# Qualification specification

**NCFE Level 2 Certificate in Essential Maths in Everyday Life**

**QN: 610/0650/6**

**Qualification summary**

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| **Qualification title** | **NCFE Level 2 Certificate in Essential Maths in Everyday Life** | | |
| **Ofqual qualification number (QN)** | 610/0650/6 | **Aim reference** | 61006506 |
| **Guided learning hours (GLH)** | 200 | **Total qualification time (TQT)** | 200 |
| **Minimum age** | Pre-16 | | |
| **Qualification purpose** | This qualification is part of a suite designed to provide learners with essential knowledge and skills in maths.<br><br>Learners will develop their skills in using numbers, measurement, shape and space, handling data and solving mathematical problems. This qualification has been designed to support learners in their everyday life or support them to progress on to a level 2 Functional Skills Qualification in Mathematics or a GCSE in mathematics. | | |
| **Grading** | Achieved/not yet achieved. | | |
| **Assessment method** | Internally assessed and externally quality assured portfolio of evidence. | | |

## Contents

## Section 1: introduction

If you are using this qualification specification for planning purposes, please make sure that you are using the most recent version.

### Aims and objectives

This qualification aims to:

- focus on the study of maths
- offer breadth and depth of study, incorporating a key core of knowledge
- provide opportunities to acquire practical skills in maths
- support progression to a level 2 Functional Skills or a GCSE in mathematics

The objectives of this qualification are to enable learners to:

- develop their skill in using whole numbers, fractions, and decimals
- develop their skills in common measurements of time, money, weight, capacity, length, shape, and space
- develop their skills in handling data and information
- develop their skills in solving mathematical problems

### Support handbook

This qualification specification must be used alongside the mandatory support handbook on the qualifications page on the NCFE website, which contains additional supporting information to help with the planning, delivery and assessment.

This qualification specification contains all of the qualification-specific information you will need that is not covered in the support handbook.

### Entry guidance

This qualification is designed for any learners who have not achieved a GCSE or Functional Skills qualification in mathematics.

The qualification will support learners with an identified skills gap in maths and has been designed using the functional skill scope of study to develop skills for everyday life and support progression to the equivalent level of Functional Skills. The qualification can also be used to progress to a GCSE in mathematics.

The qualifications could also be used by pre-16 learners who are not following or are not yet ready to follow a traditional GCSE route in education for mathematics.

Registration is at the discretion of the centre, in accordance with equality legislation, and should be made on the Portal.

There are no specific prior skills/knowledge a learner must have for this qualification. However, learners may find it helpful if they have already achieved the NCFE Level 1 Certificate in Essential Maths in Everyday Life (610/0648/8).

Centres are responsible for ensuring that all learners are capable of achieving the learning outcomes (LOs) and complying with the relevant literacy, numeracy and health and safety requirements.

Learners registered on this qualification should not undertake another qualification at the same level, or with the same/a similar title, as duplication of learning may affect funding eligibility.

**Achieving this qualification**

To be awarded this qualification, learners are required to successfully achieve **9** mandatory units from group A and **1** optional unit from group B.

Please refer to the list of units in appendix A or the unit summaries in section 2 for further information.

To achieve this qualification learners must successfully demonstrate their achievement of all LOs of the units as detailed in this qualification specification. A partial certificate may be requested for learners who do not achieve their full qualification but have achieved at least one whole unit.

**Progression**

Learners who achieve this qualification could progress to the following:

- NCFE Level 2 Functional Skills Qualification in Mathematics (603/5060/X)
- apprenticeships
- vocational qualifications
- GCSE in mathematics

**Resource requirements**

There are no mandatory resource requirements for this qualification, but centres must ensure learners have access to suitable resources to enable them to cover all the appropriate LOs.

## How the qualification is assessed

Assessment is the process of measuring a learner's skill, knowledge and understanding against the standards set in a qualification.

This qualification is internally assessed and externally quality assured.

Unless stated otherwise in this qualification specification, all learners taking this qualification must be assessed in English and all assessment evidence presented for external quality assurance must be in English.

The assessment consists of one component:

- an internally assessed portfolio of evidence which is assessed by centre staff and externally quality assured by NCFE (internal quality assurance (IQA) must still be completed by the centre as usual)

**Internal assessment**

We are in the process of developing free workbooks to accompany this qualification to support centres with their delivery and assessment, which include summative assessments that can be used to provide evidence of competence in each unit. These qualification page on the NCFE website. These tasks are not mandatory. You can contextualise these tasks to suit the needs of your learners to help them build up their portfolio of evidence. The tasks have been designed to cover LOs for all units and provide opportunities for stretch and challenge. For further information about contextualising the tasks, please contact the provider development team.

Each learner must create a portfolio of evidence generated from appropriate assessment tasks, which demonstrates achievement of all the LOs associated with each unit. On completion of each unit, learners must declare that the work produced is their own and the assessor must countersign this. Examples of suitable evidence for the portfolio for each unit are provided in section 2.

A centre may choose to create their own internal assessment tasks. There are 4 essential elements in the production of successful centre-based assessment tasks.

These are:

- ensuring the assessment tasks are meaningful with clear, assessable outcomes
- appropriate coverage of the content, LOs, or assessment criteria
- having a valid and engaging context or scenario
- including sufficient opportunities for stretch and challenge for higher attainers

Please see the guidance document for creation of internal assessment tasks on our website.

Assessment guidance is provided for each unit. Assessors can use other methods of assessment as long as they are valid and reliable and maintain the integrity of the assessment and of the standards required of this qualification.

## Section 2: unit content and assessment guidance

This section provides details of the structure and content of this qualification.

The types of evidence listed are for guidance purposes only. Within learners' portfolios, other types of evidence are acceptable if all learning outcomes (LOs) are covered and if the evidence generated can be internally and externally quality assured. For approval of methods of internal assessment other than portfolio building, please contact your external quality assurer.

The explanation of terms explains how the terms used in the unit content are applied to this qualification. This document can be found in section 3.

The qualification has been designed to map to the subject content for Functional Skills in maths to aid progression, we have provided a mapping document in appendix B which outlines the Functional Skills subject content statement that each assessment criteria maps to.

The qualification has been designed to map to the subject content for Functional Skills in English to aid progression. We have provided a mapping document in appendix B which outlines the Functional Skills subject content statement that each assessment criteria maps to.

Where spoken responses are required, sign language can be used to meet learners' needs where appropriate. If learners provide signed responses, the tutor should record them on the appropriate documents. Tasks that can be read out to the learner can be delivered via sign language as appropriate to their needs.

Online delivery and assessment could be offered if technology is in place for learners and centres.

If centres opt for an online approach to delivery and assessment, tutors must ensure that they can hear the learners when they read out and can view their written answers, taking a screen shot or emailing the learners' work when necessary.

Integrating the LOs from different units is good practice, tutors should familiarise themselves with the different LOs from different units that can be achieved during a single assessment.

**Unit 01 Working with positive and negative whole numbers (T/650/1850)**

| **Unit summary** | | | |
|---|---|---|---|
| This unit aims to develop the learner's mathematical and calculations skills required for working with whole numbers, for both written and calculator methods. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **30 GLH** |

| **Learning outcomes** The learner will: | **Assessment criteria** The learner can: |
|---|---|
| 1. Be able to read, write, order, and compare positive and negative whole numbers of any size | 1.1 Read and write positive and negative **whole numbers of any size** in both words and figures |
| | 1.2 Order and compare positive and negative whole numbers of any size |
| 2. Be able to carry out calculations with whole numbers up to 1 million, including checking answers using estimation and approximation | 2.1 Carry out accurate addition and subtraction calculations with whole numbers up to 1 million using written and calculator methods |
| | 2.2 Carry out multiplication and division calculations with whole numbers up to 1 million using written and calculator methods |
| | 2.3 Demonstrate checking of calculations by the use of estimation and approximation |
| 3. Be able to follow the order of precedence of operators, including indices | 3.1 Identify the order of operations in formulae and expressions, including indices |
| | 3.2 Accurately find solutions following correct substitution in formulae and using order of precedence of operators |
| 4. Be able to calculate ratios, direct proportion, and inverse proportion | 4.1 Calculate new values from given ratios and give sets of values as a ratio |
| | 4.2 Calculate new values using direct proportion |
| | 4.3 Calculate new values using inverse proportion |

| **Range** |
|---|
| **1.** Understand how to read, write, order, and compare positive and negative whole numbers of any size |
| **1.1 Whole numbers of any size** includes writing large numbers as decimals (for example, 1.5 million) in digits |

**Delivery and assessment guidance**

The focus of the unit is to enable the learner to develop strategies for working with positive and negative whole numbers in a range of contexts.

Learners will demonstrate their skills and abilities in working with positive and negative numbers, ratio, direct proportion, and using given expressions.

Learners must be able to carry out calculations with whole numbers using written methods. When they have completed their written methods, learners could check their calculations using a calculator, where appropriate.

Learners should be encouraged to show their working for all methods.

Tutors could incorporate opportunities for learners to complete calculations using written methods or with the use of a calculator throughout the assessment of the unit.

Alternatively, tutors could develop separate summative assessment papers that require learners to demonstrate completion of calculations by mental or written methods.

Learners may cross reference evidence from other units undertaken.

**Assessment criteria: 1.1–1.2**

Tutors could provide learners with scenarios of practical contexts where large numbers, or negative numbers, may be encountered, for example:

- populations of countries or towns
- miles travelled by airlines
- customer numbers for worldwide companies
- temperature
- money

Learners can use this information to demonstrate achievement of these assessment criteria.

Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above, for example:

- AC1.1: one example should be provided for reading, and one for writing, one piece of evidence must be in words and one in figures, for example:
  - millions
  - tens of millions
  - hundreds of millions
  - billions

This includes writing large numbers given as decimals (for example, 1.5 million) in digits.

- AC1.2: two examples for ordering large numbers should be provided for example 2 of the below:
  - millions
  - tens of millions
  - hundreds of millions
  - billions

| Delivery and assessment guidance |
| --- |
| **Assessment criteria: 2.1–2.2**<br><br>Tutors must provide learners with a range of calculations to complete using whole numbers, for example:<br><br>• populations of countries or towns<br>• miles travelled by airlines<br>• customer numbers for worldwide companies<br><br>Learners must complete questions using written methods and show their workings. Learners may use calculators to support and check their calculations.<br><br>Tutors could develop short answer questions that would allow learners to demonstrate achievement of AC2.1 to 2.2.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above, for example:<br><br>• AC2.1: two pieces of evidence:<br>  ○ one for addition<br>  ○ one subtraction<br>• AC2.2: two pieces of evidence:<br>  ○ one for multiplication<br>  ○ one for division<br><br>**Assessment criterion: 2.3**<br><br>Learners must demonstrate on at least one occasion achievement of one check for each type of calculation completed in AC2.1 and AC2.2, either by estimation or approximation.<br><br>**Assessment criteria: 3.1–3.2**<br><br>For AC3.1, tutors must provide learners with a range of expressions and formulae involving brackets, indices, multiplication, division, addition, and subtraction where the order of operations needs to be considered to arrive at the final answer.<br><br>For AC3.2, tutors must provide formulae given in words and digits for learners to substitute values into and work out the solution.<br><br>Learners must be able to complete all calculations using a written method and may check their calculations on a calculator.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above. |

| **Delivery and assessment guidance** |
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| **Assessment criteria: 4.1–4.3**<br><br>Tutors must provide a range of practical tasks using ratio, direct proportion, and inverse proportion for learners to work with, such as mixing paint, using recipes to cook, or mixing ingredients to make a drink.<br><br>Learners must be able to calculate new values.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence<br>• multiple choice and/or short answer question paper<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

## Unit 02 Developing working with fractions (Y/650/1851)

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop the learner's skills and confidence in working with fractions. Learners will use fractions to order and compare and add and subtract amounts using proper and improper fractions and mixed numbers, as well being able to express one number as a simplified fraction of another. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **20 GLH** |

| **Learning outcomes** The learner will: | **Assessment criteria** The learner can: |
|---|---|
| 1. Be able to order and compare amounts and quantities using proper and improper fractions and mixed numbers | 1.1 Order amounts or quantities using proper and improper fractions and mixed numbers |
| | 1.2 Compare amounts or quantities using proper and improper fractions and mixed numbers |
| 2. Be able to add and subtract amounts or quantities using proper and improper fractions and mixed numbers | 2.1 Add amounts or quantities using proper and improper fractions and mixed numbers |
| | 2.2 Subtract amounts or quantities using proper and improper fractions and mixed numbers |
| 3. Be able to express one number as a fraction of another using proper and improper fractions and mixed numbers | 3.1 Show one number as a fraction of another using proper and improper fractions and mixed numbers |
| | 3.2 Give final fraction answers in their simplest form using proper fractions and mixed numbers |

| **Delivery and assessment guidance** |
|---|
| The focus of the unit is to enable the learner to develop strategies for working with fractions.<br><br>Learners must be able to carry out calculations with fractions using written methods and with a calculator.<br><br>Learners should be encouraged to show their workings to demonstrate their understanding of the underpinning knowledge and skills required when working with fractions.<br><br>**Assessment criteria: 1.1–1.2**<br><br>Tutors must provide learners with a range of proper, improper, and mixed fractions with different denominators for learners to put in the correct order, and a range of quantities for learners to express as fractions.<br><br>Learners must be able to convert a range of fractions to the same common denominator before ordering them. |

| Delivery and assessment guidance |
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| They must also provide evidence of converting improper fractions to mixed numbers and mixed numbers to improper fractions and vice versa.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each the assessment criteria set out above, including the use of proper, improper, and mixed numbers.<br><br>**Assessment criteria: 2.1–2.2**<br><br>Tutors must provide a range of numbers or amounts of money and other quantities for learners to calculate with using proper and improper fractions, and mixed numbers for addition and subtraction calculations.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above, including the use of proper, improper, and mixed numbers.<br><br>When working with fractions, learners must express them in their simplest form and be able to show their workings for this.<br><br>**Assessment criteria: 3.1–3.2**<br><br>Tutors must provide a range of scenarios which allow learners to demonstrate their knowledge and skills in working with everyday contexts to show one number as a fraction of another and to give their answers in their simplest form.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each of the assessment criteria set out above, including the use of proper, improper, and mixed numbers.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence<br>• summative multiple choice and/or short answer question paper<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

## Unit 03 Developing working with decimals (A/650/1852)

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop learners' skills and confidence in ordering, approximating, and comparing decimals of any size and working with calculations involving decimals. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **10 GLH** |

| **Learning outcomes**<br>The learner will: | **Assessment criteria**<br>The learner can: |
|---|---|
| 1. Be able to order, approximate and compare decimals of any size | 1.1 Order decimals of any size in both ascending and descending order |
| | 1.2 Approximate decimals of any size |
| | 1.3 Compare decimals of any size |
| 2. Be able to perform calculations with numbers of up to 3 decimal places | 2.1 Add and subtract numbers of up to 3 decimal places |
| | 2.2 Multiply and divide numbers of up to 3 decimal places |

**Delivery and assessment guidance**

The focus of the unit is to enable the learner to develop strategies for working with decimals in a range of contexts.

Learners must be able to carry out calculations with decimals using written methods and with a calculator.

Learners should be encouraged to show their workings to demonstrate their understanding of the underpinning knowledge and skills required when working with decimals.

Whilst developing their skills and knowledge of working with decimals, learners could use a calculator to check their written calculations.

**Assessment criteria: 1.1–1.3**

Tutors must provide learners with a range of tasks involving the use of decimals, which enables learners to demonstrate their ability to order approximate and compare using decimals.

Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above, including decimals with different numbers of decimal places (dp), (for example, 2 dp, and 3 dp).

**Assessment criteria: 2.1–2.2**

Tutors must provide learners with a range of calculations using numbers up to 3 dp. Learners will complete addition, subtraction, multiplication, and division calculations.

The learner's calculations must be accurate and should be completed using a written method or calculator, checking of calculations could be done using a calculator.

| **Delivery and assessment guidance** |
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| Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above, as follows:<br><br>• one piece of evidence each for:<br>  ○ addition<br>  ○ subtraction<br>  ○ multiplication<br>  ○ division<br><br>**Evidence for this unit could include:**<br><br>• learner evidence that may be generated in the course of work-related activities or other study<br>• summative multiple choice and/or short answer question papers<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

## Unit 04 Developing working with percentages (D/650/1853)

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop learners' skills and confidence in working with calculations involving percentages. Learners will also develop their skills in calculating with money, compound interest, and percentage increases and decreases, including tax and simple budgeting. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **10 GLH** |

| **Learning outcomes**<br>The learner will: | **Assessment criteria**<br>The learner can: |
|---|---|
| 1. Be able to work out percentages of amounts and express one amount as a percentage of another | 1.1 Work out percentages of amounts of any size |
| | 1.2 Express one amount as a percentage of another |
| 2. Be able to calculate percentage change of any size and original value, including the calculation of compound interest on money values | 2.1 Calculate percentage change of any size as an increase and a decrease |
| | 2.2 Calculate the original value of an amount before a percentage increase and decrease |
| | 2.3 Calculate compound interest for amounts of money |
| | 2.3 Identify an equivalent value of any percentage as a decimal and as a fraction |

| **Delivery and assessment guidance** |
|---|
| The focus of the unit is to enable the learner to develop further strategies for working with percentages in a range of contexts.<br><br>Learners must be able to carry out calculations with percentages using written methods and with a calculator.<br><br>Learners should be encouraged to show their workings to demonstrate their understanding of the underpinning knowledge and skills required when working with percentages.<br><br>Whilst developing their skills and knowledge of working with percentages, learners could use a calculator to check their written calculations.<br><br>**Assessment criteria: 1.1–1.2**<br><br>Tutors must provide learners with a range of everyday scenarios to allow them to perform calculations using percentages, including calculation of value added tax (VAT) and income tax and through the completion of a simple budget.<br><br>Learners must also demonstrate evidence of being able to calculate percentages of any amount and express one amount as a percentage of another. |

| **Delivery and assessment guidance** |
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| Learners must demonstrate on at least 2 occasions that they can achieve each of the assessment criteria set out above.<br><br>**Assessment criteria: 2.1–2.3**<br><br>Tutors must provide learners with a range of everyday scenarios to allow them to perform calculations using percentages, including compound interest, that could include calculation of VAT and income tax and through the completion of a simple budget.<br><br>Learners must demonstrate evidence of calculating percentage change of any size that involves increase and decrease percentages and calculate an original value before a percentage increase and decrease.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each of the assessment criteria set out above.<br><br>The learner's calculations must be accurate and should be completed using a written method.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence that may be generated in the course of work-related activities or other study<br>• summative multiple choice and/or short answer question papers<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

## Unit 05 Converting decimals, fractions and percentages (F/650/1854)

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop learners' skills and confidence in converting between fractions, decimals, and percentages. Learners will complete their calculations using both written methods and a calculator. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **10 GLH** |

| **Learning outcomes**<br>The learner will: | **Assessment criteria**<br>The learner can: |
|---|---|
| 1. Be able to convert between fractions, decimals, and percentages | 1.1 Convert fractions into decimals |
| | 1.2 Convert fractions into percentages |
| | 1.3 Convert decimals into fractions |
| | 1.4 Convert decimals into percentages |
| | 1.5 Convert percentages into decimals |
| | 1.6 Convert percentages into fractions |

**Delivery and assessment guidance**

The focus of the unit is to enable the learner to develop strategies for converting between decimals, fractions and percentages of any size.

Learners must be able to carry out calculations for converting fractions, decimals and percentages using written methods and with a calculator.

Learners should be encouraged to show their workings to demonstrate their understanding of the underpinning knowledge and skills required when working with decimals, fractions and percentages.

Whilst developing their skills and knowledge of working with fractions, decimals and percentages, learners could use a calculator to check their written calculations.

**Assessment criteria: 1.1–1.5**

Learners must demonstrate evidence of converting between fractions, decimals and percentages and provide 2 examples for each, for example:

- fraction to decimals and decimals to fractions
- decimals to percentages and percentages to decimals
- fractions to percentages and percentages to fractions

**Evidence for this unit could include:**

- learner evidence that may be generated in the course of work-related activities or other study
- summative multiple choice and/or short answer question papers

Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills.

## Unit 06 Working with conversions of units of measurement (H/650/1855)

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop skills and build confidence in converting between metric and imperial units of length, weight and capacity using conversion factors and conversion graphs. It will also enable learners to calculate values using compound measures including speed, density, and rates of pay. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **30 GLH** |

| **Learning outcomes** The learner will: | **Assessment criteria** The learner can: |
|---|---|
| 1. Be able to convert between metric and imperial units of length | 1.1 Convert between metric and imperial units of **length** |
| | 1.2 Use conversion factors to convert between metric and **imperial units** of length |
| | 1.3 Use conversion graphs to convert between metric and imperial units of length |
| 2. Be able to convert between metric and imperial units of weight | 2.1 Convert between metric and imperial units of **weight** |
| | 2.2 Use conversion factors to convert between metric and **imperial units** of weight |
| | 2.3 Use conversion graphs to convert between metric and imperial units of weight |
| 3. Be able to convert between metric and imperial units of capacity | 3.1 Convert between metric and imperial units of **capacity** |
| | 3.2 Use conversion factors to convert between metric and **imperial units** of capacity |
| | 3.3 Use conversion graphs to convert between metric and imperial units of capacity |
| 4. Be able to calculate using compound measures | 4.1 Calculate speed, time, and distance using given formulae |
| | 4.2 Calculate density using given formulae |
| | 4.3 Calculate rates of pay using given formulae |

| **Range** |
|---|
| **1.** Be able to convert between metric and imperial units of length |
| **1.1–1.3 Length** must include:<br><br>• millimetres (mm)<br>• centimetres (cm)<br>• metres (m)<br>• kilometres (km)<br>• inches<br>• feet<br>• yards<br>• miles<br><br>**1.2** For conversion of **imperial units**, the conversion factor must be given to the learner |

| **Range** |
|---|
| **2.** Be able to convert between metric and imperial units of weight |
| **2.1–2.3 Weight** must include:<br><br>• grams (g)<br>• kilograms (kg)<br>• ounces<br>• pounds<br>• stones<br><br>**2.2.** For conversion of **imperial units**, the conversion factor must be given to the learner |
| **3.** Be able to convert between metric and imperial units of capacity |
| **3.1–3.3 Capacity** must include:<br><br>• millilitres (ml)<br>• centilitres (cl)<br>• litres (l)<br>• fluid ounces<br>• pints<br>• gallons<br><br>**3.2** For conversion of **imperial units**, the conversion factor must be given to the learner |

| **Delivery and assessment guidance** |
|---|
| The focus of the unit is to enable learners to develop strategies for working with conversion of measurement in a range of contexts.<br><br>Learners are expected to be able to work with units of length, weight and capacity, using different units of measurement, in the contexts listed above, and to be able to convert between metric and imperial units using conversion factors and graphs where appropriate.<br><br>They will also be able to calculate speed, time, distance, density, and rates of pay using given formula. When performing calculations, learners should use written methods to demonstrate their ability to work with units of measurement and may check solutions to calculations with either written methods, including inverse calculations, or with a calculator.<br><br>Learners must ensure that all their calculations and measurements are accurate or rounded appropriately, for example:<br><br>• a value may need to be rounded down or up, even though rounding the opposite is mathematically correct, for example:<br>  ○ 3.1 m of carpet would need the learner to round up to 3.5 or 4 m, rather than round down to 3 m |

| Delivery and assessment guidance |
| --- |
| **Assessment criteria: 1.1–1.3**<br><br>Tutors must provide tasks that involve measurements of length in different units that must be converted to equivalent units in a different system. These could be provided as a series of problems to be solved via a multi-step approach.<br><br>Learners must demonstrate their ability to convert between metric and imperial units of length on at least 2 occasions for each assessment criteria, for example:<br><br>• cm to inches or vice versa<br>• m to feet or vice versa<br>• km to miles or vice versa<br><br>**Assessment criteria: 2.1–2.3**<br><br>Tutors must provide tasks that involve measurements for weight in different units that must be converted to equivalent units in a different system. These could be provided as a series of problems to be solved via a multi-step approach.<br><br>Learners must demonstrate their ability to convert between metric and imperial units of weight on at least 2 occasions for each assessment criteria, for example:<br><br>• ounces to g<br>• kg to stone<br><br>**Assessment criteria: 3.1–3.3**<br><br>Tutors must provide tasks that involve measurements of capacity in different units that must be converted to equivalent units in a different system. These could be provided as a series of problems to be solved via a multi-step approach.<br><br>Learners must demonstrate their ability to convert between metric and imperial units of capacity on at least 2 occasions for each assessment criteria and for the units specified in the range, for example:<br><br>• ml to fluid ounces<br>• pints to l<br><br>The measurements could be accurate to 1 or 2 dp, or the nearest whole unit where appropriate and with the correct units indicated.<br><br>**Assessment criteria: 4.1–4.3**<br><br>Tutors must provide learners with tasks that include the relevant formulae for compound measures.<br><br>Learners must use compound measures to find solutions to problems, such as:<br><br>• calculate speed in m/s or mph from a given time and distance, and calculate distance given the speed and time or calculate time given the speed and distance<br>• calculate the density of an object using a given formula<br>• calculate pay per hour from total pay and number of hours or vice versa |

| **Delivery and assessment guidance** |
| --- |
| Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence which could be generated from work or other study related activities<br>• summative, multiple choice and/or short answer question papers<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

**Unit 07 Working with 2D and 3D shapes and space (J/650/1856)**

| **Unit summary** | | | |
|---|---|---|---|
| This unit aims to develop and consolidate the learner's awareness of the properties of 2D and 3D shapes and skills of working with volume. The unit also looks at solving problems using the mathematical properties of 2D and 3D shapes. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **30 GLH** |

| **Learning outcomes**<br>The learner will: | **Assessment criteria**<br>The learner can: |
|---|---|
| 1. Be able to calculate the perimeter and area of 2D shapes, and volumes and surface areas of 3D shapes | 1.1 Calculate the perimeter of **2D shapes** |
| | 1.2 Calculate the area of 2D shapes |
| | 1.3 Calculate the volume of **3D shapes** |
| | 1.4 Calculate the surface area of 3D shapes |
| 2. Be able to calculate actual dimensions from scale drawings and create scale drawings from actual measurements | 2.1 Calculate actual dimensions from scale drawings |
| | 2.2 Create scale drawings from actual measurements |
| 3. Be able to understand and use common 2D representations of 3D objects | 3.1 Identify the net of a 3D shape |
| | 3.2 Identify a 3D shape from a range of nets |
| 4. Be able to draw 3D shapes, including plans and elevations | 4.1 Draw 3D shapes |
| | 4.2 Draw **plans and elevations** of 3D shapes |
| 5. Be able to use 2D and 3D shapes to calculate values of angles | 5.1 Use knowledge of 2D and 3D shapes to calculate angles |
| 6. Be able to use co-ordinates in 2D, to specify the positions of points and plot co-ordinates of 2D and 3D shapes | 6.1 Use co-ordinates in 2D, positive and negative, to specify the position of points |
| | 6.2 Calculate and plot co-ordinates with 2D and 3D shapes |

| **Range** |
|---|
| **1.** Be able to calculate the perimeter and area of 2D shapes, and volumes and surface areas of 3D shapes |
| **1.1–1.2 2D shapes** must include:<br><br>• triangles<br>• circles<br>• composite shapes including:<br>  ○ non-rectangular shapes, such as trapezium and kite |
| **1.3–1.4 3D shapes** must include:<br><br>• cubes<br>• cuboids<br>• spheres<br>• prisms<br>• cylinders<br><br>Formulae to be given to learners for volume calculations with 3D shapes other than cylinder, cubes, and cuboids. |
| **4.** Be able to draw 3D shapes, including plans and elevations |
| **4.1–4.2 Plans and elevations** include side, front, and top of 3D shapes |

| **Delivery and assessment guidance** |
|---|
| This unit enables learners to further develop strategies for working with 2D and 3D shapes, which will involve calculating perimeters and areas of 2D shapes and volumes and surface areas of 3D shapes.<br><br>Learners will also be able to calculate actual dimensions from scale drawings and create scale plans. It will also develop their skills in using and calculating co-ordinates and angles.<br><br>Tutors must ensure that learners have access to rulers and scale drawings to enable them to complete the requirements of this unit.<br><br>When performing calculations, written methods should be used to enable learners to demonstrate their ability to work with 2D and 3D shapes and space.<br><br>Learners must ensure that all their calculations and measurements are accurate although learners could round to 1 or 2 dp or the nearest whole number if appropriate.<br><br>**Assessment criteria: 1.1–1.4**<br><br>Learners should be familiar with 2D and 3D shapes and will develop their understanding of how 3D objects can be represented by 2D shapes.<br><br>Learners must calculate the perimeters and areas of 2D shapes and provide evidence of both for triangles, circles and composite shapes, including non-rectangular shapes.<br><br>Learners can be given the formulae for 2D shapes such as kites and trapezium, but **not** for squares, rectangles, circles, and triangles.<br>Formulae can be given for the volume and surface area of 3D shapes such as prisms and spheres but **not** for cylinders, cubes, or cuboids. |

**Delivery and assessment guidance**

Learners must be able to recall formula to calculate the circumference ($C = 2\pi r$) and area of a circle ($A = \pi r^2$) and the volume of cylinders ($V = \pi r^2 h$).

Calculations should be accurate to an appropriate number of dp or whole numbers and in the correct units, such as:

- mm
- cm
- m
- $mm^2$
- $cm^2$
- $m^2$
- $mm^3$
- $cm^3$
- $m^3$

Tutors must provide a range of 2D shapes and 3D objects for learners to use when completing AC1.2 and AC1.3.

Learners must demonstrate achievement of the assessment criteria on a minimum number of occasions as follows:

- 2 pieces for area of 2D shapes and 2 pieces for perimeter of 2D shapes to include:
  - squares or rectangles
  - triangles
  - circles
  - composite shapes such as trapezium and kites
- 2 pieces for volume of 3D shapes and 2 pieces for surface area of 3D shapes to include:
  - cubes or cuboids
  - prisms
  - cylinders
  - spheres

The learner must use a different shape for each piece of evidence.

**Assessment criteria: 2.1–2.2**

Learners must be able to use an appropriate scale to calculate actual measurements from scale drawings and diagrams. They must also evidence creating scale drawings from given measurements.

Learners must demonstrate on at least one occasion that they can achieve each assessment criteria set out above.

| Delivery and assessment guidance |
| --- |
| **Assessment criteria: 3.1–3.2**<br><br>Learners must be able to demonstrate evidence of the use of nets of 3D shapes.<br><br>Learners must demonstrate on at least 2 occasions that they can meet the assessment criteria, one demonstrating the identification of a 3D shape from a net, and one identifying the net of a 3D shape.<br><br>**Assessment criteria: 4.1–4.2**<br><br>Learners must demonstrate their ability to draw 3D shapes and plans and elevations, including side, front, and top of 3D shapes.<br><br>Learners must demonstrate on at least one occasion that they can achieve AC4.1.<br><br>Learners must demonstrate on at least 4 occasions that they can achieve AC4.2, including, side, front, rear, and plan view for AC4.2.<br><br>**Assessment criterion: 5.1**<br><br>Learners must demonstrate their ability to calculate missing angles for 2D shapes, including 2D representations of 3D shapes.<br><br>Learners must demonstrate on at least 2 occasions that they can understand angles within 2D shapes and calculate missing angles, including triangles.<br><br>**Assessment criteria: 6.1–6.2**<br><br>Learners must be able to demonstrate evidence of the use of both positive and negative co-ordinates to indicate positions of 2D and 3D shapes.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve these assessment criteria including evidence of their knowledge of both positive and negative co-ordinates.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence which could be generated from work or other study related activities<br>• summative multiple choice and/or short answer question papers<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

**Unit 08 Working with statistics (K/650/1857)**

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop the learner's skills in calculating the median and mode of sets of quantities. It will also enable the learner to estimate the mean of a grouped frequency table, and use the mean, median, mode and range to compare 2 sets of data and give explanations from their calculations. Learners will also draw scatter diagrams and interpret correlations. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **20 GLH** |

| **Learning outcomes** The learner will: | **Assessment criteria** The learner can: |
|---|---|
| 1. Be able to calculate the median and mode | 1.1 Calculate the median of a set of data |
| | 1.2 Calculate the mode of a set of data |
| 2. Be able to use the mean median, mode, and range to compare 2 sets of data | 2.1 Use the mean to compare 2 sets of data |
| | 2.2 Use the median to compare 2 sets of data |
| | 2.3 Use the mode to compare 2 sets of data |
| | 2.4 Use the range to compare 2 sets of data |
| 3. Be able to estimate the mean of a grouped frequency distribution | 3.1 Identify the midpoints for data groupings |
| | 3.2 Calculate an estimated mean of a grouped frequency table |
| 4. Be able to draw and interpret scatter diagrams and recognise correlation | 4.1 Draw a scatter diagram from given data with consistent scale and appropriate title and labels |
| | 4.2 Interpret a scatter diagram, including explaining positive, negative and no correlation |

**Delivery and assessment guidance**

This unit develops learners' strategies for working with statistics and handling data.

Learners must be able to calculate the median and mode for sets of quantities and to use the mean, median, mode and range to compare 2 data sets and give valid comparisons.

Learners must also be able to estimate the mean of grouped frequency distributions, create scatter diagrams and interpret correlations.

**Assessment criteria: 1.1–1.2**

Learners should be given a number of data sets to calculate the median and mode of asset of data. Learners must provide evidence of the calculation of a median value from a data set with an even number of values and a data set with an odd number of values.

Tutors must provide a variety of information that could relate to everyday contexts that provide discrete and continuous data, which may be given in lists or tables. Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above.

| **Delivery and assessment guidance** |
| --- |
| **Assessment criteria: 2.1–2.4**<br><br>Learners should be given sets of data presented in tables or lists for the learners to compare the mean, median, mode and range of a set of data.<br><br>This could include giving learners one data set to work out the mean, median, mode, or range and asking them to compare any of those with a given mean, median, mode, or range of another data set.<br><br>Learners must refer to the consistency or spread of data in their comparisons when using the range of a data set, not through the use of terminology such as higher/lower/greater/smaller/bigger.<br><br>Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above.<br><br>**Assessment criteria: 3.1–3.2**<br><br>Learners must provide 2 examples of how they have calculated the estimated mean of a grouped frequency distribution and how this can be used to estimate and approximate new values.<br><br>Learners must be able to group given data to create a grouped frequency table and calculate an estimated a grouped mean using the midpoint for their groupings. The midpoint can be a whole number as well as a decimal.<br><br>**Assessment criteria: 4.1–4.2**<br><br>Learners must demonstrate the ability to draw a scatter diagram with a consistent scale, appropriate title, and axis labels.<br><br>Learners must also demonstrate on at least 3 occasions achievement of AC4.2 that evidences their ability to identify and explain the below from either given scatter diagrams or from the one drawn for AC4.1:<br><br>• negative<br>• positive<br>• no correlation<br><br>**Evidence for this unit could include:**<br><br>• learner evidence which could be generated from work or other study related activities<br>• summative, multiple choice and/or short answer question paper<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

**Unit 09 Working with probability (L/650/1858)**

| **Unit summary** | | | |
|---|---|---|---|
| This unit aims to develop learners' skills in using probability and calculating the probability of combined events, including the use of diagrams and tables, including 2-way tables. Learners will also be able to express probabilities as fractions, decimals, and percentages. The unit allows learners to analyse a given probability problem and draw conclusions from the results obtained. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Mandatory** | **Achieved/not yet achieved** | **Level 2** | **20 GLH** |

| **Learning outcomes** The learner will: | **Assessment criteria** The learner can: |
|---|---|
| 1. Be able to calculate the probability of combined events | 1.1 Explain what is meant by a **combined probability** event and how it may be expressed |
| | 1.2 Calculate the probability of a combined event occurring from data in diagrams and tables, including 2-way tables |
| 2. Be able to express the probability of a combined event as fractions, decimals, and percentages | 2.1 Express the probability of combined events as fractions |
| | 2.2 Express the probability of combined events as decimals |
| | 2.3 Express the probability of combined events as percentages |

| **Range** |
|---|
| **1.** Be able to calculate the probability of combined events |
| **1.1 Combined probability** of independent events |

| **Delivery and assessment guidance** |
|---|
| This unit enables learners to develop strategies for working with the probability of combined events.<br><br>Learners are expected to understand the key terms and methods used in probability and be able to use this information to analyse a probability problem.<br><br>Tutors must provide a range of information to support learners in the completion of this unit.<br><br>**Assessment criterion: 1.1**<br><br>Learners may cover the assessment criterion through a short, written statement explaining what probability is and how probability may be expressed.<br><br>**Assessment criterion: 1.2**<br><br>Learners must demonstrate on at least 2 occasions that they can calculate the probability of a combined outcome. |

| **Delivery and assessment guidance** |
| --- |
| **Assessment criteria: 2.1–2.3**<br><br>Learners should collect data about a topic of their choosing in a context that is familiar to them.<br><br>Tutors must ensure that sufficient data is collected to ensure calculations are meaningful.<br><br>Learners must demonstrate on at least 2 occasions that they can calculate probabilities expressed as fractions, decimals, and percentages, including a minimum of 2 examples of each.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence which could be generated from work or other study related activities<br>• summative multiple choice and/or short answer question papers<br><br>Tutors can support development of knowledge and understanding of the probability of combined events by presenting it in familiar everyday contexts.<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

**Unit 10 Working with algebra (Y/650/1860)**

| **Unit summary** | | | |
|---|---|---|---|
| This unit aims to develop learners' skills in some of the broader maths concepts and content; it could support the learner to progress to GCSE mathematics. In this unit, the learner is introduced to algebra in the form of linear equations. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Optional** | **Achieved/not yet achieved** | **Level 2** | **20 GLH** |

| **Learning outcomes**<br>The learner will: | **Assessment criteria**<br>The learner can: |
|---|---|
| 1. Be able to evaluate expressions and make substitutions in given formulae in words and symbols | 1.1 Evaluate expressions to find solutions |
| | 1.2 Make substitutions in given formulae in words and symbols |
| 2. Be able to work with inequality, linear, and algebraic expressions | 2.1 Identify the symbols used in inequality equations |
| | 2.2 Solve linear equations in different forms |
| | 2.3 Solve linear equations that involve inequality |
| | 2.4 Simplify algebraic expressions involving brackets |

**Delivery and assessment guidance**

This unit develops skills in algebra and develops strategies for working with equations.

Learners must be able to carry out calculations using basic algebraic expressions and using common rules for working with them.
Learners must use a written method and show their workings for both learning outcomes (LOs).

**Assessment criteria: 1.1–1.2**

Tutors must provide learners with a range of equations to evaluate and a range of formula to substitute given values into, for example, a problem-solving task such as the formula for a sphere with a given diameter to work out either the volume, or surface area.

Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above.

**Assessment criteria: 2.1–2.4**

Learners must be familiar with the symbols used in inequality equations and should be able to identify them either from a list of symbols, or by writing them.

Tutors could provide learners with a range of equations to work with, these should include different forms of linear equations, including those that involve inequality.

Tutors should also provide algebraic expressions involving brackets that must be simplified.
Learners must demonstrate on at least 2 occasions that they can achieve each assessment criteria set out above.

| Delivery and assessment guidance |
| --- |
| **Evidence for this unit could include:**<br><br>• learner evidence which could be generated from work or other study related activities<br>• summative multiple choice and/or short answer question paper |

## Unit 11 Working with mathematical skills (A/650/1861)

| Unit summary | | | |
|---|---|---|---|
| This unit aims to develop the learners' knowledge and skills covered in units 1 to 9 to recognise and obtain solutions to complex problems. Complex problems require multi-step processes and usually require planning and working through at least 2 connected steps or processes. | | | |
| **Assessment** | | | |
| This unit is internally assessed via a portfolio of evidence. | | | |
| **Optional** | **Achieved/not yet achieved** | **Level 2** | **20 GLH** |

| **Learning outcomes**<br>The learner will: | **Assessment criteria**<br>The learner can: |
|---|---|
| 1. Be able to recognise and use mathematical skills and knowledge to solve complex problems | 1.1 Read, understand, and use mathematical information and mathematical terms in complex problems |
| | 1.2 Address individual, sometimes complex, **multi-step problems** |
| | 1.3 Use mathematical knowledge and understanding to a required level of accuracy |
| | 1.4 Identify suitable mathematical operations and calculations to find solutions to complex problems |
| | 1.5 Analyse and interpret answers in the context of the original problem |
| | 1.6 Check the sense and reasonableness of calculated answers |
| | 1.7 Present and explain results clearly and accurately, demonstrating reasoning to support the process and show consistency with the evidence presented |

| **Range** |
|---|
| **1.** Be able to recognise and use mathematical skills and knowledge to solve complex problems, some involving multi-steps |
| **1.2** Three examples of **multi-step problems** can be found below in the delivery and assessment guidance |

| **Delivery and assessment guidance** |
|---|
| The focus of the unit is to enable the learner to use the required knowledge and skills to solve complex practical problems, some which will involve multi-step tasks, and present solutions and explanations clearly.<br><br>Learners must use written methods when solving problems and show all workings completed throughout the unit.<br><br>Learners may use a calculator or inverse calculations to check their solutions to problems.<br><br>**Assessment criteria: 1.1–1.7**<br><br>Learners must identify practical mathematical problems in everyday contexts.<br><br>The problems could be within contexts familiar to learners whilst allowing the learners to demonstrate their mathematical skills and knowledge. |

| **Delivery and assessment guidance** |
| --- |
| Learners must find or calculate some of the necessary information to enable them to find a solution to the problem.<br><br>The context of individual problems at this level will require the learners to interpret and analyse, independently identify and carry out appropriate mathematical processes.<br><br>Individual problems could be based on a combination of the knowledge and/or skills developed from the mathematical content areas covered in previous units, such as: use of number and the number system, measures, shape and space and handling information and data.<br><br>At least 3 problems must be identified, one of which must include a combination of skills from the 3 mathematical areas of number, measure, and handling data.<br><br>Some examples of problems that could be given to learners are:<br><br>• calculation of the costs of some new flooring, where learners must calculate an area from a scale drawing to find actual measurements which may be rounded to the next whole metre squared, then use that information to find the total cost<br>• calculation of the cost of painting a wall, given the wall dimensions, how much a tin of paint covers and how much enough paint to cover the wall would cost<br>• calculating the difference in cost between having more people involved in doing the same job than having fewer people involved using a specific pay rate<br><br>Tutors could provide a range of problems for learners to choose from or learners can identify them from their everyday lives, work, or other study.<br><br>Learners must be able to interpret the results obtained and communicate the solutions, which may be yes or no responses or justifications for choices from completed calculations. They will use their results to support their explanations or choices.<br><br>When tackling problems, learners must use the appropriate checking procedures, either using written methods, inverse calculations, or using a calculator.<br><br>**Evidence for this unit could include:**<br><br>• learner evidence which may be generated in the course of completing other units in this suite of qualifications or from other learning or work-related activities<br>• summative assessment paper which allows full coverage and demonstration of the necessary skills and knowledge to find the solutions to the problem<br><br>Tutors could provide tasks from sample level 2 Functional Skills assessments for learners to complete that will also provide support for progression to Functional Skills. |

**Assessment strategies and principles relevant to this qualification**

The units we offer have been developed in line with the specific assessment strategies or principles of different Sector Skills Councils (SSCs) or by us where there is no SSC lead.

The key requirements of the assessment strategies or principles that relate to units in this qualification are summarised below.

The centre needs to ensure that individuals undertaking assessor or quality assurer roles within the centre conform to the SSC or our assessment requirements for the unit they are assessing or quality assuring.

**Assessment strategy**

**Knowledge learning outcomes:**

- assessors will need to be both occupationally knowledgeable and qualified to make assessment decisions
- internal quality assurers will need to be both occupationally knowledgeable and qualified to make quality assurance decisions

**Competence/skills learning outcomes:**

- assessors will need to be both occupationally competent and qualified to make assessment decisions
- internal quality assurers will need to be both occupationally knowledgeable and qualified to make quality assurance decisions

**Section 3: explanation of terms**

This table explains how the terms used at level 2 in the unit content are applied to this qualification (not all verbs are used in this qualification).

| | |
|---|---|
| **Apply** | Link existing knowledge to new or different situations. |
| **Assess** | Consider information in order to make decisions. |
| **Classify** | Organise according to specific criteria. |
| **Compare** | Examine the subjects in detail looking at similarities and differences. |
| **Define** | State the meaning of a word or phrase. |
| **Demonstrate** | Show an understanding of the subject or how to apply skills in a practical situation. |
| **Describe** | Write about the subject giving detailed information. |
| **Differentiate** | Give the differences between 2 or more things. |
| **Discuss** | Write an account giving more than one view or opinion. |
| **Distinguish** | Show or recognise the difference between items/ideas/information. |
| **Estimate** | Give an approximate decision or opinion using previous knowledge. |
| **Explain** | Provide details about the subject with reasons showing how or why. Some responses could include examples. |
| **Give (positive and negative points…)** | Provide information showing the advantages and disadvantages of the subject. |
| **Identify** | List or name the main points. (Some description may also be necessary to gain higher marks when using compensatory marking). |
| **Illustrate** | Give clear information using written examples, pictures or diagrams. |
| **List** | Make a list of key words, sentences or comments that focus on the subject. |
| **Perform** | Do something (take an action/follow an instruction) which the question or task asks or requires. |
| **Plan** | Think about and organise information in a logical way. This could be presented as written information, a diagram, an illustration or other suitable format. |
| **Provide** | Give relevant information about a subject. |
| **Reflect** | Learners should look back on their actions, experiences or learning and think about how this could inform their future practice. |

| | |
|---|---|
| **Select** | Choose for a specific purpose. |
| **Show** | Supply sufficient evidence to demonstrate knowledge and understanding. |
| **State** | Give the main points clearly in sentences. |
| **Use** | Take or apply an item, resource or piece of information as asked in the question or task. |

## Section 4: support

### Support materials

The following support materials are available to assist with the delivery of this qualification and are available on the NCFE website:

- learner's evidence tracking log (LETL)
- learning resources
- qualification factsheet

### Other support materials

The resources and materials used in the delivery of this qualification must be age-appropriate and due consideration should be given to the wellbeing and safeguarding of learners in line with your institute's safeguarding policy when developing or selecting delivery materials.

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## Appendix A: units

To make cross-referencing assessment and quality assurance easier, we have used a sequential numbering system in this document for each unit.

Knowledge only units are indicated by a star. If a unit is not marked with a star, it is a skills unit or contains a mix of knowledge and skills.

### Group A mandatory units

| Unit number | Regulated unit number | Unit title | Level | GLH | Notes |
|---|---|---|---|---|---|
| Unit 01 | T/650/1850 | Working with positive and negative whole numbers | 2 | 30 | |
| Unit 02 | Y/650/1851 | Developing working with fractions | 2 | 20 | |
| Unit 03 | A/650/1852 | Developing working with decimals | 2 | 10 | |
| Unit 04 | D/650/1853 | Developing working with percentages | 2 | 10 | |
| Unit 05 | F/650/1854 | Converting decimals, fractions and percentages | 2 | 10 | |
| Unit 06 | H/650/1855 | Working with conversions of units of measurement | 2 | 30 | |
| Unit 07 | J/650/1856 | Working with 2D and 3D shapes and space | 2 | 30 | |
| Unit 08 | K/650/1857 | Working with statistics | 2 | 20 | |
| Unit 09 | L/650/1858 | Working with probability | 2 | 20 | |

**Group B optional units**

| Unit number | Regulated unit number | Unit title | Level | GLH | Notes |
|---|---|---|---|---|---|
| Unit 10 | Y/650/1860 | Working with algebra | 2 | 20 | |
| Unit 11 | A/650/1861 | Working with mathematical skills | 2 | 20 | |

The units above may be available as stand-alone unit programmes. Please visit our website for further information.

**Appendix B: Functional Skills subject content statement mapping**

| Unit | Assessment criteria | Functional Skills subject content statement |
|---|---|---|
| 01 | 1.1 Read and write positive and negative whole numbers of any size in both words and figures | L2.N1 Read, write, order and compare positive and negative numbers of any size |
| 01 | 1.2 Order and compare positive and negative whole numbers of any size | L2.N1 Read, write, order and compare positive and negative numbers of any size |
| 01 | 2.1 Carry out accurate addition and subtraction calculations with whole numbers up to 1 million using written and calculator methods | L2.N2 Carry out calculations with numbers up to 1 million, including strategies, to check answers, including estimation and approximation |
| 01 | 2.2 Carry out multiplication and division calculations with whole numbers up to 1 million using written and calculator methods | L2.N2 Carry out calculations with numbers up to 1 million, including strategies, to check answers, including estimation and approximation |
| 01 | 2.3 Demonstrate checking of calculations by the use of estimation and approximation | L2.N2 Carry out calculations with numbers up to 1 million, including strategies, to check answers, including estimation and approximation |
| 01 | 3.1 Identify the order of operations in formulae and expressions, including indices | L2.N12 Follow the order of precedence of operators, including indices |
| 01 | 3.2 Accurately find solutions following correct substitution in formulae and using order of precedence of operators | L2.N3 Evaluate expressions and make substitutions in given formulae in words and symbols<br><br>L2.N12 Follow the order of precedence of operators, including indices |
| 01 | 4.1 Calculate new values from given ratios and give sets of values as a ratio | L2.N11 Understand and calculate using ratios, direct proportion and inverse proportion |
| 01 | 4.2 Calculate new values using direct proportion | L2.N11 Understand and calculate using ratios, direct proportion and inverse proportion |
| 01 | 4.3 Calculate new values using inverse proportion | L2.N11 Understand and calculate using ratios, direct proportion and inverse proportion |
| 02 | 1.1 Order amounts or quantities using proper and improper fractions and mixed numbers | L2.N7 Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers |
| 02 | 1.2 Compare amounts or quantities using proper and improper fractions and mixed numbers | L2.N7 Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers |

| Unit | Assessment criteria | Functional Skills subject content statement |
|---|---|---|
| 02 | 2.1 Add amounts or quantities using proper and improper fractions and mixed numbers | L2.N7 Order, add, subtract, and compare amounts or quantities using proper and improper fractions and mixed numbers |
| 02 | 2.2 Subtract amounts or quantities using proper and improper fractions and mixed numbers | L2.N7 Order, add, subtract, and compare amounts or quantities using proper and improper fractions and mixed numbers |
| 02 | 3.1 Show one number as a fraction of another using proper and improper fractions and mixed numbers | L2.N8 Express one number as a fraction of another |
| 02 | 3.2 Give final fraction answers in their simplest form using proper fractions and mixed numbers | L2.N8 Express one number as a fraction of another |
| 03 | 1.1 Order decimals of any size in both ascending and descending order | L2.N9 Order, approximate and compare decimals |
| 03 | 1.2 Approximate decimals of any size | L2.N9 Order, approximate and compare decimals |
| 03 | 1.3 Compare decimals of any size | L2.N9 Order, approximate and compare decimals |
| 03 | 2.1 Add and subtract numbers of up to 3 decimal places | L2.N10 Add, subtract, multiply and divide decimals up to 3 decimal places |
| 03 | 2.2 Multiply and divide numbers of up to 3 decimal places | L2.N10 Add, subtract, multiply and divide decimals up to 3 decimal places |
| 04 | 1.1 Work out percentages of amounts of any size | L2.N5 Work out percentages of amounts and express one amount as a percentage of another |
| 04 | 1.2 Express one amount as a percentage of another | L2.N5 Work out percentages of amounts and express one amount as a percentage of another |
| 04 | 2.1 Calculate percentage change of any size as an increase and a decrease | L2.N6 Calculate percentage change (any size increase and decrease), and original value after percentage change |
| 04 | 2.2 Calculate the original value of an amount before a percentage increase and decrease | L2.N6 Calculate percentage change (any size increase and decrease), and original value after percentage change |
| 04 | 2.3 Calculate compound interest for amounts of money | L2.M13 Calculate amounts of money, compound interest, percentage increases, decreases and discounts, including tax and simple budgeting |
| 04 | 2.3 Identify an equivalent value of any percentage as a decimal and as a fraction | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |
| 05 | 1.1 Convert fractions into decimals | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |
| 05 | 1.2 Convert fractions into percentages | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |

| Unit | Assessment criteria | Functional Skills subject content statement |
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| 05 | 1.3 Convert decimals into fractions | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |
| 05 | 1.4 Convert decimals into percentages | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |
| 05 | 1.5 Convert percentages into decimals | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |
| 05 | 1.6 Convert percentages into fractions | L2.N4 Identify and know the equivalence between fractions, decimals and percentages |
| 06 | 1.1 Convert between metric and imperial units of length | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 1.2 Use conversion factors to convert between metric and imperial units of length | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 1.3 Use conversion graphs to convert between metric and imperial units of length | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 2.1 Convert between metric and imperial units of weight | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 2.2 Use conversion factors to convert between metric and imperial units of weight | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 2.3 Use conversion graphs to convert between metric and imperial units of weight | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 3.1 Convert between metric and imperial units of capacity | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 3.2 Use conversion factors to convert between metric and imperial units of capacity | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 3.3 Use conversion graphs to convert between metric and imperial units of capacity | L2.M14 Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph |
| 06 | 4.1 Calculate speed, time, and distance using given formulae | L2.M15 Calculate using compound measures, including speed, density and rates of pay |
| 06 | 4.2 Calculate density using given formulae | L2.M15 Calculate using compound measures, including speed, density and rates of pay |

| Unit | Assessment criteria | Functional Skills subject content statement |
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| 06 | 4.3 Calculate rates of pay using given formulae | L2.M15 Calculate using compound measures, including speed, density and rates of pay |
| 07 | 1.1 Calculate the perimeter of 2D shapes | L2.M16 Calculate perimeters and areas of 2D shapes, including triangles and circles and composite shapes, including non-rectangular shapes (formulae given except for triangles and circles) |
| 07 | 1.2 Calculate the area of 2D shapes | L2.M16 Calculate perimeters and areas of 2D shapes, including triangles and circles and composite shapes, including non-rectangular shapes (formulae given except for triangles and circles) |
| 07 | 1.3 Calculate the volume of 3D shapes | L2.M17 Use formulae to find volumes and surface areas of 3D shapes, including cylinders (formulae to be given for 3D shapes other than cylinders) |
| 07 | 1.4 Calculate the surface area of 3D shapes | L2.M17 Use formulae to find volumes and surface areas of 3D shapes, including cylinders (formulae to be given for 3D shapes other than cylinders) |
| 07 | 2.1 Calculate actual dimensions from scale drawings | L2.M18 Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements |
| 07 | 2.2 Create scale drawings from actual measurements | L2.M18 Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements |
| 07 | 3.1 Identify the net of a 3D shape | L2.M20 Understand and use common 2D representations of 3D objects |
| 07 | 3.2 Identify a 3D shape from a range of nets | L2.M20 Understand and use common 2D representations of 3D objects |
| 07 | 4.1 Draw 3D shapes | L2.M21 Draw 3D shapes to include plans and elevations |
| 07 | 4.2 Draw plans and elevations of 3D shapes | L2.M21 Draw 3D shapes to include plans and elevations |
| 07 | 5.1 Use knowledge of 2D and 3D shapes to calculate angles | L2.M22 Calculate values of angles and/or coordinates with 2D and 3D shapes |
| 07 | 6.1 Use co-ordinates in 2D, positive and negative, to specify the position of points | L2.M19 Use coordinates in 2D, positive and negative, to specify the positions of points |
| 07 | 6.2 Calculate and plot co-ordinates with 2D and 3D shapes | L2.M22 Calculate values of angles and/or coordinates with 2D and 3D shapes |
| 08 | 1.1 Calculate the median of a set of data | L2.H23 Calculate the median and mode of a set of quantities |
| 08 | 1.2 Calculate the mode of a set of data | L2.H23 Calculate the median and mode of a set of quantities |

| Unit | Assessment criteria | Functional Skills subject content statement |
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| 08 | 2.1 Use the mean to compare 2 sets of data | L2.H25 Use the mean, median, mode and range to compare 2 sets of data |
| 08 | 2.2 Use the median to compare 2 sets of data | L2.H25 Use the mean, median, mode and range to compare 2 sets of data |
| 08 | 2.3 Use the mode to compare 2 sets of data | L2.H25 Use the mean, median, mode and range to compare 2 sets of data |
| 08 | 2.4 Use the range to compare 2 sets of data | L2.H25 Use the mean, median, mode and range to compare 2 sets of data |
| 08 | 3.1 Identify the midpoints for data groupings | L2.H24 Estimate the mean of a grouped frequency distribution from discrete data |
| 08 | 3.2 Calculate an estimated mean of a grouped frequency table | L2.H24 Estimate the mean of a grouped frequency distribution from discrete data |
| 08 | 4.1 Draw a scatter diagram from given data with consistent scale and appropriate title and labels | L2.H28 Draw and interpret scatter diagrams and recognise positive and negative correlation |
| 08 | 4.2 Interpret a scatter diagram, including explaining positive, negative and no correlation | L2.H28 Draw and interpret scatter diagrams and recognise positive and negative correlation |
| 09 | 1.1 Explain what is meant by a combined probability event and how it may be expressed | L2.H26 Work out the probability of combined events, including the use of diagrams and tables, including 2-way tables |
| 09 | 1.2 Calculate the probability of a combined event occurring from data in diagrams and tables, including 2-way tables | L2.H26 Work out the probability of combined events, including the use of diagrams and tables, including 2-way tables |
| 09 | 2.1 Express the probability of combined events as fractions | L2.H27 Express probabilities as fractions, decimals and percentages |
| 09 | 2.2 Express the probability of combined events as decimals | L2.H27 Express probabilities as fractions, decimals and percentages |
| 09 | 2.3 Express the probability of combined events as percentages | L2.H27 Express probabilities as fractions, decimals and percentages |
| 10 | 1.1 Evaluate expressions to find solutions | L2.N3 Evaluate expressions and make substitutions in given formulae in words and symbols |
| 10 | 1.2 Make substitutions in given formulae in words and symbols | L2.N3 Evaluate expressions and make substitutions in given formulae in words and symbols |
| 10 | 2.1 Identify the symbols used in inequality equations | Does not map to Functional Skills |
| 10 | 2.2 Solve linear equations in different forms | Does not map to Functional Skills |
| 10 | 2.3 Solve linear equations that involve inequality | Does not map to Functional Skills |
| 10 | 2.4 Simplify algebraic expressions involving brackets | Does not map to Functional Skills |
| 11 | 1.1 Read, understand, and use mathematical information and mathematical terms in complex problems | L2.PS1 Read, understand, and use mathematical information and mathematical terms |

| Unit | Assessment criteria | Functional Skills subject content statement |
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| 11 | 1.2 Address individual, sometimes complex, multi-step problems | L2.PS2 Address individual problems as described above |
| 11 | 1.3 Use mathematical knowledge and understanding to a required level of accuracy | L2.PS3 Use knowledge and understanding to a required level of accuracy |
| 11 | 1.4 Identify suitable mathematical operations and calculations to find solutions to complex problems | L2.PS4 Identify suitable operations and calculations to generate results |
| 11 | 1.5 Analyse and interpret answers in the context of the original problem | L2.PS5 Analyse and interpret answers in the context of the original problem |
| 11 | 1.6 Check the sense and reasonableness of calculated answers | L2.PS6 Check the sense and reasonableness of answers |
| 11 | 1.7 Present and explain results clearly and accurately, demonstrating reasoning to support the process and show consistency with the evidence presented | L2.PS7 Present and explain results clearly and accurately, demonstrating reasoning to support the process and show consistency with the evidence presented |