

Guidance and national standards

Edexcel Entry level Certificate in Adult Numeracy
Edexcel Level 1 Certificate in Adult Numeracy
Edexcel Level 2 Certificate in Adult Numeracy

December 2002

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Acknowledgement

The three regulatory authorities, QCA, ACCAC and CCEA, have developed the National Standards for Adult Numeracy.

Authorised by Peter Goff

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SECTION 1

Guidance

Introduction

This guidance is for all organisations wishing to offer the Edexcel adult qualifications in Numeracy at Entry level, Level 1 or Level 2.

The qualifications offered are:

- Edexcel Entry Level Certificate in Adult Numeracy
- Edexcel Level 1 Certificate in Adult Numeracy
- Edexcel Level 2 Certificate in Adult Numeracy.

The purpose of this Guidance is to describe the qualifications, their organisation, structure, assessment, and certification. This Guidance offers suggestions to centres for the management of associated teaching and learning programmes.

Rationale

The three regulatory authorities, QCA, ACCAC and CCEA, working with the Basic Skills Agency, have developed the National Standards in both Adult Numeracy and Adult Literacy in response to concerns about the levels of adult literacy and numeracy in the UK. This concern was crystallised in the report of Sir Claus Moser's Working Group on Post-16 Basic Skills 'A Fresh Start – Improving Literacy and Numeracy'¹. The Moser report heralded the development of the Adult Numeracy Core Curriculum² and the National Standards for Adult Numeracy.

The Edexcel Adult Numeracy assessments and qualifications are based on the National Standards which have been developed in line with the national curriculum levels and with key skills. However, the Edexcel Adult Numeracy qualifications are designed to recognise that adults do not necessarily learn these skills in a particular order. Learners may wish to access a qualification in smaller units of learning, taking the relevant unit of the numeracy assessment when they are ready.

These qualifications are available to learners in education, the work place, on training schemes and in everyday life. They are designed to develop the numeracy skills and capabilities adults need to function at work and in society.

Aims

The Edexcel Adult Numeracy qualifications have been designed to facilitate programmes that enable learners to:

- use numeracy at a level to function at work, and in society in general
- enable learners to progress to the next level in small, manageable steps
- become better qualified.

¹ DfEE Publications 1999

² The Basic Skills Agency 2001

Target groups

Learners who may benefit from the Edexcel Adult Numeracy qualifications include people:

- who have missed out on learning essential numeracy skills in the past
- who have learning difficulties
- who wish to progress through the National Qualifications Framework.

Planning for the Adult Numeracy qualifications

An organisation planning to offer the Edexcel Adult Numeracy qualifications needs to consider:

- the profile of the individual learner, in particular the level or sub-level of the learner at the start of any teaching programme
- the contexts within which numeracy can be learnt
- the resources needed to deliver an adult numeracy programme
- the structure, content and delivery needed to teach the learning outcomes
- the review procedures necessary to ensure that the programme takes account of learners' changing needs
- the assessment requirements
- the progression route most appropriate to the individual learner.

Links with key skill Application of Number

The National Numeracy Standards have been written to reflect national curriculum levels and key skills. Consequently there is a high degree of overlap. The standards for numeracy at levels 1 and 2 relate most closely to part A of the key skills units of application of number at levels 1 and 2.

At levels 1 and 2 learners who follow an adult numeracy programme are not required to put together a portfolio of evidence as part of the assessment process. Learners are only required to pass a test.

A test and a portfolio are the assessment requirements in order to complete the key skill in application of number.

Centres need to register learners at level 1 or level 2 on *either* a key skills application of number programme *or* on an adult numeracy programme. See Edexcel's *Information Manual* for more details.

National Qualification Framework levels	Sub-levels	Adult Numeracy	Key skills
Level 5			✓
Level 4			✓
Level 3			✓
Level 2		✓	✓
Level 1		✓	✓
Entry	Entry 3	✓	
	Entry 2	✓	
	Entry 1	✓	

Links with the National Standards for Adult Numeracy

The Edexcel Adult Numeracy qualifications are based on the National Standards for Adult Numeracy and should be read in conjunction with those standards which are available from the regulatory authority (www.qca.org.uk). The Adult Numeracy Standards consist of two parts:

- the standards
- guidance and exemplars.

The Adult Numeracy Standards provide a detailed specification of the skills, and the capabilities that comprise the skill, together with descriptors that define the level of performance of each capability.

‘At this level, adults can:’	This descriptor details what learners can do at a level.
‘An adult will be expected to:’	This descriptor details the skills that learners must demonstrate and the evidence required for assessment. The criteria for assessment are listed and learners must satisfy each one.

The guidance and exemplars in the standards provide examples of the roles used and contexts for the skills and capabilities at the specified level. They are taken from everyday adult life, grouped under the following headings:

- citizen and community
- economic activity, including paid and unpaid work
- domestic and everyday life
- leisure
- education and training
- using ICT in social roles.

The Adult Numeracy Standards are complemented by the Adult Literacy Standards (see separate *Guidance*, available from our Publications Department).

Spiritual, moral, ethical, social, cultural and environmental issues, health and safety considerations and the European dimension

Learners who undertake programmes of study leading to the Edexcel numeracy qualifications will work with a variety of real life contexts. As a result they will encounter many naturally arising moral and cultural issues, environmental and safety considerations and aspects of European developments. When considering contexts for teaching numeracy teachers should consider these dimensions to broaden the curriculum. Examples include:

Spiritual issues

- Time in the context of a religious festival (such as Easter or the Jewish Passover)

Ethical issues

- Debt and/or subsidy in the context of developing countries
- Percentages and ratios in the context of food ingredients and additives

Moral issues

- Percentages and numerical data in the context of charity donations and how they are given
- Time and quantity in the context of the correct feeding and care of a child or animal

Social issues

- Time in the context of opening hours of shops and other establishments
- Addition and subtraction in the context of shopping – giving and taking the right money
- Measuring weight in the context of shopping – weighing goods to determine their price
- Measuring length in the context of clothing sizes
- Addition and subtraction in the context of a bank account

Cultural issues

- Time in the context of the calendars of different cultures (such as Chinese or Muslim)

Environmental issues

- Measurement in the context of pollution levels (for example weather, pollen counts)
- Percentages in the context of recycling

Health and safety issues

- Measuring temperature in the context of hot or cold weather warnings (Celsius or Fahrenheit)
- Measurement in the context of reading depth markings in a swimming pool
- Measuring quantity in the context of the instructions on a medicine bottle

European issues

- Exchange rates in the context of the Euro and other currencies.

Such examples will arise naturally as part of the learning process, given the range of backgrounds of learners of adult numeracy.

Structure of the qualifications

The qualifications offered by Edexcel at Entry level and at Levels 1 and 2 are based upon the National Standards for Numeracy. At all levels assessment is based on the whole of the National Standard.

Entry level

Learners must pass each of the three units at entry level to obtain the qualification at entry level, namely:

- Number (N)
- Measures, space and shape (MSS)
- Handling data (HD).

However, part achievement is also possible.

Levels 1 and 2

Learners taking the Adult Numeracy qualifications at Level 1 and Level 2 must pass the national test at that level to obtain the appropriate qualification.

Teaching and learning

Centres should design a teaching and learning programme that requires the application of skills and knowledge in accordance with the assessment requirements of the qualification. Centres will find it useful to make reference to The Adult Numeracy Core Curriculum ³.

The **learning** activities should, where possible, be relevant to the learner's domestic and everyday life, education and training, and economic activity. In some instances it may not be possible to integrate numeracy development and assessment opportunities into a learner's main programme of study. In this situation it may be necessary to utilise stand-alone development and assessment activities.

The overall **assessment** strategy should focus on the application of skills, knowledge and understanding within realistic situations. In addition it is good practice that organisations assess learners' levels at the start of all adult numeracy programmes. Centres are encouraged to undertake the following forms of assessment:

- initial screening of learners to determine their numeracy profile
- diagnostic assessment to identify specific skills to be developed
- formative assessment to monitor progress towards the achievement of these skills, using learning plans that are regularly reviewed.

The summative assessments provide statements of learners' achievement and contribute to learners' longer term learning plans.

³ The Basic Skills Agency, 2001

Assessment and verification

The scheme of assessment at Entry level

At Entry level the Adult Numeracy qualification is awarded on achievement of all three unit tests at the lowest Entry sub-level. Units are available as follows:

Units are available as follows:

Number (N)	Measures, shape and space (MSS)	Handling data (HD)
Entry 1	Entry 1	Entry 1
Entry 2	Entry 2	Entry 2
Entry 3	Entry 3	Entry 3

Taking a unit from each column at any Entry sub-level (Entry 1, Entry 2 or Entry 3) fulfils the qualification's requirements.

For example:

The qualification the learner is awarded	What the learner has achieved
Edexcel Entry Level Certificate in Adult Numeracy at Entry level 1	Number at Entry 1
	Measures, shape and space at Entry 2
	Handling data at Entry 2

The Certificate will record the level as that of the lowest Entry unit achieved. Thus a learner achieving two units at Entry 2 and one unit at Entry 1 will receive a certificate that records achievement of the qualification at Entry 1. The Certificate will also show what units are achieved and at what sub-levels.

The assessments are:

- set by Edexcel
- taken by learners under specified conditions (see *Arrangements for assessment* below)
- assessed and internally checked by the centre
- externally verified by an Edexcel Entry Verifier.

Each assessment instrument has a pass mark of 80% and is not graded. Each unit of the assessment has equal weighting. There is no time limit on the individual unit.

The assessment is designed to be taken when learners and their tutors feel confident that they have achieved the learning outcomes detailed in the Adult Numeracy Standards. This might be achieved through the development of teaching and learning programmes using, for example, the Adult Numeracy Core Curriculum.

Arrangements for assessment

Learners will achieve the qualification when they have successfully completed three different units of the assessment at any Entry level (Entry 1, Entry 2 or Entry 3). Certification is at the

lowest Entry level achieved. Certification of successful achievement in relation to one or two units is also possible.

Each unit assessment:

- is provided to centres upon registration
- must be reserved only for assessment purposes, and thus should be kept secure, along with the assessor's mark scheme
- should be given at a time when the learner is ready for assessment
- should be taken in an appropriate environment for a learner, especially where assessment work may include both oral and practical aspects
- must be worked on independently by the learner; the product must be the learner's own work
- has no time limit on its completion
- should be completed at one sitting
- must not be taken out of the tutor/assessor's direct supervision by a learner at any time
- must not be influenced in its outcome by support given to the learner; help given must be stated on the front of the test paper
- must be marked by the assessor according to the published mark scheme
- must be kept secure when marked and be available for verification
- should be subject to the centre's internal verification processes
- may be repeated after two weeks (14 days)
- is not limited in the number of times a learner may retake the assessment.

External verification will take place when certification is being claimed.

Entry level verification

Verification for this qualification in the first year of operation will be through four 'windows'. In order for learners to be eligible for external verification in a given window they must be registered with Edexcel. For learners on a full year programme, registration is by November, or within four weeks of the learner commencing the programme if the start-date is later than September.

For roll-on roll-off learners the latest registration date will usually be ten weeks prior to the verification window. Special arrangements for specialist centres can be considered through consultation with the Qualification Manager.

Verification dates, procedures and forms can be found in the latest version of Edexcel's *Information Manual*, available from the centre's Examinations officer.

At each window the work for EVERY learner who has achieved all that they are going to achieve MUST be submitted to the Entry Verifier. At the same time as the work is submitted to the Verifier the corresponding Student Report Forms (SRFs) should be returned to Edexcel to claim the learner's achievements. SRFs must ONLY be submitted for work that has been forwarded to the Entry Verifier.

Centres should complete the **Pass List** and the **Entry Verifier Sampling Form (EVSF)** and forward these with the learners' completed work to the Entry Verifier. Completed papers which are received by the Verifier after the close of the verification window will be certificated following the next available verification window.

Once the papers have been verified, the Entry Verifier will forward the completed forms to Edexcel. At the same time the scripts will be returned to the centre along with a copy of the verification report. If verification has been successful certificates will be issued.

It will NOT be possible to claim certification outside the verification windows.

Centre self-assessment

At the beginning of each year the centre is required to complete a self-assessment report (ALAN-CSA in the *Information Manual*). This form is sent out as part of the approval path. This report will be based upon the following criteria:

- that the centre has a process to profile the individual learner to ensure that their level is correctly identified at the start of the programme
- that the centre has a programme with a structure and content appropriate to teaching the learning outcomes
- that the centre understands and is prepared to conform with the assessment requirements
- that the centre has the resources needed to deliver an adult numeracy programme
- that the centre reviews the procedures necessary to ensure that the programme takes account of learners' changing needs
- that the centre has identified progression routes most appropriate to the individual learner.

The centre will submit a report against these criteria to the Entry Verifier along with the first batch of papers. It will not be possible to verify the first batch of scripts unless this report is submitted. The Entry Verifier will review the contents of the self-assessment and produce a report, which will be forwarded to Edexcel and to the centre along with the script verification report.

Until the verifier is satisfied that national standards have been maintained certificates cannot be issued.

Scheme of assessment at Levels 1 and 2

The Edexcel Adult Numeracy qualifications are not graded. At Levels 1 and 2 there is one external assessment of the whole of the standard at that level: the national adult numeracy test. Candidates are reported as having passed, or not yet passed. If the candidate is within 10% of achieving the pass mark, but has not yet passed, feedback to this effect is offered.

Learners wishing to achieve the corresponding key skill in application of number will be required to register for the key skill, claim a proxy for the test already achieved, and produce the associated portfolio of evidence, which is based on part B of the key skill specification at that level.

The assessments at these levels consist of 40 multiple-choice items. The test is of 75 minutes' duration.

Adult Numeracy progression

It is recognised that adult learners are likely to have variable levels of knowledge, skills and understanding in numeracy. Commonly learners may be able to demonstrate their abilities confidently in some aspects of numeracy and are less able to do so in another; that is, they

evidence a ‘spiky’ numeracy skills profile at Entry level. The structure of the Edexcel Adult Numeracy qualification at Entry level is designed to reflect this, and to enable learners to progress at their own pace. Therefore, although the numeracy standards require learners to demonstrate increasing levels of skills, knowledge and understanding, they may not achieve associated Entry sub-levels in numeracy at the same time. Ultimately a learner may achieve different levels in numeracy.

The qualification at Entry level is achieved by completing successfully all three units of the assessment at any Entry sub-level. Certification is offered at the lowest Entry level, reflecting the holistic nature of the adult numeracy national standards. Some learners may choose to be certificated on the achievement of one or two units.

Successful completion of adult numeracy at Entry level will allow the learner to progress to Level 1 and Level 2 Adult Numeracy. It may also be appropriate, depending upon the associated education or training context, for the learner to progress onto a key skill programme, or to study for a GCSE, or other relevant qualification.

Beyond Levels 1 and 2 progression similarly will depend upon the associated education or training context.

Language of assessment

Assessment of this specification will be available in English only. Assessment materials will be published in English and all written and spoken work submitted for examination and verification must be produced in English.

Access and prior learning

Organisations are required to recruit with integrity and to select applicants on the basis of their ability to complete successfully their learning programme. Organisations need to consider the extent to which learners may be able to demonstrate relevant prior achievement, as this will affect the amount and type of learning support required and the skill level attempted.

Organisations are advised therefore:

- to identify individual applicants’ starting points based on their experience and aspirations, and their previous qualifications
- to provide applicants with appropriate information and advice.

It is suggested that organisations utilise diagnostic materials to identify the learner’s level of understanding at the start of a numeracy programme (see table, page 5). They should also refer to the tables on ‘Progression between capabilities’ detailed in the Adult Numeracy Core Curriculum⁴. Programmes should be designed without artificial barriers restricting access and progression, and these should be open to those who can achieve the required standard.

Learners are not required to be certificated in the lower levels of numeracy before being entered for a higher level.

⁴ The Basic Skills Agency, 2001

Learners with particular requirements

The Joint Council for General Qualifications has agreed requirements and guidance relating to learners with special requirements at this level.

Edexcel will assess whether or not special consideration or concession can be made for learners with particular requirements. Requests should be addressed to:

Special Requirements
(Vocational Qualifications Team)
Edexcel
Stewart House
32 Russell Square
London WC1B 5DN

Awarding, reporting and equivalence

The grading, awarding and certification of these specifications will comply with the requirements of entry level and of levels 1 and 2, which are published by the regulatory authorities.

Learning Skills for Life through learndirect

learndirect's numeracy courses can help learners to prepare for the Edexcel adult numeracy assessments. Their adult numeracy courses have built links between the national standards, the core curriculum and Edexcel's assessments at Entry and at Levels 1 and 2.

Learners can study on-line, off-line or using print and either work towards a numeracy qualification or towards part achievement of a qualification.

learndirect centres offer a suite of learning tools as well as courses in numeracy. The learning tools are designed for screening, initial assessment and diagnosis and are all mapped to the core curriculum. In addition to these tools there is a database that helps to locate the courses which will address the learner's learning needs as identified by the diagnostic assessments, called *Skills Checks*. Learners can gain competence at the desired level by filling in gaps in their skill profile in numeracy.

The courses are of three kinds:

- 1 Taster courses to give adults an introduction to numeracy learning
- 2 Modular courses covering the whole of the curriculum in numeracy
- 3 Specific shorter courses addressing elements of numeracy requested by learners e.g. using whole numbers, using percentages.

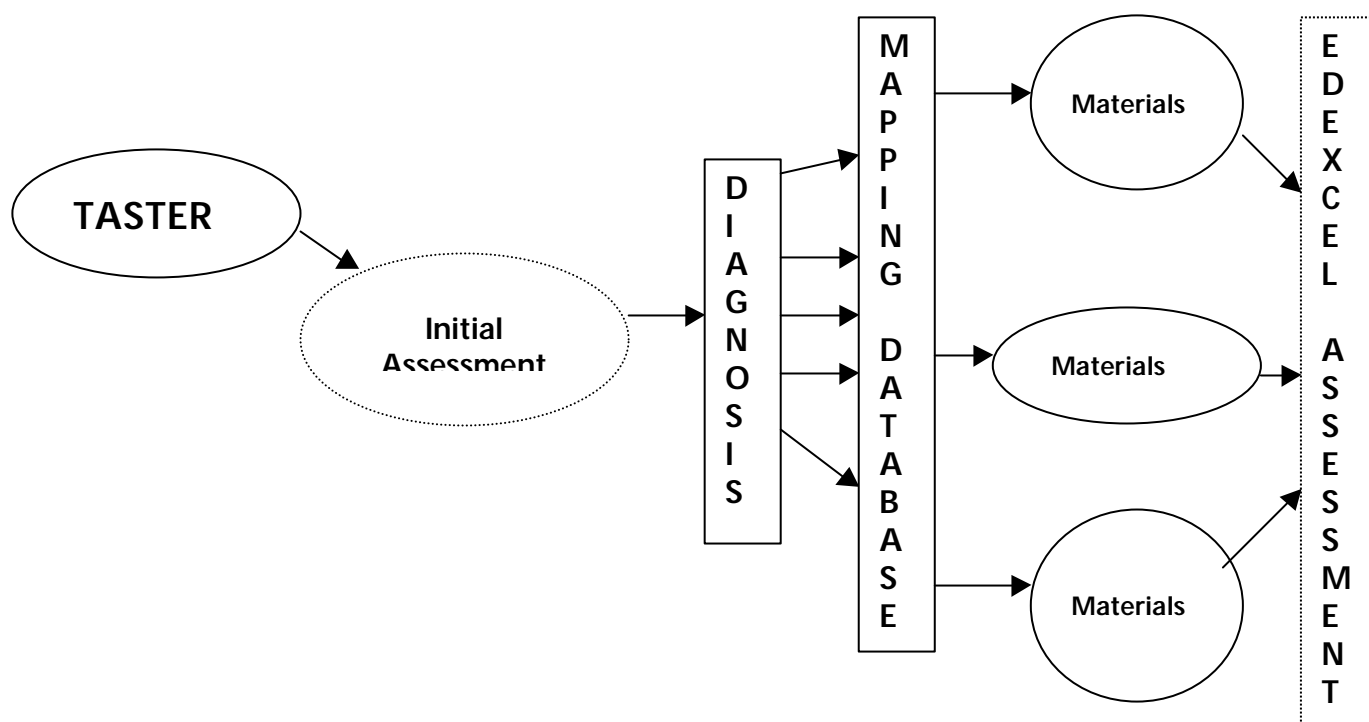
All courses have detailed tutor guides showing how the course works and giving a detailed mapping of the course against the core curriculum.

learndirect also offer a 'Preparing for the Test' course which provides the learner with all the information and with the required 'test' skills to successfully take a national test in numeracy at levels 1 or 2.

If you wish to access information on becoming a **learndirect** centre go to www.ufi.com

If you are a **learndirect** centre you can find out more about Skills for Life assessments by logging on to Partners Portal: www.learndirect-partners.co.uk/

A notional route for learners working on Skills for Life learning with learndirect



Management of learning programmes

Programme delivery

Organisations offering the Edexcel Adult Numeracy qualifications must include in their learning programme:

- clear guidance about the routes and modes of study available and how these are supported
- an action plan or individual learning plan for every learner
- a flexible approach to teaching and learning based on best practice and the needs of individual learners

Centres should refer to the Adult Numeracy Core Curriculum when developing their learning programmes. Additionally learndirect's mapping provides another structured approach

- learning activities that help to achieve the aims and objectives of the programme
- an emphasis on learning activities in practical settings
- achievable goals
- regular positive feedback
- advice and feedback on learners' progress and their learning needs throughout the programme
- seamless progression to the next level.

Programme co-ordination

The ways in which learning programmes are managed and implemented are crucial in determining the effectiveness, efficiency and quality with which outcomes are achieved. Organisations should identify an appropriate delivery team, normally led by an adult numeracy co-ordinator. The co-ordinator should have particular responsibility for:

- the effective operation and development of the programme team
- securing resources and providing team development
- planning and implementing detailed review and evaluation procedures, which incorporate the views of all stakeholders
- providing the link between the programme team, learner and the external moderator and examiners.

The team should be responsible for:

- implementing recruitment and induction procedures as appropriate
- implementing equal access and equal opportunities policies
- effective programme design, implementation and assessment strategies
- implementing learners' support systems, including individual learning plans
- effective liaison with interest groups, for example main programme tutors and employers
- implementing quality control systems
- monitoring the operation of the programme and learners' progress
- implementing internal verification procedures
- identifying future resource and team development needs.

Administration of programmes

Centre approval

Existing Edexcel-approved centres are able to run these qualifications by completing the *Intention to Offer* form for the qualification(s) required. This form is available on the Edexcel website (www.edexcel.org.uk). Centres new to Edexcel should contact the approval team at Edexcel via e-mail: approvals@edexcel.org.uk

Registration at Entry level

Learners must be registered separately for Entry level Adult Numeracy using an SA1 form, which is returned to the Entries and Certification Department. At the point of registration there is no need to state the level for the various units. This will be picked up at the point when a centre completes the SRF.

It is VERY important to note that only ONE certification claim per registration for Entry level Adult Numeracy can be made. Once a learner's achievement is reported on the SRF the registration will be closed. No further SRF will be issued to record further achievement by the learner. It is important to ensure that the learner has reached their full potential before the assessments are submitted to the Entry Verifier and the SRF is submitted to Edexcel.

Registration at Level 1 and Level 2

Centres are required to enter learners for Adult Numeracy tests at Level 1 and Level 2 using form SA1. Please refer to the *Edexcel Information Manual* for further information.

Despatch of the Entry assessments

There will be one complete set of assessments for the Entry level qualification in Adult Numeracy issued by Edexcel each year. A set of assessments consists of each unit (Number, Measures, Shape and Space and Handling Data) at all three entry sub-levels, totalling nine assessments. The assessments for that year will be issued when the centre registers the first learners by the appropriate registration date, listed in the *Information Manual*, to be found with the centre's examinations officer. Where a centre is approved, but no learners are registered, no assessments will be issued to the centre.

Certification

The design of the assessments into separate parts at Entry level is in recognition that adults do not necessarily learn numeracy skills in a particular order. Each learner may develop a varied profile of numeracy skills, knowledge and understanding, developed to different sub-levels. Therefore learners may gain the Edexcel Entry level Certificate in Adult Numeracy by achieving units at any entry sub-level.

At Levels 1 and 2 there is one external assessment: the National Adult Numeracy test. Learners are assessed as either pass or fail.

There is no time limit on the completion of an individual qualification, up to the shelf life of the qualification.

The centre should return any certificates that require amendment to the Edexcel Entries and Certifications Centre, with a full explanation of the amendment required.

Appeals and enquiries about results

At Entry level unit assessment and verification is completed within the centre before assessments are submitted for external verification. Should a centre wish to make an appeal following the external verification they should contact the Enquiry about Results service.

At Level 1 and Level 2 there is no appeals process other than if centres wish to object to the outcomes of the processes undertaken by Edexcel and in particular those associated with the optical-marking of the tests. A clerical check of that process can be made. Centres should contact Edexcel's key skills team.

Centres wishing to enquire about the progress of certification requests should contact Edexcel's Customer Services.

Forbidden combinations

There are no prohibited combinations associated with the Edexcel adult numeracy qualifications.

Support

Edexcel-related publications can be obtained from our publications department and from our website:

Edexcel Publications
Adamsway
Mansfield
Notts NG 18 4FN

Telephone: 01623 467 467
Fax: 01623 450 481
E-mail: publications@linneydirect.com

Edexcel website: www.edexcel.org.uk

Edexcel recognises the value of training to support the teaching of our specifications. There is an annual programme of training and development that takes place throughout the country. For further information about what is planned please contact the Professional Development and Training (INSET) section.

Telephone: 020 7758 5620
Fax: 020 7758 5951
E-mail: trainingenquiries@edexcel.org.uk

or consult the Professional Development and Training Guides, which are sent to all centres.

An extensive support network exists to provide guidance and training for teachers. As well as the national programme of training it includes information on the Edexcel website, support from Edexcel Regional offices and from the Edexcel Advisors attached to centres.

The Edexcel Customer Services is available on 0870 240 9800 to answer any queries that you may have about this specification and its implementation.

Useful publications

- National standards for adult literacy and numeracy (order reference QCA/00/621)
- Specimen assessment materials for Adult Numeracy at entry level
- Guidance and units Entry and Levels 1 and 2 Literacy (publication code W012719)
- Edexcel Information Manual – sent to all centres' examination officers.

SECTION 2

National Standards for Adult Numeracy

Edexcel's references to the national standards

To help centres to access the national standards and to cross-reference those standards against Edexcel's entry assessments, Edexcel has devised a unique referencing system.

National Standard Descriptor	Reference	Numbered bullet				
		Entry 1	Entry 2	Entry 3	Level 1	Level 2
Understanding and using mathematical information	UU	UU E1.1 – UU E1.4	UU E2.1 – UU E 2.5	UU E3.1 – UU E3.5.	UU 1.1 – UU 1.6	UU 2.1 – UU 2.7
Calculating and manipulating mathematical information	CM	CM E1.1 – CM E1.16	CM E2.1 – CM E2.26	CM E3.1 – CM E3.22	CM 1.1 – CM 1.39	CM 2.1 – CM 2.29
Interpreting results and communicating mathematical information	IRC	IRC E1.1 – IRC E1.4	IRC E2.1 – IRC E2.4	IRC E3.1 – IRC E.6	IRC L1.1 – IRC 1.5	IRC 2.1 – IRC 2.5

Example

Entry 2

Calculating and manipulating mathematical information (CM)

Using whole numbers

E2.1 To count reliably up to 20 items

Reference **CM E2.1**

Understanding and using mathematical information	Calculating and manipulating mathematical information	Interpreting results and communicating mathematical information
<p><i>At this level, adults can:</i></p> <p>read and understand information given by numbers and symbols in simple graphical, numerical and written material</p> <p>specify and describe a practical problem or task using numbers and measures</p>	<p><i>At this level, adults can:</i></p> <p>generate results which make sense and use given methods and given checking procedures appropriate to the specified purpose</p>	<p><i>At this level, adults can:</i></p> <p>present and explain results which show understanding of the intended purpose using appropriate numbers, measures, objects or pictures</p>

UU E1.1	<p><i>An adult will be expected to:</i></p> <ul style="list-style-type: none"> use whole numbers to measure and make observations 	CM E1.1	<p><i>An adult will be expected to:</i></p> <ul style="list-style-type: none"> to count reliably up to 10 items 	IRC E1.1	<p><i>An adult will be expected to:</i></p> <ul style="list-style-type: none"> use whole numbers to present results
UU E1.2	<ul style="list-style-type: none"> use space and shape to help understanding 	CM E1.2	<ul style="list-style-type: none"> to read, write, order and compare numbers up to 10 including zero 	IRC E1.2	<ul style="list-style-type: none"> use appropriate vocabulary for common measures to describe quantities
UU E1.3	<ul style="list-style-type: none"> use information from lists and simple diagrams to help understanding 	CM E1.3	<ul style="list-style-type: none"> to add single-digit numbers with totals to 10, and subtract single-digit numbers from numbers up to 10 	IRC E1.3	<ul style="list-style-type: none"> use objects or simple images to present results
UU E1.4	<ul style="list-style-type: none"> copy a given process or routine to increase understanding 	CM E1.4	<ul style="list-style-type: none"> to interpret +, -, and = in practical situations for solving problems <p>use common measures</p> <ul style="list-style-type: none"> to recognise and select coins and notes to relate familiar events to: <ul style="list-style-type: none"> times of day (using o'clock times or parts of the day such as midday) days of the week seasons of the year 	IRC E1.4	<ul style="list-style-type: none"> reach a suitable outcome
		CM E1.5			
		CM E1.6			

		CM E1.7	<ul style="list-style-type: none"> to describe size, <i>eg large/small</i> and use direct comparisons for the size of at least two items, <i>eg larger/smaller</i> 		
		CM E1.8	<ul style="list-style-type: none"> to describe length, width, <i>height eg long, short, wide, narrow, tall</i> and use direct comparisons for length, width, height of items, <i>eg longer, too long, longest</i> 		
		CM E1.9	<ul style="list-style-type: none"> to describe weight, <i>eg heavy/light</i> and use direct comparisons for weight of items, <i>eg heavier/lighter</i> 		
		CM E1.10	<ul style="list-style-type: none"> to describe capacity, <i>eg full/empty</i> and use direct comparisons for capacity of items, <i>eg holds more than/holds less than</i> 		
			use shape and space		
		CME1.11	<ul style="list-style-type: none"> to recognise and name 2-D and 3-D shapes <i>eg rectangle, square, circle, cube</i> 		
		CM E1.12	<ul style="list-style-type: none"> to understand everyday positional vocabulary, <i>eg between, inside or near to</i> 		
			use data		
		CM E1.13	<ul style="list-style-type: none"> to extract simple information from lists 		
		CM E1.14	<ul style="list-style-type: none"> to sort and classify objects using a single criteria 		
		CM E1.15	<ul style="list-style-type: none"> to construct simple representations or diagrams using knowledge of numbers, measures or space and shape 		
			use a calculator		
		CM E1.16	<ul style="list-style-type: none"> to check calculations using whole numbers 		

Understanding and using mathematical information	Calculating and manipulating mathematical information	Interpreting results and communicating mathematical information
<p>At this level, adults can:</p> <p>read and understand information given by numbers, symbols, diagrams and charts in graphical, numerical and written material</p> <p>specify and describe a practical problem or task using numbers, measures and simple shapes to record essential information</p>	<p>At this level, adults can:</p> <p>generate results to a given level of accuracy using given methods and given checking procedures appropriate to the specified purpose</p>	<p>At this level, adults can:</p> <p>present and explain results which meet the intended purpose using appropriate numbers, simple diagrams and symbols</p>

<p>UU E2.1</p> <p>UU E2.2</p> <p>UU E2.3</p> <p>UU E2.4</p> <p>UU E2.5</p>	<p>An adult will be expected to:</p> <ul style="list-style-type: none"> • use whole numbers and simple fractions to measure and make observations • use space and shape to record information • use information from lists, tables, simple diagrams and block charts to help understanding • collect simple numerical information to help understanding • follow a given process or routine 	<p>CM E2.1</p> <p>CM E2.2</p> <p>CM E2.3</p> <p>CM E2.4</p> <p>CM E2.5</p> <p>CM E2.6</p> <p>CM E2.7</p>	<p>An adult will be expected to:</p> <ul style="list-style-type: none"> • to count, reliably up to 20 items • to read, write, order and compare numbers up to 100 • to add and subtract two-digit whole numbers • to recall addition and subtraction facts to 10 • to multiply using single-digit whole numbers • to approximate by rounding to the nearest 10 • to use and interpret +, -, x and = in practical situations for solving problems 	<p>IRC E2.1</p> <p>IRC E2.2</p> <p>IRC E2.3</p> <p>IRC E2.4</p>	<p>An adult will be expected to:</p> <ul style="list-style-type: none"> • use whole numbers and common fractions to present results • use common measures and units of measure to define quantities • use tables, simple charts and diagrams to present results • follow a given routine to reach an appropriate outcome
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		<p>CM E2.8</p> <ul style="list-style-type: none"> to read, write and compare halves and quarters of quantities <p>CM E2.9</p> <ul style="list-style-type: none"> to find halves and quarters of small numbers of items or shapes <p>use common measures</p> <p>CM E2.10</p> <ul style="list-style-type: none"> to make amounts of money up to £1 in different ways using 1p, 2p, 5p, 10p, 20p and 50p coins <p>CM E2.11</p> <ul style="list-style-type: none"> to calculate the cost in pence of more than one item, <i>eg two stamps at 27p</i>, and the change from a transaction, <i>eg change from £1</i> <p>CM E2.12</p> <ul style="list-style-type: none"> to calculate the cost in whole pounds of more than one item, <i>eg two tickets at £6</i>, and the change from a transaction <i>eg change from £20</i> <p>CM E2.13</p> <ul style="list-style-type: none"> to read and record time in common formats, and understand time display on analogue and 12 hour digital clocks in hours, half hours and quarter hours <p>CM E2.14</p> <ul style="list-style-type: none"> estimate, measure and compare length using common standard and non-standard units, <i>eg metre, centimetre, paces</i> <p>CM E2.15</p> <ul style="list-style-type: none"> to estimate, measure and compare weight using common standard units, <i>eg kilogram</i> <p>CM E2.16</p> <ul style="list-style-type: none"> to estimate, measure and compare capacity using common standard and non-standard units, <i>eg litre, cupful</i> <p>CM E2.17</p> <ul style="list-style-type: none"> to read and compare positive temperatures in everyday situations such as weather charts 		
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		<p>CM E2.18</p> <ul style="list-style-type: none"> to read simple scales to the nearest labelled division <p>use shape and space</p> <p>CM E2.19</p> <ul style="list-style-type: none"> to recognise and name 2-D and 3-D shapes <i>eg triangles, cylinders, pyramids</i> <p>CM E2.20</p> <ul style="list-style-type: none"> to describe the properties of common 2-D and 3-D shapes, <i>eg the number of sides, corner, faces</i> <p>CM E2.21</p> <ul style="list-style-type: none"> to use positional vocabulary, <i>eg giving simple instructions</i> <p>use data</p> <p>CM E2.22</p> <ul style="list-style-type: none"> to extract information from lists, tables, simple diagrams and block graphs <p>CM E2.23</p> <ul style="list-style-type: none"> to make numerical comparisons from block graphs <p>CM E2.24</p> <ul style="list-style-type: none"> to sort and classify objects using two criteria <p>CM E2.25</p> <ul style="list-style-type: none"> to represent information so that it makes sense to others, <i>eg in lists, tables and diagrams</i> <p>use a calculator</p> <p>CM E2.26</p> <ul style="list-style-type: none"> to check calculations using whole numbers 		
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Understanding and using mathematical information	Calculating and manipulating mathematical information	Interpreting results and communicating mathematical information
<p>At this level, adults can:</p> <p>read and understand information given by numbers, symbols, diagrams and charts used for different purposes and in different ways in graphical, numerical and written material</p> <p>specify and describe a practical problem or task using numbers, measures and diagrams to collect and record relevant information</p>	<p>At this level, adults can:</p> <p>generate results to a given level of accuracy using given methods, measures and checking procedures appropriate to the specified purpose</p>	<p>At this level, adults can:</p> <p>present and explain results which meet the intended purpose using appropriate numbers, diagram3, charts and symbols</p>

	<i>An adult will be expected to:</i>		<i>An adult will be expected to:</i>		<i>An adult will be expected to:</i>
UU E3.1	<ul style="list-style-type: none"> use whole numbers, fractions and decimals to measure and make observations 	CM E3.1	<p>use whole numbers</p> <ul style="list-style-type: none"> to count, read, write, order and compare numbers up to 1000 	IRC E3.1	<ul style="list-style-type: none"> use whole numbers, common fractions and decimals to present results
UU E3.2	<ul style="list-style-type: none"> use space and shape to record information 	CM E3.2	<ul style="list-style-type: none"> to add or subtract using three-digit numbers 	IRC E3.2	<ul style="list-style-type: none"> use common measures and units of measure to define quantities
UU E3.3	<ul style="list-style-type: none"> use numerical information from lists, tables, diagrams and simple charts to help understanding 	CM E3.3	<ul style="list-style-type: none"> to recall addition and subtraction facts to 20 	IRC E3.3	<ul style="list-style-type: none"> use tables, charts and diagrams to represent results, eg <i>for amounts and sizes</i>

UU E3.4	<ul style="list-style-type: none"> make observations and record numerical information using a tally 	CM E3.4	<ul style="list-style-type: none"> to multiply two-digit whole numbers by single-digit whole numbers 	IRC E3.4	<ul style="list-style-type: none"> use given methods to check results
UU E3.5	<ul style="list-style-type: none"> use given materials and methods 	CM E3.5	<ul style="list-style-type: none"> to divide two-digit whole numbers by single-digit whole numbers and interpret remainders 	IRC E3.5	<ul style="list-style-type: none"> use given methods to present results
		CM E3.6	<ul style="list-style-type: none"> to recall multiplication facts, eg multiples of 2, 3, 4, 5, 10 	IRC E3.6	<ul style="list-style-type: none"> use appropriate methods and forms to describe outcomes
		CM E3.7	<ul style="list-style-type: none"> to approximate by rounding numbers less than 1000 to the nearest 10 or 100 		
		CM E3.8	<ul style="list-style-type: none"> to estimate answers to calculations 		
		CM E3.9	<ul style="list-style-type: none"> to use and interpret +, -, x, / and = in practical situations for solving problems 		
			<p>use fractions</p>		
		CM E3.10	<ul style="list-style-type: none"> to read, write and understand common fractions, eg $\frac{3}{4}$, $\frac{2}{3}$, $\frac{1}{10}$ 		
		CM E3.11	<ul style="list-style-type: none"> to recognise and use equivalent forms, eg $\frac{5}{10} = \frac{1}{2}$ 		
			<p>use decimals</p>		
		CM E3.12	<ul style="list-style-type: none"> to read, write and understand decimals up to two decimal places in practical contexts (such as common measures to one decimal place, eg 1.5m; money in decimal notation) 		

			<p>use common measures</p> <p>CM E3.13</p> <ul style="list-style-type: none"> • to estimate, calculate and compare money by: <ul style="list-style-type: none"> – adding and subtracting sums using decimal notation – rounding sums to the nearest £1, 10p making approximate calculations <p>CM E3.14</p> <ul style="list-style-type: none"> • to read, measure and record time using: <ul style="list-style-type: none"> – am and pm and common date formats – digital clocks and analogue clocks to the nearest 5 minute intervals <p>CM E3.15</p> <ul style="list-style-type: none"> • to read, estimate, measure and compare length, capacity, weight and temperature using non-standard and standard units, <i>eg distance on road signs, simple scales to the nearest labelled or unlabelled division</i> <p>CM E3.16</p> <ul style="list-style-type: none"> • to choose and use appropriate units and measuring instruments <p>use shape and space</p> <p>CM E3.17</p> <ul style="list-style-type: none"> • to sort 2-D and 3-D shapes to solve practical problems using properties, <i>eg lines of symmetry, side length, angles</i> 		
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		CM E3.18 CM E3.19 CM E3.20 CM E3.21 CM E3.22	<p>use data</p> <ul style="list-style-type: none"> to extract numerical information from lists, tables, diagrams and simple charts to make numerical comparisons from bar charts and pictograms to organise and represent information in different ways so that it makes sense to others <p>use electronic or mechanical aids</p> <ul style="list-style-type: none"> to calculate using whole numbers and decimals to solve problems in context to check calculations 		
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Understanding and using mathematical information	Calculating and manipulating mathematical information	Interpreting results and communicating mathematical information
<p>At this level, adults can:</p> <p>read and understand straightforward mathematical information used for different purposes and independently select relevant information from given graphical, numerical and written material</p> <p>specify and describe a practical activity, problem or task using mathematical information and language to make accurate observations and identify suitable calculations to achieve an appropriate outcome</p>	<p>At this level, adults can:</p> <p>generate results to a given level of accuracy using methods, measures and checking procedures appropriate to the specified purpose</p>	<p>At this level, adults can:</p> <p>present and explain results which meet the intended purpose using an appropriate format to a given level of accuracy</p>

	<p>An adult will be expected to:</p>		<p>An adult will be expected to:</p>		<p>An adult will be expected to:</p>
UU 1.1	<ul style="list-style-type: none"> use numbers, fractions, decimals and percentages in the context of measures and make observations 	CM 1.1	<p>use whole numbers</p> <ul style="list-style-type: none"> to read, write order and compare numbers, including large numbers 	IRC 1.1	<ul style="list-style-type: none"> use whole numbers, common fractions, decimals and percentages to present results
UU 1.2	<ul style="list-style-type: none"> use shape and space to record measurements and make observations 	CM 1.2	<ul style="list-style-type: none"> to recognise negative numbers in practical contents, <i>eg temperatures</i> 	IRC 1.2	<ul style="list-style-type: none"> use common measures and units of measure to define quantities
UU 1.3	<ul style="list-style-type: none"> use information from tables, diagrams, charts and line graphs 	CM 1.3	<ul style="list-style-type: none"> to add, subtract, multiply and divide using efficient written methods 	IRC 1.3	<ul style="list-style-type: none"> use tables, charts, diagrams and line graphs to present results, <i>eg for amounts, sizes and scales</i>
UU 1.4	<ul style="list-style-type: none"> collect and record discrete data in tests and from observations 	CM 1.4	<ul style="list-style-type: none"> to multiply and divide by 10 and 100 	IRC 1.4	<ul style="list-style-type: none"> use approximation to corroborate results

UU 1.5	<ul style="list-style-type: none"> identify appropriate methods 	CM 1.5	<ul style="list-style-type: none"> to recall multiplication facts up to 10 x 10 and make connections with division facts 	IRC 1.5	<ul style="list-style-type: none"> select and use suitable methods and forms to present and describe outcomes
UU 1.6	<ul style="list-style-type: none"> identify and use the mathematical facts, skills or concepts that best match the practical situation 	CM 1.6	<ul style="list-style-type: none"> to recognise numerical relationships, <i>eg multiples and squares</i> 		
		CM 1.7	<ul style="list-style-type: none"> to work out simple ratio and direct proportion, <i>eg three parts to one part</i> 		
		CM 1.8	<ul style="list-style-type: none"> to approximate by rounding 		
		CM 1.9	<ul style="list-style-type: none"> to estimate answers to calculations 		
			<p>use fractions</p>		
		CM 1.10	<ul style="list-style-type: none"> to read, write, order and compare common fractions and mixed numbers 		
		CM 1.11	<ul style="list-style-type: none"> to find parts of whole number quantities or measurements, <i>eg 2/3 or 3/4</i> 		
		CM 1.12	<ul style="list-style-type: none"> to recognise equivalencies between common fractions, percentages and decimals, <i>eg 50 per cent = 1/2, 0.25 = 1/4</i>, and use these to find part of whole number quantities 		
		CM 1.13	<ul style="list-style-type: none"> to express likelihood or probability 		

			<p>use decimals</p> <p>CM 1.14</p> <ul style="list-style-type: none"> to extract information from tables, diagrams, charts and line graphs <p>CM 1.15</p> <ul style="list-style-type: none"> to read, write, order and compare decimals up to three decimal places <p>CM 1.16</p> <ul style="list-style-type: none"> to add, subtract, multiply and divide decimals up to two places <p>CM 1.17</p> <ul style="list-style-type: none"> to multiply and divide decimals by 10, 100 <p>CM 1.18</p> <ul style="list-style-type: none"> to approximate by rounding to a whole number or two decimal places <p>CM 1.19</p> <ul style="list-style-type: none"> to express likelihood or probability <p>use percentages</p> <p>CM 1.20</p> <ul style="list-style-type: none"> to read, write, order and compare simple percentages, <i>eg 10 per cent, 25 per cent</i>, and understand simple percentage increase and decrease, <i>eg 10 per cent rise in cost, 20 percent off in a sale</i> <p>CM 1.21</p> <ul style="list-style-type: none"> to find simple percentage parts of quantities and measurements 		
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			<p>use common measures</p> <p>CM 1.22</p> <ul style="list-style-type: none"> to add, subtract, multiply, divide and record sums of money and record, <i>eg completing financial transactions, calculating benefits or entitlements</i> <p>CM 1.23</p> <ul style="list-style-type: none"> to read, measure and record time in common date formats and in the 12-hour and 24-hour clock <p>CM 1.24</p> <ul style="list-style-type: none"> to choose and use appropriate units and instruments to measure length, weight, capacity, time and temperature, <i>eg distances in road maps and mileage charts, scales to the nearest labelled or unlabelled division</i> <p>CM 1.25</p> <ul style="list-style-type: none"> to calculate within the same system by: <ul style="list-style-type: none"> adding and subtracting common units of measure converting units of measure in the same system, <i>eg 70 minutes is 1 hour 10 minutes, 250cm is 2.5m</i> <p>CM 1.26</p> <ul style="list-style-type: none"> to work out the perimeter of simple shapes <p>CM 1.27</p> <ul style="list-style-type: none"> to work out the area of rectangles <p>CM 1.28</p> <ul style="list-style-type: none"> to work out simple volume, <i>eg cuboids</i> 		
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			<p>use shape and space</p> <p>CM 1.29</p> <ul style="list-style-type: none"> to solve problems using the mathematical properties of regular 2-D shapes, <i>eg tessellation or symmetry</i> <p>CM 1.30</p> <ul style="list-style-type: none"> to draw 2-D shapes in different orientations using grids, <i>eg in diagrams or plans</i> <p>use data and statistical measures</p> <p>CM 1.31</p> <ul style="list-style-type: none"> to extract and interpret information, <i>eg in tables, diagrams, charts and line graphs</i> <p>CM 1.32</p> <ul style="list-style-type: none"> to collect, organise and represent discrete data, <i>eg in tables, charts, diagrams and line graphs</i> <p>CM 1.33</p> <ul style="list-style-type: none"> to find the arithmetical average (mean) or range for a set of data <p>use probability</p> <p>CM 1.34</p> <ul style="list-style-type: none"> to show that some events are more likely to occur than others <p>CM 1.35</p> <ul style="list-style-type: none"> to express the likelihood of an event using fractions, decimals and percentages with the probability scale of 0 to 1 		
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		<p>CM 1.36</p> <p>CM 1.37</p> <p>CM 1.38</p> <p>CM 1.39</p>	<p>use electronic or mechanical aids</p> <ul style="list-style-type: none"> • to change a fraction to a decimal • to solve a problem with a calculator • to calculate efficiently using whole numbers, fractions, decimals, percentages • to check calculations 		
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Understanding and using mathematical information	Calculating and manipulating mathematical information	Interpreting results and communicating mathematical information
<p>At this level, adults can:</p> <p>read and understand mathematical information used for different purposes and independently select and compare relevant information from a variety of graphical, numerical and written material</p> <p>specify and describe a practical activity, problem or task using mathematical information and language to increase understanding and select appropriate methods for carrying through a substantial activity</p>	<p>At this level, adults can:</p> <p>generate results to an appropriate level of accuracy using methods, measures and checking procedures appropriate to the specified purpose</p>	<p>At this level, adults can:</p> <p>present and explain results clearly and accurately using numerical, graphical and written formats appropriate to purpose, findings and audience</p>

	<p><i>An adult will be expected to:</i></p>		<p><i>An adult will be expected to:</i></p>		<p><i>An adult will be expected to:</i></p>
UU 2.1	<ul style="list-style-type: none"> use numbers, fractions, decimals and percentages in the context of measures, estimating amounts and proportions, and make accurate observations 	CM 2.1	<p>use whole numbers</p> <ul style="list-style-type: none"> to read, write, order and compare positive and negative numbers of any size in a practical context, <i>eg loss in trading, low temperatures</i> 	IRC 2.1	<ul style="list-style-type: none"> use whole numbers, common fractions, decimals and percentages to present results
UU 2.2	<ul style="list-style-type: none"> use shape and space to record relevant measurements and make accurate observations 	CM 2.2	<ul style="list-style-type: none"> to carry out calculations with numbers of any size using efficient methods 	IRC 2.2	<ul style="list-style-type: none"> select and use measures and units of measure to define quantities
UU 2.3	<ul style="list-style-type: none"> use discrete and continuous data from tables, charts, diagrams and line graphs 	CM 2.3	<ul style="list-style-type: none"> to calculate ratio and direct proportion, <i>eg 3:2</i> 	IRC 2.3	<ul style="list-style-type: none"> use tables, charts, diagrams and line graphs to draw conclusions and present results, <i>eg for amounts, sizes, scales and statistics</i>

Standards for adult numeracy

Level 2

UU 2.4	<ul style="list-style-type: none"> collect and record discrete and continuous data in tests and observations 	CM 2.4	<ul style="list-style-type: none"> to evaluate expressions and make substitutions in given formulae in words and symbols to produce results, <i>eg area of a room from $l \times w$</i> <p>use fractions</p>	IRC 2.4	<ul style="list-style-type: none"> use approximation to corroborate and confirm results
UU 2.5	<ul style="list-style-type: none"> design appropriate methods 	CM 2.5	<ul style="list-style-type: none"> to order and compare amounts or quantities 	IRC 2.5	<ul style="list-style-type: none"> select and use appropriate methods and forms to present and explain outcomes
UU 2.6	<ul style="list-style-type: none"> select and use appropriate mathematical tests, skills or concepts 	CM 2.6	<ul style="list-style-type: none"> to identify equivalencies with decimals and percentages 		
UU 2.7	<ul style="list-style-type: none"> recognise that substantial activities should be broken down into smaller, more manageable tasks 	CM 2.7	<ul style="list-style-type: none"> to evaluate one number as a fraction of another 		
		CM 2.8	<ul style="list-style-type: none"> to add and subtract amounts or quantities <p>use decimals</p>		
		CM 2.9	<ul style="list-style-type: none"> to order, approximate and compare decimals when solving practical problems 		
		CM 2.10	<ul style="list-style-type: none"> to add, subtract, multiply and divide decimals up to three places 		

		<p>CM 2.11</p> <p>CM 2.12</p> <p>CM 2.13</p> <p>CM 2.14</p> <p>CM 2.15</p> <p>CM 2.16</p>	<p>use percentages</p> <ul style="list-style-type: none"> to order and compare percentages and understand percentage increase and decrease, <i>eg VAT or 20 per cent reduction in a sale</i> to find percentage parts of quantities and measurements to evaluate one number as a percentage of another <p>use measures</p> <ul style="list-style-type: none"> to calculate with sums of money and to convert between currencies to calculate, measure and record time in different formats to estimate, measure and compare length, weight, capacity and temperature using metric and, where appropriate, imperial units, <i>eg scales to given levels of accuracy, including reading between divisions</i> 		
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		<p>CM 2.21</p> <ul style="list-style-type: none"> to solve problems involving 2-D shapes and parallel lines, <i>eg in laying down carpet tiles</i> <p>use data and statistical measures</p> <p>CM 2.22</p> <ul style="list-style-type: none"> to extract discrete and continuous data from tables, charts, diagrams and line graphs <p>CM 2.23</p> <ul style="list-style-type: none"> to collect, organise and represent discrete and continuous data in tables, charts, diagrams and line graphs <p>CM 2.24</p> <ul style="list-style-type: none"> to find the mean, median and mode and use them as appropriate to compare two sets of data <p>CM 2.25</p> <ul style="list-style-type: none"> to find the range and use it to describe the spread within sets of data <p>CM 2.26</p> <ul style="list-style-type: none"> to find the range and use it to describe the spread within sets of data 		
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		CM 2.27	<p>use probability</p> <ul style="list-style-type: none"> to identify the range of possible outcomes of combined events and record information using diagrams or tables 		
		<p>CM 2.28</p> <p>CM 2.29</p>	<p>use electronic or mechanical aids</p> <ul style="list-style-type: none"> to calculate efficiently using whole numbers, fractions, decimals, percentages to check calculations 		

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