resources for teaching and learning mathematics.
Teaching Ideas	Provides lots of on-line resources for Mathematics and Numeracy for free. Many examples of contextualised and age graded.
Office of Fair Trading Skilled to Go	Skilled to go uses real life consumer situations, such as choosing a mobile phone, to help learners develop consumer skills, knowledge and confidence alongside literacy and numeracy. A free toolkit of resources includes games, quizzes, role plays and case studies, plus video and audio content.
National Centre for Excellence in the Teaching of Mathematics (NCETM)	The NCETM aims to meet the needs of teachers of mathematics and realise the potential of learners through a sustainable national infrastructure for mathematics-specific continuing professional development (CPD). The NCETM provides and signposts high quality resources to teachers, mathematics education networks, HEIs and CPD providers throughout England. At the same time, the National Centre encourages schools and colleges to learn from their own best practice through collaboration among staff and by sharing good practice locally, regionally and nationally. A significant number of resources are also available.
Personal Finance Education Group (pfeg)	pfeg is an independent charity helping schools to plan and teach personal finance relevant to students' lives and needs. pfeg provides free support, resources and expert consultancy to make learning about money easy. pfeg also works with government, opinion formers and key bodies and campaigns for consistent, quality finance education for children and young people across the UK. It is not affiliated to any one organisation and does not market or sell any financial products or services. Teaching resources, video clips and case studies – free to order or download
Royal Bank of Scotland MoneySense	The MoneySense programme covers such basics as how to open a bank account, how to manage money on a day-to-day basis,

	budgeting and how to run a business. Using the web and the classroom, the programme provides teachers with stimulating, easy to use lesson plans, activities and resources which all fit in with the curriculum. The content is divided into four modules. Each module is a complete 'unit' in its own right. Within each module a series of interactive activities leads the students through all the main elements of personal financial management. Alongside this interactive online resource, the programme can also offer additional support for teachers wishing to offer their students the opportunity to learn about personal financial management. Members of the MoneySense team may be available to guide schools through an initial planning stage and to work in partnership with teachers to deliver the modules.

Appendix 3: Reference documents

The following reference documents will provide useful information and background.

- Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications on SQA's website: http://www.sqa.org.uk/sqa/14976.html
- *Building the Curriculum 4: Skills for learning, skills for life and skills for work*
- *Building the Curriculum 5: A framework for assessment*
- Course Specifications
- Design Principles for National Courses
- *Guide to Assessment* (June 2008)
- Overview of Qualification Reports
- *Overview of Qualification Reports*
- *Principles and practice papers for curriculum areas*
- *Research Report 4 — Less is More: Good Practice in Reducing Assessment Time*
- *Coursework Authenticity — a Guide for Teachers and Lecturers*
- *SCQF Handbook: User Guide (published 2009)* and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- *SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*
- *Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool*
- SQA Guidelines on e-assessment for Schools
- SQA Guidelines on Online Assessment for Further Education
- SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

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Superclass: H21V 72

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date

Unit Support Notes

Unit Support Notes — Lifeskills Mathematics: Time (National 2)

Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Time* (National 2) Unit. They are intended for teachers and lecturers who are delivering this Unit.

They should be read in conjunction with:

- the *Unit Specification*
- the *Course Specification*
- the *Course Support Notes*
- appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to enable learners to manage time in real-life contexts. Learners will use appropriate resources to plan and manage the timing of events or activities. Learners will also apply their skills, knowledge and understanding of time to tackle real-life situations.

Learners who successfully complete this Unit will be able to:

1 Recognise and use time in real-life contexts
2 Tackle situations involving time in real-life contexts

Progression into this Unit

Entry into this Unit is at the discretion of the centre.

Prior learning, life and work experiences may provide an appropriate basis for entry into this Unit. This could include relevant skills, knowledge and understanding and appropriate experiences and outcomes from the Mathematics Curriculum Area. Further information is available in the *Course Support Notes*.

This Unit may also be appropriate for learners with mathematics or numeracy related qualifications at SCQF level 1.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 2 Lifeskills Mathematics *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Content and contexts which are used in the teaching of this Unit are at the discretion of the centre. Content and contexts, must, however provide evidence of all Outcomes and the Assessment Standards in the Unit.

At this level content and contexts for the development of skills, knowledge and understanding should be very simple or basic. This may include for example: the use time in familiar or routine situations such as planning a journey or managing daily personal activities and events eg attending classes, clubs or meetings.

Progression from this Unit

This Unit may provide progression to:

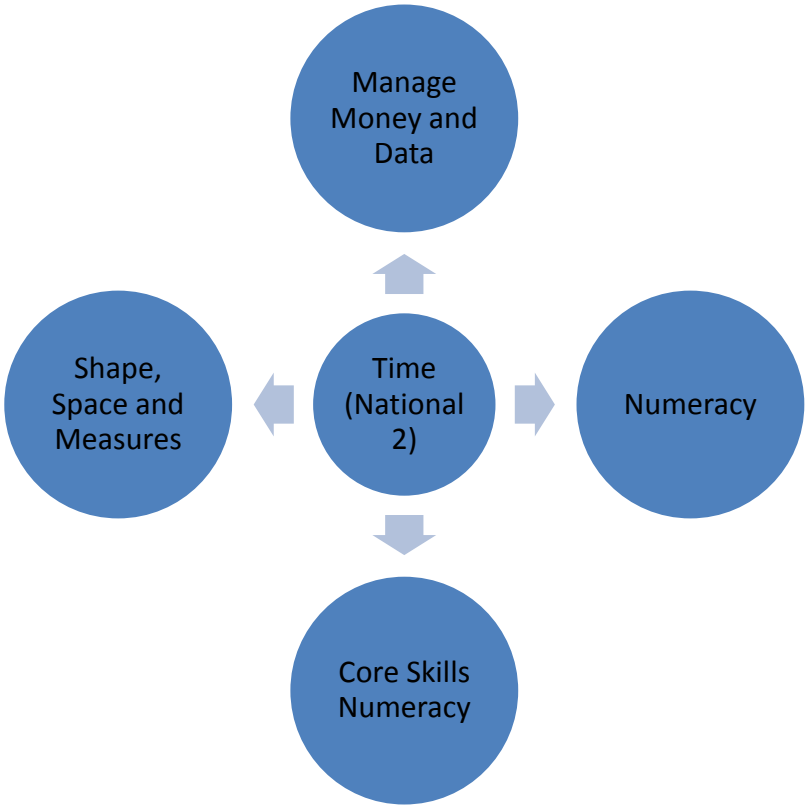
- Other Units in the National 2 Lifeskills Mathematics Course
- Other mathematics related Units at SCQF level 2
- Other mathematics and mathematics related Units at SCQF level 3
- Core Skills Numeracy (SCQF level 3)

Time and time management has applications in a variety of other subject areas including life and work. The skills, knowledge and understanding developed in this Unit could therefore support both breadth and depth of learning in other curriculum areas such as physical education, health and wellbeing, and personal development in addition to life and work contexts.

Examples of possible progression opportunities in to other Units at SCQF levels 2 and 3 are provide in the following diagrams:

Diagram 3: Progression opportunities from the Lifeskills Mathematics: Time Unit into related SCQF level 2 Units

Diagram 4: Progression opportunities from the Lifeskills Mathematics: Time Unit into related SCQF level 3 Units



Approaches to learning, teaching and assessment

The purpose of this section is to provide advice and guidance in approaches to learning, teaching and assessment.

There are a variety of learning and teaching approaches which can be used to deliver this Unit. This section of the *Unit Support Notes* provides advice and guidance and includes examples of some approaches that could be used.

Teachers/lecturers should provide opportunities for personalisation and choice to ensure that learning is relevant and motivating. Learning should where possible be relevant to the learners' everyday life, their overall learning programme and/or work and leisure.

Individual needs of learners should be taken into account when planning learning, teaching and assessment activities. Evidence can be gathered and presented in a variety of formats using the learner's usual means of communication.

The *Course Support Notes* provide generic advice on approaches to learning, teaching, assessment, gathering evidence and authentication which apply to all component Units of the Course. It is recommended that these should be read before delivering this Unit.

Combining and sequencing learning, teaching and assessment within the Unit

The combination of delivery and assessment of this Unit is entirely at the discretion of the centre. Two main approaches are suggested here, but other possibilities may exist.

Outcomes 1 and 2 combined

In this approach, the two Outcomes could be combined to provide a holistic approach to delivery and assessment. Learners could be given the opportunity to use their knowledge of days of the week, months of the year and time during the day to carry out a given task. The task could be designed to allow the learner to select and use appropriate resources and to make a decision to complete the task. For example, learners could be given a real or simulated practical task for example, catching a train to Inverness from Glasgow, returning the next day. This task would require the learner to recognise dates and times and then select and use simplified resources to work out very simple date and time intervals. Learners could be asked to use these calculations to make simple decisions about the management of time for the task.

Outcomes 1 and 2 delivered sequentially

In this approach, the two Outcomes could be delivered sequentially. In this case, it is recommended that Outcome 1 is delivered prior to Outcome 2. This would be particularly useful for learners who would benefit from a gradual increase in

demand and a step-by-step approach to learning. This approach would allow knowledge and understanding of time to be developed and practised prior to application in a given context.

Assessment evidence could be collected at the end of the Unit or during the delivery or at the end of each Outcome.

It is recommended that the evidence for this Unit is collected as a natural part of the learning and teaching. Where assessment is carried out as a discrete activity, this could be as a single event or it may be broken up into smaller, more manageable sections. In this case care must be taken to avoid duplication of evidence and potential over-assessment.

Probing questions could also be used to establish a learner's level of understanding and provide a basis for consolidation or reinforcement where necessary. Examples of probing questions could include:

1 Can you tell me why you did it that way?
2 Can you show me what you did?
3 What problems did you have?

Further details about possible approaches to learning, teaching and assessment and gathering evidence applicable to all component Units in the Course are given in the *Course Support Notes.*

Information about resources for learning, teaching and assessment can be found in Appendix 2.

Developing skills for learning, skills for life and skills for work

For this Unit there are significant opportunities to develop the following skills for learning, skills for life and skills for work, and some of these opportunities are described in the table below:

Skills for learning, skills for life and skills for work framework definition	**Suggested approaches for learning and teaching**
Literacy	
Listening and talking Listening means the ability to understand and interpret ideas, opinions and information presented orally for a purpose and within a context, drawing on non-verbal communication as appropriate. Talking means the ability to communicate orally ideas, opinions and information for a purpose and within a context.	The practical nature of this Unit lends itself to a wide range of opportunities to develop listening and talking. Learners will have the opportunity to access, engage in and understand their learning and to communicate their thoughts, ideas and opinions. This Unit will provide learners with the opportunity to explore the use of time in real-life contexts. By using real-life contexts, learners will be able to draw on familiar vocabulary to develop their confidence with managing time and the use of vocabulary associated with time.
Numeracy	
Number processes Number processes means solving problems arising in everyday life through: ♦ carrying out calculations involving addition, subtraction, multiplication, and division ♦ using whole numbers, fractions, decimal fractions, and percentages ♦ making informed decisions based on the results of these calculations ♦ understanding these results	In the Lifeskills Mathematics: Time Unit, learners could be encouraged to select appropriate calculations to work out simple date and time intervals. These calculations could be in the practical form of moving hands forward on a teaching clock or counting along a timeline or calendar. Learners could also be made aware that counting up and counting back could give the same answer.
Money, time and measurement This means using and understanding money, time and measurement to solve practical problems in a variety of contexts using relevant units and suitable instruments, and to appropriate degrees of accuracy.	Learners could be encouraged to develop the confidence to manage time in a range of real-life contexts. This could include timing events such as shopping trips, travel, and familiar daily activities. Learners could be encouraged to estimate the length of time a particular task or activity might take and then compare this with measured time.
Thinking skills	
Understanding Understanding is the ability to demonstrate the meaning of items of information, to explain	Wherever possible, learners may be given the opportunity to demonstrate their understanding. This can be done for a situation for example, by deciding what to do with a clock to find the answer

the order of events in a sequence, and to interpret in a different setting or context.	and then determining what the answer means in relation to the context.
Applying Applying is the ability to use existing information to solve a problem in a different context, and to plan, organise and complete a task.	Wherever possible, learners could be given the opportunity to apply the skills, knowledge and understanding they have developed to manage time in real-life contexts. Learners could be encouraged to use clocks, calculators, personal timetables, and simplified timelines to carry out and complete the task.

There may also be further opportunities for the development of additional skills for learning, skills for life and skills for work in the delivery of this Unit. However, this may vary across Centres depending on approaches being used to deliver the Unit. Decisions regarding development opportunities will be made by teachers and centres.

Equality and inclusion

Learners undertaking qualification at SCQF level 2 are likely to require more support with their learning than at other levels. Learners should be given as much support as they need to engage with learning, teaching and assessment whilst maintaining the integrity of the Outcomes and Assessment Standards.

Examples of the type of support which may be appropriate for this Unit are as follows:

- the use of a calculator or similar aid
- the use of electronic calendars or diaries
- ICT and assistive technologies
- using equipment such as braille clocks or enlarged print adapted timetables
- alternative practical activities
- practical helper to manipulate clocks or other timing devices under the direct instruction of the learner

Other types of support are also possible and would be determined by the teacher/lecturer in response to the specific needs of the learner.

It is recognised that Centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Unit Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Suggested examples of learning, teaching and assessment activities

Outcome 1: The learner will recognise and use time in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
1.1 Recognising and ordering days of the week and months of the year	Learners could be asked to complete a diary or calendar of activities or events they have engaged with during the week. They could also be asked to identify key events during the year and to complete a calendar over a 12 month period. Design and make own calendars for a year using ICT where possible. Learners could match the calendar on the mobile phones to paper calendars – they could learn to insert eg public holidays or a friend's birthday into the phone and each week review how much longer it is to the chosen dates – do they have enough time to buy a present or are they going to send a text? Use technology such as computers and smart and mobile phones as daily planners. Understanding 'use by' and 'sell by' dates on food items Use ordinal numbers for months of the year and days of the week. Collect different ways of writing dates from publications etc.
1.2 Recognising and ordering time using an analogue or digital clock	Learners could be given the opportunity to record and interpret time using either a digital or analogue clock, where possible, the use of both types of clocks should be encouraged. Explore a range of analogue clocks and appreciate that they can be displayed in different ways eg Arabic/roman numerals, dots or lines. Learners could be asked to identify the time of key personal events during a day and record the time for each. The development of vocabulary used to describe time such as earlier, later and on-time could be encouraged. Learners could set alarms on clocks, watches and mobile phones. Keep daily diaries of key activities, recording the time they started and finished. Create personalised class timetables using analogue and digital clocks to recognise time. Understand half past, quarter past and quarter to and know that, :15, :30 and :45 correspond to these times on a digital clock.

1.3 Using resources to work out very simple date intervals	The management of time in real-life tasks could be used as a stimulus for learning and the generation of evidence. Use a calendar or diary to calculate simple date intervals such as how many days to the weekend. Clocks could be used to calculate simple time intervals such as how many hours to dinner or how many minutes to the end of the lesson. This process will help learners to begin to appreciate the length of time for key events. Integrate 1.2 and 1.3 by keeping daily diaries of key activities, recording the time they started and finished and then calculating the time intervals.
1.4 Using resources to work out very simple time intervals	Use mobile phones, mechanical educational clocks, egg timers and stop watches in the contexts they are typically used in. Competitions are a good context for timing eg how many times can you write your name in 10 minutes (using a clock not a timer – so they have to work out when to start and stop) the results could also be used for data handling. Use stop watches in physical education activities and record results. Estimate time intervals and then measure actual time intervals – discuss the differences. Participate in sponsored events that are typically timed. Discuss why timing is important in these events. Use simplified timetables to work out when buses or trains will arrive and how long a journey will take.

Outcome 2: The learner will tackle situations involving time in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
2.1 Selecting appropriate resources for the situation 2.2 Using appropriate resources 2.3 Making a decision	Learners could be asked to identify when they are expected to work to a particular time during the day eg getting out of bed, meal times, going to school, arriving home and bed time. These contexts could be used as a stimulus for this Outcome. Learners could be encouraged to use given resources to plan and carry out a task or an event eg cake sale or sporting activity during a day. This could include agreeing a start and finish times and working out the duration of the event in hours and or minutes. Plan a competition involving time for charity. In some educational contexts – this work can be done in Cookery, or crafts. 'How long will it take to make a . . . – do I have time before the end of term/lesson?' Learners could also be asked to plan a journey by using a timetable to identify when they will need to catch a bus or train, calculating using a clock how long the journey will take.

	Work out how long it would take to prepare a packed lunch or a snack. Use a calendar to identify key events through the year and make decisions about what needs to be done to manage them eg buying presents for birthdays, booking a ticket for a journey or buying a ticket for a concert.

Appendix 2: Suggested resources

These suggested resources were correct at the time of print and may be subject to change.

Suggested organisation available from the web	**Possible resources or support materials**
BBC Scottish Bitesize Maths	Provides lots of on-line resources for teaching and learning mathematics.
Teaching Ideas	Provides lots of on-line resources for Mathematics and Numeracy for free. Many examples of contextualised and age graded.
Office of Fair Trading Skilled to Go	Skilled to go uses real life consumer situations, such as choosing a mobile phone, to help learners develop consumer skills, knowledge and confidence alongside literacy and numeracy. A free toolkit of resources includes games, quizzes, role plays and case studies, plus video and audio content.
National Centre for Excellence in the Teaching of Mathematics (NCETM)	The NCETM aims to meet the needs of teachers of mathematics and realise the potential of learners through a sustainable national infrastructure for mathematics-specific continuing professional development (CPD). The NCETM provides and signposts high quality resources to teachers, mathematics education networks, HEIs and CPD providers throughout England. At the same time, the National Centre encourages schools and colleges to learn from their own best practice through collaboration among staff and by sharing good practice locally, regionally and nationally. A significant number of resources are also available.
Time for Time	Time for Time is a resource for teachers and students to learn everything you could want to know about the concept of time**.**

Appendix 3: Reference documents

The following reference documents will provide useful information and background.

- Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications on SQA's website: http://www.sqa.org.uk/sqa/14976.html
- *Building the Curriculum 4: Skills for learning, skills for life and skills for work*
- *Building the Curriculum 5: A framework for assessment*
- Course Specifications
- Design Principles for National Courses
- *Guide to Assessment* (June 2008)
- Overview of Qualification Reports
- *Overview of Qualification Reports*
- *Principles and practice papers for curriculum areas*
- *Research Report 4 — Less is More: Good Practice in Reducing Assessment Time*
- *Coursework Authenticity — a Guide for Teachers and Lecturers*
- *SCQF Handbook: User Guide (published 2009)* and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- *SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*
- *Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool*
- SQA Guidelines on e-assessment for Schools
- SQA Guidelines on Online Assessment for Further Education
- SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

Published: April 2012 (version 1.0)

Superclass: H21W 72

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date

Unit Support Notes

Unit Support Notes — Lifeskills Mathematics: Measurement (National 2)

Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *Measurement* (National 2) Unit. They are intended for teachers and lecturers who are delivering this Unit.

They should be read in conjunction with:

- the *Unit Specification*
- the *Course Specification*
- the *Course Support Notes*
- appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to enable learners to interpret and use measurements in real-life contexts. Learners will select and use appropriate measuring instruments, and the results of measurements to make decisions or choices. Learners will also apply their skills, knowledge and understanding of measurement to tackle real-life situations.

Learners who successfully complete this Unit will be able to:

1 Recognise and use measurement in real-life contexts
2 Tackle situations involving measurement in real-life contexts

Progression into this Unit

Entry into this Unit is at the discretion of the centre.

Prior learning, life and work experiences may provide an appropriate basis for entry into this Unit. This could include relevant skills, knowledge and understanding and appropriate experiences and outcomes from the Mathematics Curriculum Area. Further information is available in the *Course Support Notes*.

This Unit may also be appropriate for learners with mathematics or numeracy related qualifications at SCQF level 1.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the National 2 Lifeskills Mathematics *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Content and contexts which are used in the teaching of this Unit are at the discretion of the centre. Content and contexts, must, however provide evidence of all Outcomes and the Assessment Standards in the Unit.

At this level content and contexts for the development of skills, knowledge and understanding should be very simple or basic. This may include for example: the use of common measuring instruments such as spoons or scales in familiar or routine situations such as cooking; or when using tape measures or rulers when making items involving technology, craft work or textiles.

Progression from this Unit

This Unit may provide progression to:

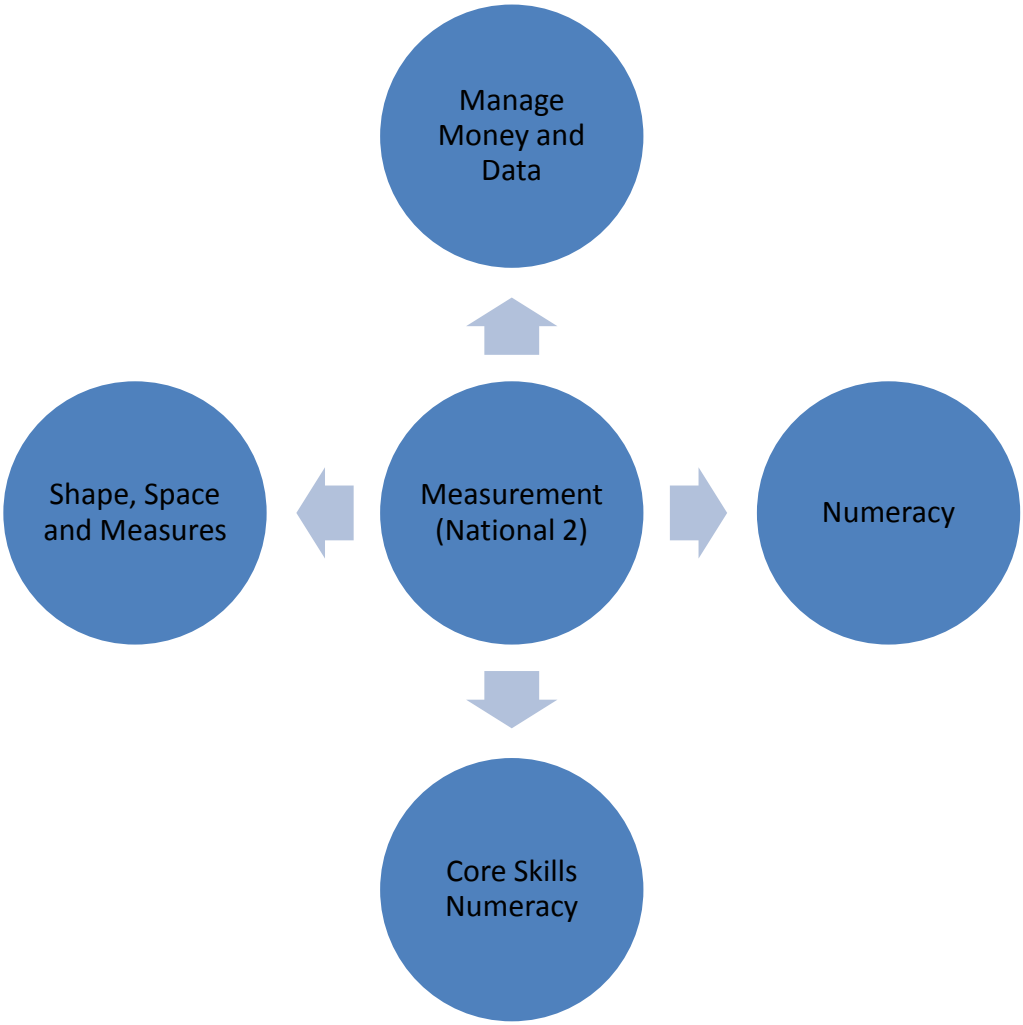
- Other Units in the National 2 Lifeskills Mathematics Course
- Other mathematics related Units at SCQF level 2
- Other mathematics related Units at SCQF level 3
- Core Skills Numeracy (SCQF level 3)

Measurement has applications in a variety of other subject areas including life and work. The skills, knowledge and understanding developed in this Unit could therefore support both breadth and depth of learning in other curriculum areas such as health and food technology, fashion and textile technology, design technology, textiles, woodworking and personal development in addition to life and work contexts.

Examples of possible progression opportunities to other Units at SCQF levels 2 and 3 are provided in the following diagrams:

Diagram 1 Progression opportunities from the Lifeskills Mathematics: Measurement Unit into related SCQF level 2 Units

Diagram 2: Progression opportunities from the Lifeskills Mathematics: Measurement Unit into related SCQF level 3 Units



Approaches to learning, teaching and assessment

The purpose of this section is to provide advice and guidance in approaches to learning, teaching and assessment.

There are a variety of learning and teaching approaches which can be used to deliver this Unit. This section of the *Unit Support Notes* provides advice and guidance and includes examples of some approaches that could be used.

Teachers/lecturers should provide opportunities for personalisation and choice to ensure that learning is relevant and motivating. Learning should where possible be relevant to the learners' everyday life, their overall learning programme and/or work and leisure.

Individual needs of learners should be taken into account when planning learning, teaching and assessment activities. Evidence can be gathered and presented in a variety of formats using the learner's usual means of communication.

The *Course Support Notes* provide generic advice on approaches to learning, teaching, assessment, gathering evidence and authentication which apply to all component Units of the Course. It is recommended that these should be read before delivering this Unit.

Combining and sequencing learning, teaching and assessment within the Unit

The combination of delivery and assessment of this Unit is entirely at the discretion of the centre. Two main approaches are suggested here, but other possibilities may exist.

Outcomes 1 and 2 combined

In this approach, the two Outcomes could be combined to provide a holistic approach to delivery and assessment. Learners could be given the opportunity to select appropriate measuring instruments to use, interpret the scales, record their measurements and make a decision based on the results of measurements.

This Unit could be integrated with the delivery of other curriculum areas such as health and wellbeing, creative arts and technology. Learners could gather evidence for both Outcomes together by making an item such as a garment, cake or tool box, using appropriate instruments, reading scales and making decisions as the item develops.

Outcomes 1 and 2 delivered sequentially

In this approach, the two Outcomes could be delivered sequentially. In this case, it is recommended that Outcome 1 is delivered prior to Outcome 2. This would be particularly useful for learners who would benefit from a gradual increase in demand and a step-by-step approach to learning.

This approach would allow knowledge and understanding of measurement to be developed and practised prior to application in a given context.

Assessment evidence could be collected at the end of the Unit or during the delivery or at the end of each Outcome.

It is recommended that the evidence for this Unit is collected as a natural part of the learning and teaching. Where assessment is carried out as a discrete activity, this could be as a single event or it may be broken up into smaller, more manageable sections. In this case care must be taken to avoid duplication of evidence and potential over-assessment.

Some suggested approaches to learning, teaching and assessment are provided in Appendix 1.

Probing questions could also be used to establish a learner's level of understanding and provide a basis for consolidation or reinforcement where necessary. Examples of probing questions could include:

1 Can you tell me why you did it that way?
2 Can you show me what you did?
3 What problems did you have?

Further details about possible approaches to learning, teaching and assessment and gathering evidence applicable to all component Units in the Course are given in the *Unit Assessment Support.*

Information about resources for learning, teaching and assessment can be found in Appendix 2.

Developing skills for learning, skills for life and skills for work

For this Unit there are significant opportunities to develop the following skills for learning, skills for life and skills for work, and some of these opportunities are described in the table below:

Skills for learning, skills for life and skills for work framework definition	Suggested approaches for learning and teaching
Literacy	
Listening and talking Listening means the ability to understand and interpret ideas, opinions and information presented orally for a purpose and within a context, drawing on non-verbal communication as appropriate. Talking means the ability to communicate orally ideas, opinions and information for a purpose and within a context.	The practical nature of this Unit lends itself to a wide range of opportunities to develop listening and talking. Learners will have the opportunity to access, engage in and understand their learning and to communicate their thoughts, ideas and opinions. This Unit will provide learners with the opportunity to explore measurement in real-life contexts. By using real-life contexts, learners will be able to draw on familiar vocabulary to develop their confidence with handling measures and taking measurements and the use of vocabulary to describe and compare measured items.
Numeracy	
Money, time and measurement This means using and understanding money, time and measurement to solve practical problems in a variety of contexts using relevant units and suitable instruments, and to appropriate degrees of accuracy.	Learners could be encouraged to develop their confidence to measure and use measurements in a range of real-life contexts. This could for example include weighing out ingredients, measuring the length of a room for a new carpet, measuring furniture to see if it would fit in a space. Familiar everyday contexts could include practical activities around the classroom – involving measuring available resources eg vegetables, stones, sticks, packaging filled with different things (weight and length). Estimation is very important part of measuring. Learners could be encouraged to estimate measurements before taking readings and then reflect by responding to questions such as: 'How sensible was my estimate?'
Thinking skills	
Understanding Understanding is the ability to demonstrate the meaning of items of information, to explain the order of events in a sequence, and to interpret in a different setting or context.	Wherever possible, learners may be given the opportunity to demonstrate their understanding. This can be done for example by using the right measuring instrument with the right degree of accuracy to obtain the desired outcome eg who would need to buy the biggest hat in this class? Use a tape measure to measure the circumference of heads and measure to the nearest cm.
Applying Applying is the ability to use	Wherever possible, learners could be given the opportunity to apply the skills, knowledge and

existing information to solve a problem in a different context, and to plan, organise and complete a task.	understanding they have developed to measure and use measures in real-life contexts. Learners could be encouraged to decide which skills to use to complete a task. Observation can determine a learner's level of understanding.

There may also be further opportunities for the development of additional skills for learning, skills for life and skills for work in the delivery of this Unit. However, this may vary across Centres depending on approaches being used to deliver the Unit. Decisions regarding development opportunities will be made by teachers and Centres.

Equality and inclusion

Learners undertaking qualifications at SCQF level 2 are likely to require more support with their learning than at other levels. Learners should be given as much support as they need to engage with learning, teaching and assessment whilst maintaining the integrity of the Outcomes and Assessment Standards.

Examples of the type of support which may be appropriate for this Unit are as follows

- The use of a calculator or similar aid
- ICT and assistive technologies
- Adapted measuring equipment
- Alternative practical activities
- Support provided by the teacher/lecturer/classroom assistant in handling measuring instruments under the direct instruction of the learner

Other types of support are also possible and would be determined by the teacher/lecturer in response to the specific needs of the learner.

It is recognised that Centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Unit Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Suggested examples of learning, teaching and assessment activities

<table>
<tr><th colspan="2">Outcome 1: The learner will recognise and use measurement in real-life contexts by:</th></tr>
<tr><th>Assessment Standards</th><th>Suggested approaches to learning, teaching and assessment</th></tr>
<tr><td>1.1 Using measuring instruments for real-life tasks</td><td rowspan="4">Learners may be given the opportunity to identify a range of measuring instruments used in school and/or at home. They could discuss what the measuring instruments are used for and why they are important.
Solve simple problems such as finding out which item is the heaviest, longest, tallest etc. Learners could be offered a range of measuring instruments to choose from. Their task would be to choose the appropriate instrument.
Use contexts within physical education to find out who can make the longest or highest jump, furthest hit of a ball, fastest run over 100m. Discuss and these can be measured. Complete activities and record the results using appropriate units.
Ask questions or give instructions during day to day activities such as ‘Whose bag is heaviest?’ Can you collect the smallest box from the cupboard?
Learners could engage in various tasks that would need some form of measuring such as cooking, or making an object or item or simple activities associated with health and wellbeing such as measuring weight or taking shoe sizes.
Learners could be exposed to a range of measuring instruments for various tasks and be asked to record measurements taken. In this way learners may begin to understand the importance of approximation and the ability to read simple scales to the nearest marked numbered division.
During measuring activities involving more than one item, learners could be encouraged to compare items using appropriate vocabulary, such as larger than, smaller than, lighter than or heavier than.
Explore measurements given on items such as clothing, shoes, DIY flat pack pieces of furniture and food.
Match measures written in words with their associated abbreviations.
Match equivalent measurements in the same family eg 1m – 100cm</td></tr>
<tr><td>1.2 Interpreting scales to the nearest marked and numbered division</td></tr>
<tr><td>1.3 Recording measurements, using appropriate units</td></tr>
<tr><td>1.4 Using appropriate vocabulary to compare measured items</td></tr>
</table>

	Compare measurements taken by different people using non-standard measures (eg feet, hand spans or cubits) discuss the differences suggesting reasons why Estimate measurements using standards and non-standard measures

Outcome 2: The learner will tackle situations involving measurement in real-life contexts by:	
Assessment Standards	**Suggested approaches to learning, teaching and assessment**
2.1 Selecting appropriate measuring instruments	Learners could be asked to take part in a task that involves measuring items for a real-life purpose. This could include for example cooking whereby learners will need to weigh out ingredients and make decisions about the amount of ingredients based on the number of items that need to be made. Other contexts could include making simple items from materials such as textiles or wood. Learners could be given the opportunity to measure out the amount of material required to make the item and decide whether more or less material would be required to make something bigger or smaller. Links could be made with other subjects to collect evidence for this Outcome. Making things out of newspaper, recycled cardboard, recycled packaging for a given context or problem. For example, you need to send your mobile phone back to the manufacturer, make a box that will hold your mobile phone
2.2 Using measuring instruments appropriately	
2.3 Making a decision based on the results of the measurements	

Appendix 2: Suggested resources

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- *Coursework Authenticity — a Guide for Teachers and Lecturers*
- *SCQF Handbook: User Guide (published 2009)* and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
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- *Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool*
- SQA Guidelines on e-assessment for Schools
- SQA Guidelines on Online Assessment for Further Education
- SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

Published: April 2012 (version 1.0)

Superclass: H21Y 72

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date