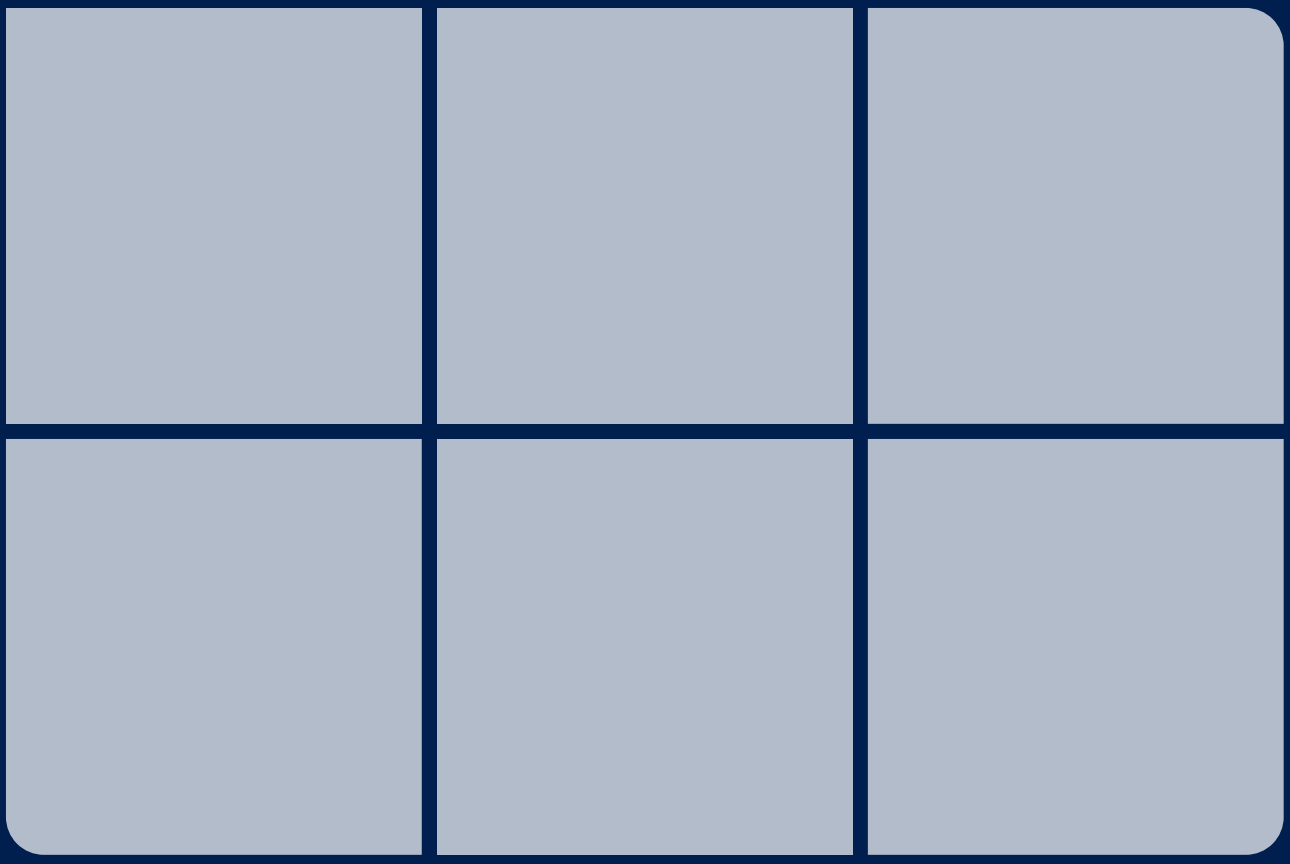
National standards for adult numeracy



department for
education and skills
creating opportunity, releasing potential, achieving excellence

QCA

The Basic Skills Agency
Yr Asiantaeth Sgiliau Sylfaenol

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Entry level Entry 1

Standards for adult numeracy

Standards for adult numeracy

Understanding and using mathematical information

At this level, adults can:

read and understand
information given by numbers and symbols in simple graphical, numerical and written material

specify and describe
a practical problem or task using numbers and measures

An adult will be expected to:

- use whole numbers to measure and make observations
- use space and shape to help understanding
- use information from lists and simple diagrams to help understanding
- copy a given process or routine to increase understanding

Calculating and manipulating mathematical information

At this level, adults can:

generate results
which make sense and use given methods and given checking procedures appropriate to the specified purpose

An adult will be expected to:

use whole numbers

- to count reliably up to 10 items
- to read, write, order and compare numbers up to 10 including zero
- to add single-digit numbers with totals to 10, and subtract single-digit numbers from numbers up to 10
- to interpret + − and = and in practical situations for solving problems

use common measures

- to recognise and select coins and notes
- to relate familiar events to:
  - times of day (using o'clock times or parts of the day such as midday)
  - days of the week
  - seasons of the year
- to describe size, *e.g. large/small,* and use direct comparisons for the size of at least two items, *e.g. larger/smaller*
- to describe length, width, height, *e.g. long, short, wide, narrow, tall,* and use direct comparisons for length, width, height of items, *e.g. longer, too long, longest*
- to describe weight, *e.g. heavy/light,* and use direct comparisons for weight of items, *e.g. heavier/lighter*
- to describe capacity, *e.g. full/empty,* and use direct comparisons for capacity of items, *e.g. holds more than, holds less than*

Entry level
Entry 1

Interpreting results and communicating mathematical information

At this level, adults can:

present and explain results
which show an understanding of the intended purpose using appropriate numbers, measures, objects or pictures

use shape and space
- to recognise and name common 2-D and 3-D shapes, *e.g. a rectangle, square, circle, cube*
- to understand everyday positional vocabulary, *e.g. between, inside or near to*

use data
- extract simple information from lists
- to sort and classify objects using a single criterion
- to construct simple representations or diagrams using knowledge of numbers, measures or space and shape

use a calculator
- to check calculations using whole numbers

An adult will be expected to:
- use whole numbers to present results
- use appropriate vocabulary for common measures to describe quantities
- use objects or simple images to present results
- reach a suitable outcome

Guidance and examples

Numeracy entry level, entry 1

Numeracy plays a fundamental part in adult life. Numeracy is the ability to represent ideas, problems or situations using numerical or mathematical information, work with this information and then present results as solutions or conclusions. Effective numeracy skills support independent living and broaden the choices and opportunities available to individuals.

The examples listed below broadly indicate the types of contexts and situations where adults with skills at this level will be able to use them efficiently.

These activities and applications are given only as guidance. Each adult is different and in real life contexts and situations the range of skills required may vary. It is recognised that not all of these examples will be relevant to each individual's experience, interests and aspirations. For this important reason the guidance should not be seen as definitive or prescriptive of how, when or where skills should be developed, practised or applied.

Examples

Citizen and community

- selecting the correct numbered floor button in a lift
- recognising the shape of traffic signs and understanding that the shape has a meaning
- sorting bottles by colour for disposal at a bottle bank

Economic activity, including paid and unpaid work

- selecting number of copies and selecting paper of the required size on a photocopier
- counting the correct number of drinks for visitors or colleagues
- buying sufficient number of items for a purpose, *e.g. batteries or stamps*
- asking for items by comparative size, *e.g. larger/smaller, heavier/lighter*

Domestic and everyday life

- choosing the correct coins to use in a public telephone
- arranging day and time of day, *e.g. morning, afternoon,* for service visits, repairs, deliveries
- using judgement of size when packing or storing things
- playing games, *e.g. board games, dominoes*

Leisure

- arranging to visit friends stating day and approximate time of day, *e.g. morning, afternoon, evening*
- ordering a round of drinks in a bar, café or pub
- checking a child's height against the minimum measure for a fairground ride

Education and training

- using a calculator to check simple addition and subtraction
- understanding day, time and place of training sessions
- understanding term times, *e.g. spring term, summer term*

Using ICT in social roles

- selecting numbered options from a simple on-screen menu
- inputting digits using a numeric keypad, *e.g. telephone, fax machine, remote control device*

At this level adults can apply their numeracy skills effectively using a limited range of strategies in contexts and situations that are familiar to them.

Access statement

Adults with a disability may have special learning requirements and be unable to demonstrate certain of the capabilities or skills specified in the standards. As a reasonable adjustment and to aid access, it is recommended that alternative methods are investigated to allow individuals to demonstrate their abilities.

Curriculum developers and qualification designers are expected to produce guidance for centres on recognising special learning requirements. This guidance should be supported by a framework for identifying and adopting appropriate alternative approaches.

Entry level Entry 2

Standards for adult numeracy

Standards for adult numeracy

Understanding and using mathematical information

At this level, adults can:

read and understand
information given by numbers, symbols, simple diagrams and charts in graphical, numerical and written material

specify and describe
a practical problem or task using numbers, measures and simple shapes to record essential information

An adult will be expected to:

- use whole numbers and simple fractions to measure and make observations
- use space and shape to record simple information
- use information from lists, tables, simple diagrams and block graphs to help understanding
- collect simple numerical information to help understanding
- follow a given process or routine

Calculating and manipulating mathematical information

At this level, adults can:

generate results
to a given level of accuracy using given methods and given checking procedures appropriate to the specified purpose

An adult will be expected to:

use whole numbers

- 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

use fractions

- to read, write and compare halves and quarters of quantities
- to find halves and quarters of small numbers of items or shapes

use common measures

- to make amounts of money up to £1 in different ways using 1p, 2p, 5p, 10p, 20p and 50p coins
- to calculate the cost in pence of more than one item, *e.g. two stamps at 27p,* and the change from a transaction, *e.g. change from £1*
- to calculate the cost in whole pounds of more than one item, *e.g. two tickets at £6,* and the change from a transaction, *e.g. change from £20*
- to read and record time in common date formats, and understand time displayed on analogue and 12-hour digital clocks in hours, half hours and quarter hours
- to estimate, measure and compare length using common standard and non-standard units, *e.g. metre, centimetre, paces*
- to estimate, measure and compare weight using common standard units, *e.g. kilogram*
- to estimate, measure and compare capacity using common standard and non-standard units, *e.g. litre, cupful*
- to read and compare positive temperatures in everyday situations such as weather charts
- to read simple scales to the nearest labelled division

Entry level
Entry 2

Interpreting results and communicating mathematical information

At this level, adults can:

present and explain results
which meet the intended purpose using appropriate numbers, simple diagrams and symbols

use shape and space
- to recognise and name 2-D and 3-D shapes, *e.g. triangles, cylinders, pyramids*
- to describe the properties of common 2-D and 3-D shapes, *e.g. the number of sides, corners, faces*
- to use positional vocabulary, *e.g. giving simple instructions*

use data
- to extract information from lists, tables, simple diagrams and block graphs
- to make numerical comparisons from block graphs
- to sort and classify objects using two criteria
- to represent information so that it makes sense to others, *e.g. in lists, tables and diagrams*

use a calculator
- to check calculations using whole numbers

An adult will be expected to:
- 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

Guidance and examples

Numeracy entry level, entry 2

Numeracy plays a fundamental part in adult life. Numeracy is the ability to represent ideas, problems or situations using numerical or mathematical information, work with this information and then present results as solutions or conclusions. Effective numeracy skills support independent living and broaden the choices and opportunities available to individuals.

The examples which follow are broadly indicative of the types of contexts and situations where adults with skills at this level should be able to use them efficiently.

These activities and applications are given only as guidance. Each adult is different and in real life contexts and situations the range of skills required may vary. It is recognised that not all of these examples will be relevant to each individual's experience, interests and aspirations. For this important reason the guidance should not be seen as definitive or prescriptive of how, when or where skills should be developed, practised or applied.

Examples

Citizen and community

- finding an address by reading door numbers, *e.g. for business premises, council services, job centre, dentist, clinic*
- reading speed limits on traffic signs or hazard warning signs
- entering personal details on forms, *e.g. date of birth, NI number*
- understanding expiry dates and renewal dates, *e.g. on a road tax disc, tv licence*

Economic activity, including paid and unpaid work

- checking delivery of goods in small batches
- choosing the correct coins to put into a vending machine
- arranging and attending meetings, *e.g. at work or at the job centre*

Domestic and everyday life

- understanding measurements and sizes on labels on clothes or footwear
- setting an alarm clock, or setting a timer on a cooker or microwave
- using non-standard measures in cooking, *e.g. tablespoon or cupful*
- estimating equal portions of food to share with others, *e.g. cutting a pizza into quarters*
- taking or dispensing tablets according to prescribed or maximum daily dosage

Leisure

- reading league tables, fixture lists or results for sports activities
- choosing numbers on a lottery ticket and checking winning numbers
- comparing temperatures at holiday destinations using charts in brochures

Education and training

- using a calculator to work out simple calculations
- keeping to simple timetables, *e.g. lesson times, lunch breaks*
- using measuring equipment, *e.g. weighing scales*

Using ICT in social roles

- using a cashpoint machine to withdraw cash
- using simple ICT programs for learning and recreation
- using an electronic diary, *e.g. to record meetings at work*

At this level adults can apply their numeracy skills effectively using a limited range of strategies in contexts and situations that are familiar to them.

Access statement

Adults with a disability may have special learning requirements and be unable to demonstrate certain of the capabilities or skills specified in the standards. As a reasonable adjustment and to aid access, it is recommended that alternative methods are investigated to allow individuals to demonstrate their abilities.

Curriculum developers and qualification designers are expected to produce guidance for centres on recognising special learning requirements. This guidance should be supported by a framework for identifying and adopting appropriate alternative approaches.

Entry level Entry 3

Standards for adult numeracy

Standards for adult numeracy

Understanding and using mathematical information

At this level, adults can:

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

specify and describe
a practical problem or task using numbers, measures and diagrams to collect and record relevant information

An adult will be expected to:

- use whole numbers, fractions and decimals to measure and make observations
- use space and shape to record information
- use numerical information from lists, tables, diagrams and simple charts to help understanding
- make observations and record numerical information using a tally
- use given materials and methods

Calculating and manipulating mathematical information

At this level, adults can:

generate results
to a given level of accuracy using given methods, measures and checking procedures appropriate to the specified purpose

An adult will be expected to:

use whole numbers

- to count, read, write, order and compare numbers up to 1000
- to add or subtract using three-digit numbers
- to recall addition and subtraction facts to 20
- to multiply two-digit whole numbers by single-digit whole numbers
- to divide two-digit whole numbers by single-digit whole numbers and interpret remainders
- to recall multiplication facts, *e.g. multiples of 2, 3, 4, 5, 10*
- to approximate by rounding numbers less than 1000 to the nearest 10 or 100
- to estimate answers to calculations
- to use and interpret +, −, X, ÷ and = in practical situations for solving problems

use fractions

- to read, write and understand common fractions, *e.g. 3/4, 2/3, 1/10*
- to recognise and use equivalent forms, *e.g. 5/10 = 1/2*

use decimals

- to read, write and understand decimals up to two decimal places in practical contexts (such as common measures to one decimal place, *e.g. 1.5m;* money in decimal notation, *e.g. £2.37*)

Entry level
Entry 3

Interpreting results and communicating mathematical information

At this level, adults can:

present and explain results
which meet the intended purpose using appropriate numbers, diagrams, charts and symbols

An adult will be expected to:

- use whole numbers, common fractions and decimals to present results
- use common measures and units of measure to define quantities
- use tables, charts and diagrams to present results, *e.g. for amounts and sizes*
- use given methods to check results
- use given methods to present results
- use appropriate methods and forms to describe outcomes

use common measures

- to estimate, calculate and compare money by:
  - adding and subtracting sums using decimal notation
  - rounding sums to the nearest £1, 10p
  - making approximate calculations
- to read, measure and record time using:
  - am and pm and common date formats
  - digital clocks and analogue clocks to the nearest 5 minute intervals
- to read, estimate, measure and compare length, capacity, weight and temperature using non-standard and standard units, *e.g. distance on road signs, simple scales to the nearest labelled or unlabelled division*
- to choose and use appropriate units and measuring instruments

use shape and space

- to sort 2-D and 3-D shapes to solve practical problems using properties, *e.g. lines of symmetry, side length, angles*

use data

- 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

use electronic or mechanical aids

- to calculate using whole numbers and decimals to solve problems in context
- to check calculations

Guidance and examples

Numeracy entry level, entry 3

Numeracy plays a fundamental part in adult life. Numeracy is the ability to represent ideas, problems or situations using numerical or mathematical information, work with this information and then present results as solutions or conclusions. Effective numeracy skills support independent living and broaden the choices and opportunities available to individuals.

The examples which follow are broadly indicative of the types of contexts and situations where adults with skills at this level should be able to use them efficiently.

These activities and applications are given only as guidance. Each adult is different and in real life contexts and situations the range of skills required may vary. It is recognised that not all of these examples will be relevant to each individual's experience, interests and aspirations. For this important reason the guidance should not be seen as definitive or prescriptive of how, when or where skills should be developed, practised or applied.

Examples

Citizen and community

- matching the number on the front of a bus with the destination
- making and keeping appointments, *e.g. at the doctors, hospital, housing office*
- understanding opening hours, *e.g. for community organisations, council services, clinics*
- understanding public safety information, *e.g. parking restrictions, weight restrictions*

Economic activity, including paid and unpaid work

- understanding price labels on pre-packed items
- checking the receipt and change when paying for goods
- comparing the price of goods of equivalent weight or capacity
- selecting sizes and prices from a table in a manufacturer's catalogue
- using a simple map to find a location, *e.g. for an interview or delivery*
- weighing loose items that are sold by weight

Domestic and everyday life

- paying usual household bills, *e.g. electricity or gas bills*
- following cooking and storage instructions on packaged food
- mixing a baby's bottle feed according to instructions
- selecting an item of furniture or appliance to fit into an available space

Leisure

- understanding programme times in listings, *e.g. for television, radio, cinema*
- understanding prices on a menu in a restaurant, hotel or café
- estimating total cost before purchasing or ordering
- using a map to locate local amenities and services
- checking depth markings at a swimming pool

Education and training

- using a calculator to work out contextual problems using decimals
- planning use of time, *e.g. preparation or coursework*
- using measuring instruments that are essential for training, *e.g. weighing ingredients in catering*
- interpreting numerical data that is essential for training, *e.g. quantities in construction*

Using ICT in social roles

- inputting numeric data into electronic systems, *e.g. dates, costs or quantities in spreadsheets*
- shopping for goods and services using the Internet
- using electronic banking facilities, inputting passwords and account details
- selecting teletext pages

At this level adults can apply their numeracy skills effectively using a limited range of strategies in contexts and situations that are familiar to them.

Access statement

Adults with a disability may have special learning requirements and be unable to demonstrate certain of the capabilities or skills specified in the standards. As a reasonable adjustment and to aid access, it is recommended that alternative methods are investigated to allow individuals to demonstrate their abilities.

Curriculum developers and qualification designers are expected to produce guidance for centres on recognising special learning requirements. This guidance should be supported by a framework for identifying and adopting appropriate alternative approaches.

Level 1

Standards for adult numeracy

Standards for adult numeracy

Understanding and using mathematical information

At this level, adults can:

read and understand
straightforward mathematical information used for different purposes and independently select relevant information from given graphical, numerical and written material

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

An adult will be expected to:

- use numbers, fractions, decimals and percentages in the context of measures and make observations
- use shape and space to record measurements and make observations
- use information from tables, diagrams, charts and line graphs
- collect and record discrete data in tests and from observations
- identify appropriate methods
- identify and use the mathematical facts, skills or concepts that best match the practical situation

Calculating and manipulating mathematical information

At this level, adults can:

generate results
to a given level of accuracy using methods, measures and checking procedures appropriate to the specified purpose

An adult will be expected to:

use whole numbers

- to read, write, order and compare numbers, including large numbers
- to recognise negative numbers in practical contents, *e.g. temperatures*
- to add, subtract, multiply and divide using efficient written methods
- to multiply and divide by 10 and 100
- to recall multiplication facts up to 10 x 10 and make connections with division facts
- to recognise numerical relationships, *e.g. multiples and squares*
- to work out simple ratio and direct proportion, *e.g. three parts to one part*
- to approximate by rounding
- to estimate answers to calculations

use fractions

- to read, write, order and compare common fractions and mixed numbers
- to find parts of whole number quantities or measurements, *e.g. 2/3 or 3/4*
- to recognise equivalencies between common fractions, percentages and decimals, *e.g. 50 per cent = 1/2, 0.25 = 1/4,* and use these to find part of whole number quantities
- to express likelihood or probability

use decimals

- to extract information from tables, diagrams, charts and line graphs
- to read, write, order and compare decimals up to three decimal places
- to add, subtract, multiply and divide decimals up to two places
- to multiply and divide decimals by 10, 100
- to approximate by rounding to a whole number or two decimal places
- to express likelihood or probability

use percentages

- to read, write, order and compare simple percentages, *e.g. 10 per cent, 25 per cent,* and understand simple percentage increase and decrease, *e.g. 10 per cent rise in cost, 20 per cent off in a sale*
- to find simple percentage parts of quantities and measurements

Level 1

Interpreting results and communicating mathematical information

At this level, adults can:

present and explain results
which meet the intended purpose using an appropriate format to a given level of accuracy

An adult will be expected to:

- use whole numbers, common fractions, decimals and percentages to present results
- use common measures and units of measure to define quantities
- use tables, charts, diagrams and line graphs to present results, *e.g. for amounts, sizes and scales*
- use approximation to corroborate results
- select and use suitable methods and forms to present and describe outcomes

use common measures

- to add, subtract, multiply, divide and record sums of money and record, *e.g. completing financial transactions, calculating benefits or entitlements*
- to read, measure and record time in common date formats and in the 12-hour and 24-hour clock
- to choose and use appropriate units and instruments to measure length, weight, capacity, time and temperature, *e.g. distances in road maps and mileage charts, scales to the nearest labelled or unlabelled division*
- to calculate within the same system by:
  - adding and subtracting common units of measure
  - converting units of measure in the same system, *e.g. 70 minutes is 1 hour 10 minutes, 250cm is 2.5m*
- to work out the perimeter of simple shapes
- to work out the area of rectangles
- to work out simple volume, *e.g. cuboids*

use shape and space

- to solve problems using the mathematical properties of regular 2-D shapes, *e.g. tessellation or symmetry*
- to draw 2-D shapes in different orientations using grids, *e.g. in diagrams or plans*

use data and statistical measures

- to extract and interpret information, *e.g. in tables, diagrams, charts and line graphs*
- to collect, organise and represent discrete data, *e.g. in tables, charts, diagrams and line graphs*
- to find the arithmetical average (mean) or range for a set of data

use probability

- to show that some events are more likely to occur than others
- to express the likelihood of an event using fractions, decimals and percentages with the probability scale of 0 to 1

use electronic or mechanical aids

- 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

Guidance and examples

Numeracy level 1

Numeracy plays a fundamental part in adult life. Numeracy is the ability to represent ideas, problems or situations using numerical or mathematical information, work with this information and then present results as solutions or conclusions. Effective numeracy skills support independent living and broaden the choices and opportunities available to individuals.

The examples listed below broadly indicate the types of contexts and situations where adults with skills at this level will be able to use them efficiently.

These activities and applications are given only as guidance. Each adult is different and in real life contexts and situations the range of skills required may vary. It is recognised that not all of these examples will be relevant to each individual's experience, interests and aspirations. For this important reason the guidance should not be seen as definitive or prescriptive of how, when or where skills should be developed, practised or applied.

Examples

Citizen and community

- reading bus and train timetables correctly
- planning a journey involving more than one stage in order to arrive at a given time
- understanding public health information, *e.g. safe levels of alcohol consumption or nutritional information*
- understanding council tax bands and charges

Economic activity, including paid and unpaid work

- working out weekly pay from hourly rate, or monthly pay from annual salary
- checking pay and deductions on a payslip
- keeping records, *e.g. for timesheets or expenses*
- working out the price of goods in a sale
- comparing rates on mobile phones
- calculating down payments on goods given in percentages

Domestic and everyday life

- checking household bills
- reading electricity or gas meter
- working out personal weight gain or loss over a period of time
- taking a child's temperature
- following instructions to mix or dilute a household product
- adjusting a recipe to increase or decrease the number of servings
- making and fitting curtains or measuring and laying a carpet

Leisure

- estimating the amount of cash needed to cover the cost of a night out
- estimating the total cost of excursions, holidays or journeys
- estimating the equivalent price in sterling of goods and services when on holiday abroad
- following a personal fitness programme, *e.g. taking measurements and recording data*
- estimating distances using scales printed on road maps

Education and training

- using a calculator to calculate fractions or decimals
- keeping records of work planned or completed, *e.g. in a portfolio or logbook*
- using measuring instruments that are essential for training, *e.g. scales, spring balances*
- interpreting graphical data that is essential for training, *e.g. a temperature chart in healthcare*

Using ICT in social roles

- finding travel information and schedules on the Internet including using the 24-hour clock
- making bookings using the Internet, *e.g. for concert tickets or holidays*
- inputting numeric data in electronic systems, *e.g. hours in timesheets*
- using software to draw simple charts from data

At this level adults are confident and capable of applying their numeracy skills effectively in a range of familiar and unfamiliar contexts and situations. Adults are also aware of the need to adapt or select their approach according to purpose and context and are able to do this using a range of straightforward methods, procedures or strategies.

Access statement

Adults with a disability may have special learning requirements and be unable to demonstrate certain of the capabilities or skills specified in the standards. As a reasonable adjustment and to aid access, it is recommended that alternative methods are investigated to allow individuals to demonstrate their abilities.

Curriculum developers and qualification designers are expected to produce guidance for centres on recognising special learning requirements. This guidance should be supported by a framework for identifying and adopting appropriate alternative approaches.

Level 2

Standards for adult numeracy

Standards for adult numeracy

Understanding and using mathematical information

At this level, adults can:

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

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

An adult will be expected to:

- use numbers, fractions, decimals and percentages in the context of measures, estimating amounts and proportions, and make accurate observations
- use shape and space to record relevant measurements and make accurate observations
- use discrete and continuous data from tables, charts, diagrams and line graphs
- collect and record discrete and continuous data in tests and observations
- design appropriate methods
- select and use appropriate mathematical tests, skills or concepts
- recognise that substantial activities should be broken down into smaller, more manageable tasks

Calculating and manipulating mathematical information

At this level, adults can:

generate results
to an appropriate level of accuracy using methods, measures and checking procedures appropriate to the specified purpose

An adult will be expected to:

use whole numbers

- to read, write, order and compare positive and negative numbers of any size in a practical context, *e.g. loss in trading, low temperatures*
- to carry out calculations with numbers of any size using efficient methods
- to calculate ratio and direct proportion, *e.g. 3:2*
- to evaluate expressions and make substitutions in given formulae in words and symbols to produce results, *e.g. area of a room from l x w*

use fractions

- to order and compare amounts or quantities
- to identify equivalencies with decimals and percentages
- to evaluate one number as a fraction of another
- to add and subtract amounts or quantities

use decimals

- to order, approximate and compare decimals when solving practical problems
- to add, subtract, multiply and divide decimals up to three places

use percentages

- to order and compare percentages and understand percentage increase and decrease, *e.g. VAT or 20 per cent reduction in a sale*
- to find percentage parts of quantities and measurements
- to evaluate one number as a percentage of another

use measures

- 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, *e.g. scales to given levels of accuracy, including reading between divisions*

- to calculate with units:
  - within the same system
  - between systems using conversion tables and scales, and approximate conversion factors, *e.g 1kg = 2.2lbs, 1in = 2.54cm*
- to understand and use given formulae for finding:
  - perimeters and areas of regular shapes, *e.g. rectangular and circular surfaces*
  - areas of composite shapes, *e.g. non-rectangular rooms or plots of land*
  - volumes of regular shapes, *e.g. cuboid or cylinder*
- to work out dimensions from scale drawings, *e.g. 1:20*

use shape and space

- to recognise and use common 2-D representations of 3-D objects, *e.g. in maps and plans*
- to solve problems involving 2-D shapes and parallel lines, *e.g. in laying down carpet tiles*

use data and statistical measures

- to extract discrete and continuous data from tables, charts, diagrams and line graphs
- to collect, organise and represent discrete and continuous data in tables, charts, diagrams and line graphs
- to find the mean, median and mode and use them as appropriate to compare two sets of data
- to find the range and use it to describe the spread within sets of data

use probability

- to identify the range of possible outcomes of combined events and record information using diagrams or tables

use electronic or mechanical aids

- to calculate efficiently using whole numbers, fractions, decimals, percentages
- to check calculations

Interpreting results and communicating mathematical information

At this level, adults can:

present and explain results
clearly and accurately using numerical, graphical and written formats appropriate to purpose, findings and audience

An adult will be expected to:

- use whole numbers, common fractions, decimals and percentages to present results
- select and use measures and units of measure to define quantities
- use tables, charts, diagrams and line graphs to draw conclusions and present results, *e.g. for amounts, sizes, scales and statistics*
- use approximation to corroborate and confirm results
- select and use appropriate methods and forms to present and explain outcomes

Guidance and examples

Numeracy level 2

Numeracy plays a fundamental part in adult life. Numeracy is the ability to represent ideas, problems or situations using numerical or mathematical information, work with this information and then present results as solutions or conclusions. Effective numeracy skills support independent living and broaden the choices and opportunities available to individuals.

The examples listed below broadly indicate the types of contexts and situations where adults with skills at this level will be able to use them efficiently.

These activities and applications are given only as guidance. Each adult is different and in real life contexts and situations the range of skills required may vary. It is recognised that not all of these examples will be relevant to each individual's experience, interests and aspirations. For this important reason the guidance should not be seen as definitive or prescriptive of how, when or where skills should be developed, practised or applied.

Examples

Citizen and community

- understanding the relevance of information about local council and government expenditure
- understanding and interpreting data published by the local council and government, *e.g. on health, housing, crime, unemployment or schools*
- carrying out a survey and presenting information for a local campaign, *e.g. on street lighting or lower speed limits*

Economic activity, including paid and unpaid work

- comparing products and services and working out 'best buy'
- comparing costs of different methods of payment for goods and services, *e.g. cash, direct debit or monthly payments*
- comparing financial services offered by banks, building societies and brokers, *e.g. loans, credit facilities*
- understanding and interpreting data used in advertising
- working out the real cost of items when prices are given excluding VAT

Domestic and everyday life

- working out a personal or family budget
- working out how many tiles are needed to tile an area
- working out quantities required and the cost of materials for home decoration, *e.g. paint, wallpaper*
- understanding and using nutritional information on food packages, particularly for children, pregnant women and the elderly

Leisure

- converting distances on road signs from kilometres to miles when travelling abroad
- drawing a map for others that shows how to find a location, *e.g. a cinema or restaurant*
- laying out templates on material to minimise wastage, *e.g. from diagrams, plans or patterns*

Education and training

- using a calculator to confirm or provide accurate solutions to an appropriate level of accuracy
- using measuring instruments that are essential for training, *e.g. a micrometer in engineering*
- interpreting numerical data that is specific to occupational sectors, *e.g. hospitality and catering*

Using ICT in social roles

- using a spreadsheet model to make and test predictions
- using software to draw charts and graphs from data
- formatting data and documents using different software packages, *e.g. row and column sizes, positioning images, setting margins*

At this level adults are confident and capable of selecting and using a variety of communication strategies appropriately and effectively in a range of familiar and unfamiliar contexts and situations. Adults are also able to adapt their speech and written communications to medium and context using a range of strategies.

Access statement

Adults with a disability may have special learning requirements and be unable to demonstrate certain of the capabilities or skills specified in the standards. As a reasonable adjustment and to aid access, it is recommended that alternative methods are investigated to allow individuals to demonstrate their abilities.

Curriculum developers and qualification designers are expected to produce guidance for centres on recognising special learning requirements. This guidance should be supported by a framework for identifying and adopting appropriate alternative approaches.

For further information contact:
The Basic Skills Agency,
Commonwealth House,
1–19 New Oxford Street,
London WC1A 1NU
Tel: 020 7405 4017
Fax: 020 7440 7770
E-mail: walesenquiries@basic-skills.co.uk
www.basic-skills-wales.org

For further copies, organisations in Wales should contact:
The Basic Skills Agency,
Admail 524,
London WC1A 1BR
Tel: 0870 600 2400
Fax: 0870 600 2401

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education and skills
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The Basic Skills Agency
Yr Asiantaeth Sgiliau Sylfaenol